



GUNNEBO
FASTENING



FASTENING TECHNIQUES



Gunnebo Fastening since 1764 has been offering the highest quality fixings dedicated for construction industry.

Our catalogue will provide you with a wide range of products for various industries: residential, industrial and specialized construction market.

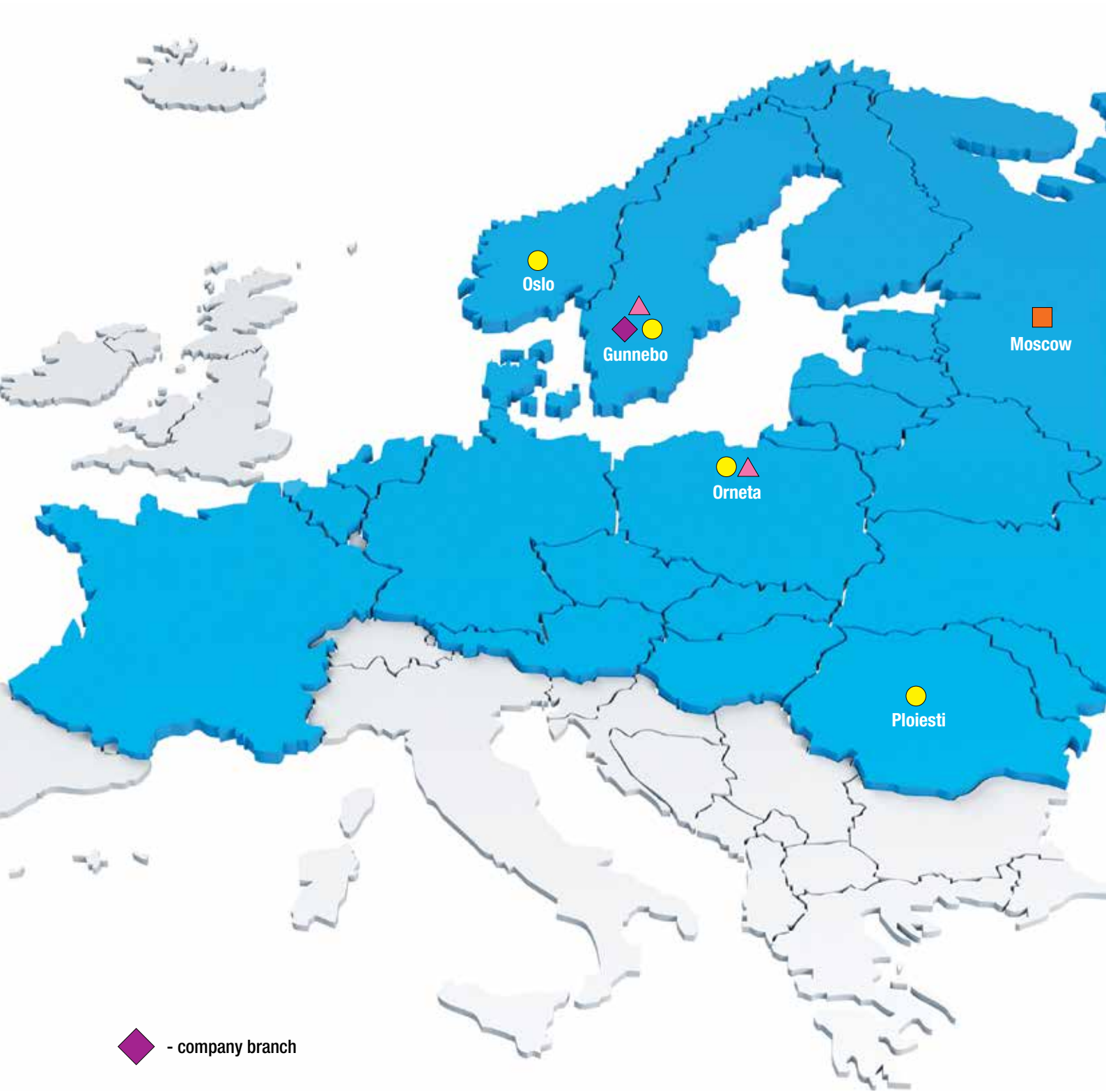
For many years our products have been characterized by a very high quality that meets the rigorous Scandinavian standards.

Innovation and perfect performance makes our products widely appreciated by both professionals and individual clients.

QUALITY VERIFIED BY YEARS



GUNNEBO IN EUROPE



◆ - company branch

▲ - manufacturing plant

● - headquarters

■ - sales office

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Swedish quality for 250 years



Gunnebo company is established in Sweden. Production of nails, screws and other elements for ships construction



Debut of Gunnebo company on Stockholm stock market



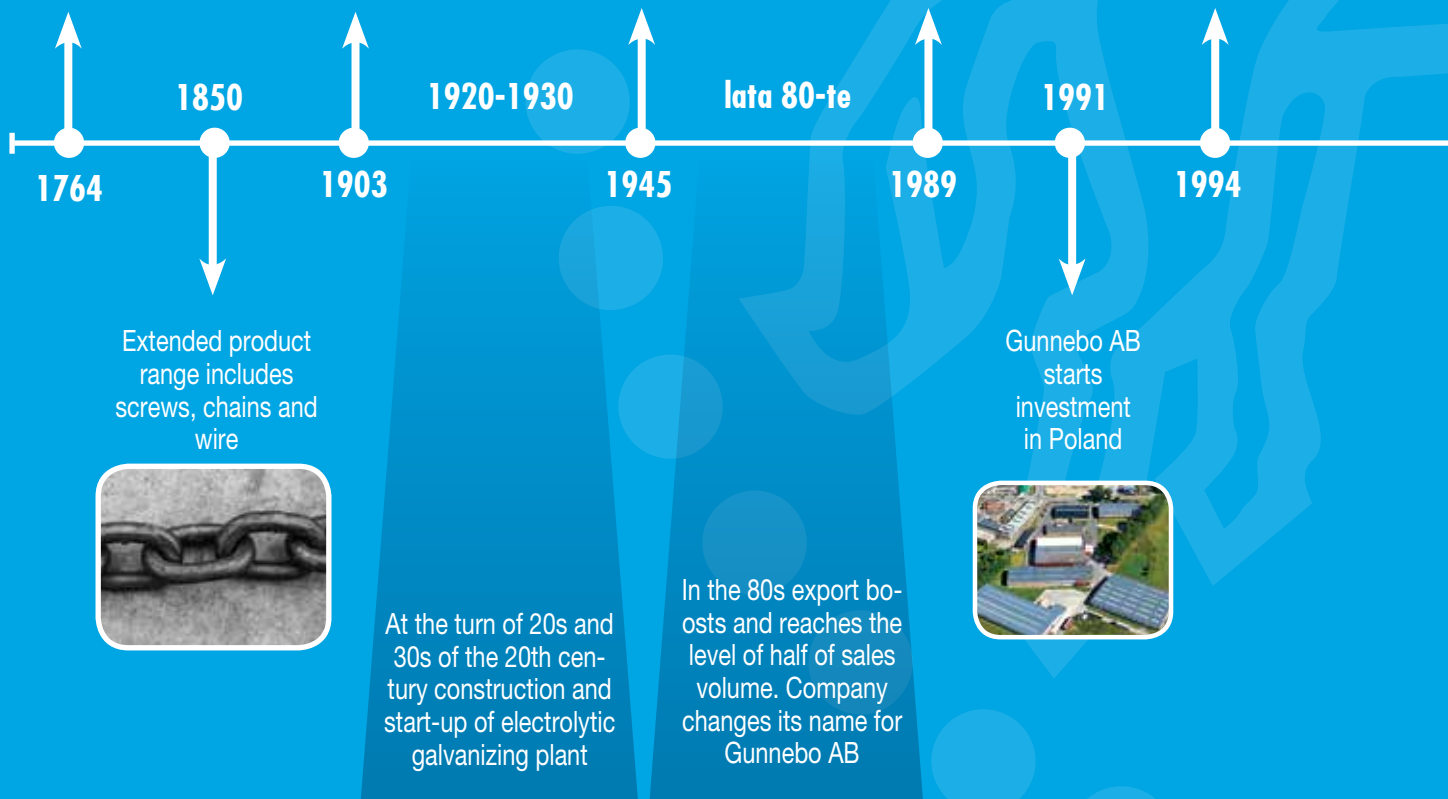
Acquisition of Tage company. Gunnebo becomes the biggest nails producer in Sweden



225 anniversary of Gunnebo company establishment, employment level reaches 1300 employees. Beginning of co-operation with screw factory in Orneta to supply products to Sweden



Gunnebo Group establishes Gunnebo Baltic Sp. z o.o., beginning of sales in Poland



present in Poland for 25 years



2005 - Gunnebo AB is divided into Gunnebo AB and Gunnebo Industrier noted as separate joint stock companies on Stockholm stock market



Gunnebo Industrier developed into three independent entities: Gunnebo Industrier, Gbo Fastening Systems, Nordic Traction



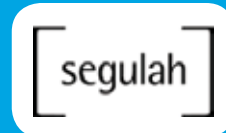
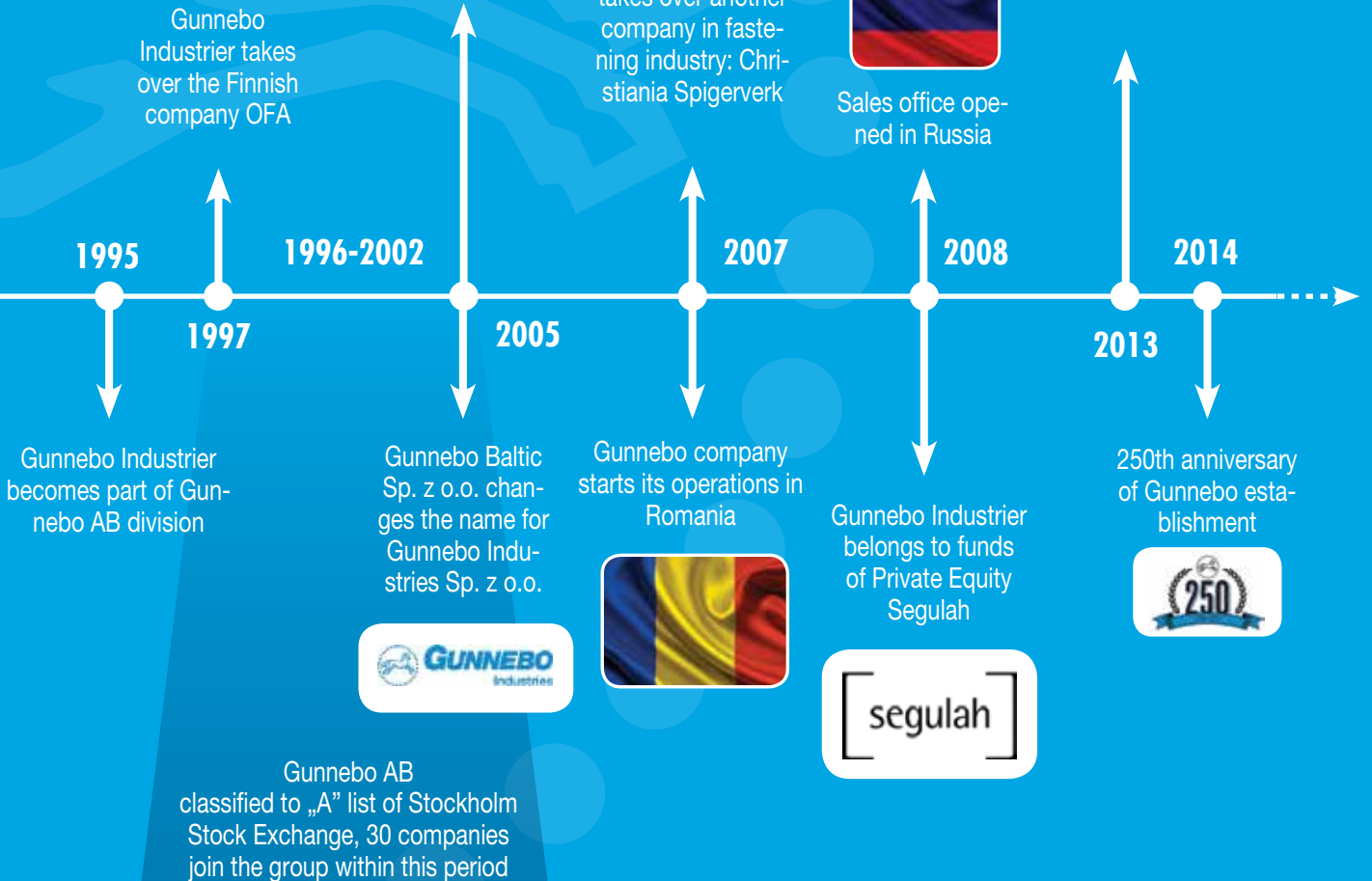
Gunnebo Industrier takes over the Finnish company OFA



Gunnebo Industrier takes over another company in fastening industry: Christiania Spigerverk



Sales office opened in Russia



HISTORY AND DEVELOPMENT

Consistent quality, full professionalism and high production standards are the hallmark of genuine products of Gunnebo. This catalogue provides a wide range of fasteners for the construction market in the area of housing, industrial and specialized application types.

250 years of tradition and experience, together with Scandinavian quality standards resulted in a high level of trust in both professionals and consumers who appreciate Gunnebo products for their innovation and perfect quality of execution.

1764



Gunnebo. History and development

The eighteenth century is the beginning of a great industrial revolution, which has left a deep mark on the global economy. In 1764 in Sweden, in the region of Kalmar, the local official and the owner of the shipyard in Västervik Hans Hultman received the permit to start the first hammer crusher to produce nails for construction of ships and chains for farm applications.

1876



More than two centuries later the company which grew based on business activities of Hultman Gunnebo became one of the largest manufacturers of construction fasteners, setting standards of quality and professionalism.

It was already in the 50s of the nineteenth century when Gunnebo became one of the largest plants in the region, expanding its product portfolio with screws, chains and wires. To maintain a high level of quality in the late 20s and 30s the company began operations of electrolytic galvanizing. In 1945 Gunnebo became the largest manufacturer of nails in Sweden when Tage Wiberg company successfully joined the group.

1930



10 years later, the company started production of chains on a large scale. In the 70s it was decided to change the old business organization. The decentralization had a positive effect on its development. It brought significantly increased export and the company went public in Stockholm stock market (list A) and connected to a group more new companies like Garny Sicherheitstechnik, Ficht-Bauche and Chubb Safes.

Gunnebo on the markets of Central and Eastern Europe



The history of Gunnebo presence in Central and Eastern Europe begins in the 90s. The first project in the region was relocation of part of the production process to Orneto in Poland. The cooperation between companies was facilitated by the fact that Fasteners Factory in Orneto of Warmia had by this time already developed export operations. The production hall was leased and production machines were imported to Poland. The year 1991 was the beginning of production under the brand name of Gunnebo. At the beginning production included only high-quality nails sent for the Swedish market.



The business potential resulting from combination of professionalism of Polish workers with Scandinavian quality standards could not be wasted. The end of year 1997 was the beginning of production of screws. In 2007 Gunnebo company started business operations in Romania, and a year later opened up its sales office in Russia.

The year 2014 is an important date for Gunnebo. The company celebrated the 250th anniversary of its establishment.

PRODUCTION PROCESSES



Key competitive advantage of Gunnebo screws is their quality. It is the derivative of over 250 years of experience in production of fasteners for construction industry and continuous improvement of processes carried out in Poland. All processes are performed based on technologies from leading manufacturers on the market.

The highest possible quality standards at all stages of production guarantee a reliable fastening. When you look at the final result which is the finished product, you don't even suspect how complex processes it has undergone to be able to retain its usable properties for many years.



Electrolytical galvanization

Galvanizing is performed based on technology of low-acid and alkaline, on automatic lines which allows achieving repeatability of the process, the highest quality parameters and high production efficiency.



Annealing of screws

All galvanized products undergo annealing process. Annealing process releases hydrogen from the material the screws have been produced from, thereby eliminating the corrosive phenomenon called „hydrogen embrittlement.”



Installation of washers

Washers are mounted automatically on the screws before powder coating process.



Powder painting

Powder coating provides not only durable, UV resistant colour, but also additional protection against corrosion. Modern technology of Powder.coat painting ensures durability of the coat during installation and long service life.



Packing

Large series of products are packed automatically. Gunnebo can produce 5.5 million units of packaging supplies per year. Manual packaging provides the flexibility, which enables production of product series.



FINISHED PRODUCT

CORROSION AND PROTECTIVE COATING

Building fasteners are responsible for safety of the structure, and therefore must be made of high quality materials. Quality is such an important matter so that fasteners are subjected to continuous impact of weather conditions, which can cause corrosion of metal. In case of fasteners for light constructions of walls and roofs there are two most popular types of corrosion: atmospheric and galvanic.

Gunnebo screws except for traditional zinc coatings are additionally covered with a special coating of gRey.coat type. As a result, they exhibit increased resistance to salt water, chemicals, high temperatures as well as galvanic corrosion. The quality of the gRey coated screws is comparable to the quality of screws made of stainless steel. Powder.coat provides additional protection against corrosion and adapts perfectly to the fastened element e.g.: corrugated sheet, sandwich panel.





Proper selection of fasteners for a corrosive environment in which they are to be used, is a key parameter affecting the safety of the structure. There are many types of corrosion. Fasteners for attaching a light housing components for walls and roofs, are particularly vulnerable to two types of corrosion: atmospheric corrosion and galvanic one.

Selection of fasteners for a corrosive environment due to the aggressiveness of the atmosphere, can be done based on the EN-ISO 12944-2 standard. A description of each corrosive environment has been presented in Table 1.

When selecting the fasteners you must also remember about galvanic corrosion. Galvanic corrosion occurs when in a corrosive environment there are at least two different metals, which are in electrical contact. This creates a galvanic cell in which one metal is the anode, and the other - the cathode. Corrosion failure of a joint depends on several factors:

- position of the two metals in a voltage series (potential difference)
- metal surfaces in contact,
- the presence of a corrosive solution (e.g. seawater)

In the fastener selection process it is necessary to create a situation when the area of cathode is small and anode area is large.

This is called cathodic protection. In practice this means that the fasteners should always be made of a material more noble than the fixed structural components. Table 2 shows adverse or indifferent pairs with comments.

Table 1 Corrosivity categories according to EN-ISO-12944.2

corrosivity category	Coating thickness weight loss (after 1 year of exposure)				examples of typical environments in a temperate climate	
	carbon steel		zinc coating		outdoors	indoors
	g/m ²	µm	g/m ²	µm		
C1 very low	< 10	< 1,3	< 0,7	< 0,1	Not present.	Heated buildings with a clean atmosphere, e.g. offices, shops, schools, hotels.
C2 low	10 ÷ 200	1,3 ÷ 25	0,7 ÷ 5	0,4 ÷ 0,7	Atmosphere of a small amount of impurities, mostly in rural areas	Unheated buildings where condensation may occur, such as warehouses, sport halls.
C3 average	200 ÷ 400	25 ÷ 50	5 ÷ 15	0,7 ÷ 2,1	Urban and industrial atmosphere with an average amount of pollution with sulphur and carbon dioxide. Coastal areas with low salinity.	Production halls of high humidity level and low contamination of air, e.g. food production companies, breweries laundries, dairy milk plants
C4 high	400 ÷ 650	50 ÷ 80	15 ÷ 30	2,1 ÷ 4,2	Industrial and waterfront areas with medium salinity.	Chemical plants, swimming pools, shipyards and ports.
C5-I (Industrial) very high	650 ÷ 1500	80 ÷ 200	30 ÷ 60	4,2 ÷ 8,4	Industrial areas with high humidity and aggressive atmosphere.	Buildings and other facilities with almost uninterrupted condensation and considerable air pollution.
C5-M (sea) very high	650 ÷ 1500	80 ÷ 200	30 ÷ 60	4,2 ÷ 8,4	Coastal areas and islands of high salinity.	Buildings and other facilities with almost uninterrupted condensation and considerable air pollution.

Table No. 2 Selection of fasteners due to galvanic corrosion*

Structure Material	fastener material					
	Zinc-coated steel/ Galvanized steel	Aluminum and aluminum alloys	Steel and cast iron	Stainless martensitic steel (410)	Stainless martensitic steel (410)	Austenitic stainless steel (302/304,303,305)
Zinc-coated steel/ Galvanized steel	A	B	B	C	C	C
Aluminum and aluminum alloys	A	A	B	C	NZ	B
Steel and cast iron	AD	A	A	C	C	B
Brass, copper, bronze, monel	ADE	AE	AE	A	A	B
Ferritic stainless steel (430)	ADE	AE	AE	A	A	A
Austenitic stainless steel (302/304)	ADE	AE	AE	AE	A	A

NZ Not recommended

A Fastener does not affect faster corrosion of the structure

B Fastener slightly increases the corrosion rate of the structure

C Fastener slightly increases the corrosion rate of the structure

D Fastener surface is rapidly destroyed. The fastener remains without corrosion protection

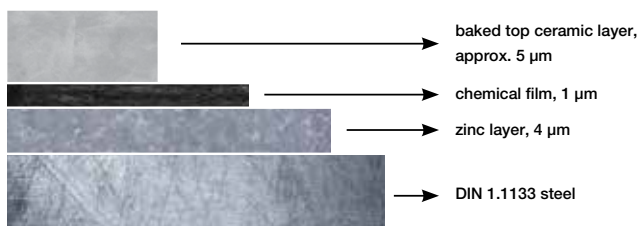
E Substrate material increases the corrosion of the fastener.

* The specificity of environment and other types of additional coatings may alter the activity of corrosion

Triple corrosion protection

Special triple gRey.coat coating protects steel components against harmful environmental phenomena, as: acid rain, salt contamination etc.

gRey.coat layers t:1000h:



Special features of gRey.coating t: 1000h:

- very high resistance to salt, water, chemicals, weather changes, etc.
- resistance to high temperatures, up to 200°C
- the highest resistance to corrosive gases
- salt chamber test up to 1000 h
- absence of corrosion, even in case of contact with other metals (galvanic corrosion) firmly adheres even to elements of complex shapes
- ceramic coating fends off red corrosion
- the film causes the porosity of zinc, which adheres to the ceramic outer coating



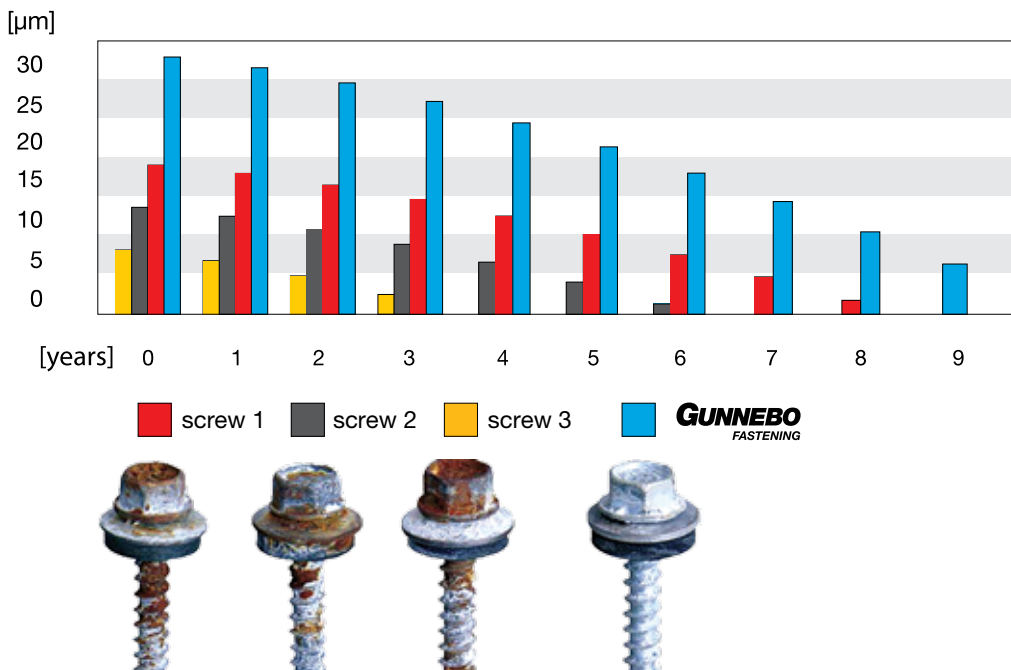
An objective study conducted by an independent, reputable laboratory confirmed high quality of screws manufactured by Gunnebo.

The tested GUNNEBO FASTENING fasteners, even after 72 hours in a salt chamber retain corrosion protection properties and do not expose the installed roofing to rusting at the point of attachment. In case of other screws available on the Polish market, additional sealing of the roof may be required even after a few years. The following is a simulation of corrosion resistance depending on the film thickness of the protecting coating.

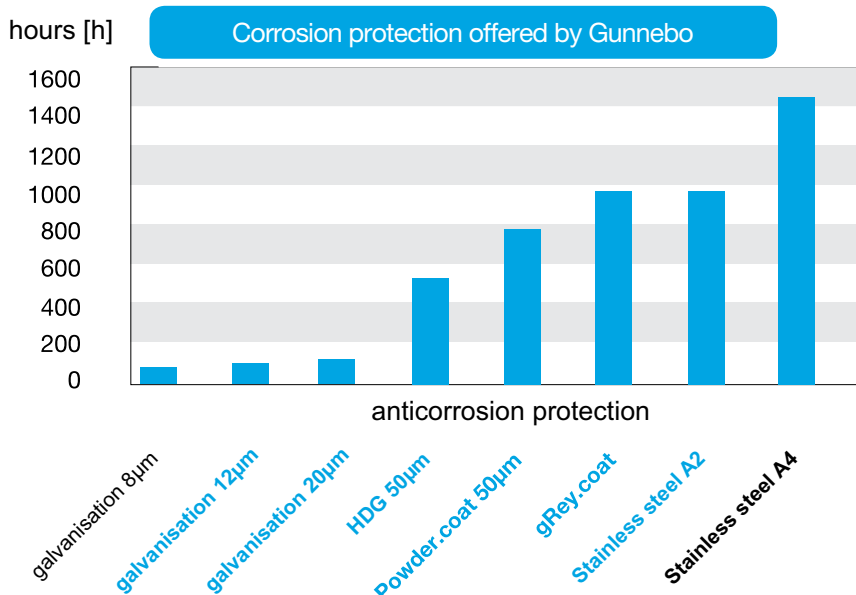
Modern research methods and the ISO 9001:2008 quality system ensure continuous quality control of manufactured products.

Anticorrosion coating durability in aggressive environments on average, depending on its thickness.

Chart of salt chamber test according to PN-EN 9227 standard



Corrosion resistance chart

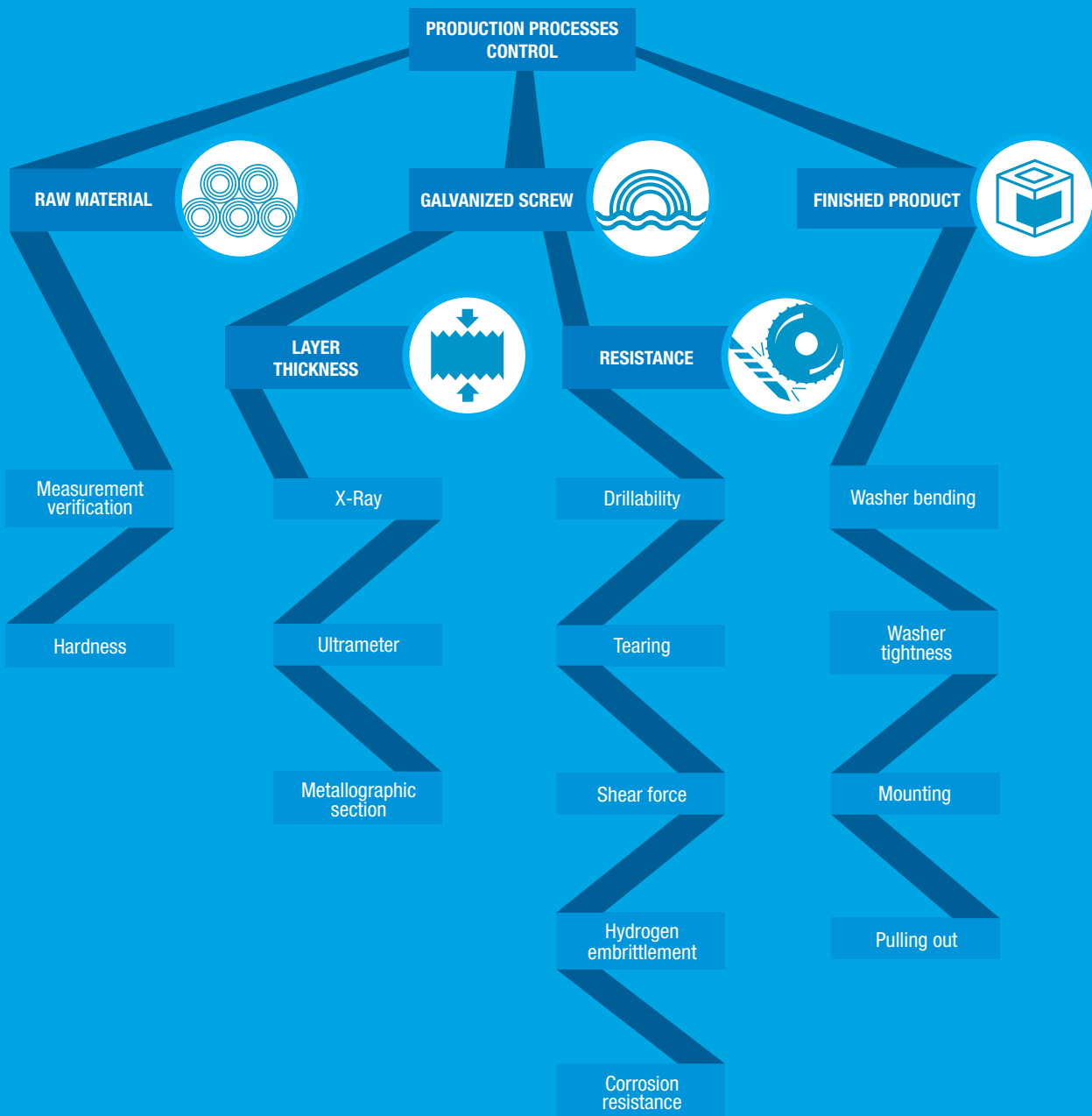


RESEARCH AND DEVELOPMENT



Strict quality policy of Gunnebo would not be possible without proper laboratory background. Quality control laboratory is equipped with modern, certified control and measurement instrumentation of renowned producers. Quality control department monitors and registers every production stage. This practice guarantees the highest quality of Gunnebo fastenings.

Chart of quality control processes





Professional customer service is the feature which clearly distinguishes Gunnebo company from others. Gunnebo customers can always count on the support of competent and dedicated team at every stage of the order. Gunnebo staff perfectly knows the needs and expectations of its customers not only in the field of product, but also comprehensive customer service.



Customer Service Department located directly at the manufacturing plant is responsible for execution of orders and providing current information about products. An extensive network of professional traders and advisers operates in the whole country and provides customers with comprehensive technical expertise in our products and their applications in projects currently executed by investors.



Technical support of regional sales force in conjunction with the stationary support of orders are the basis for effective production planning of production which is reflected in optimal logistics and speed of orders execution.



Gunnebo provides its customers with added value in the form of marketing support. We prepare all the promotional and marketing materials including banners, product displays, POS materials and all kinds of catalogues, brochures and promotional leaflets.

CERTIFICATES

All Gunnebo products have valid reference documents developed in collaboration with renowned research institutes. They guarantee compliance of production processes and products with the highest European standards and the specific requirements of particular markets.





CHAPTER 1 - FIXINGS

Ⓞ FARMER SCREWS

Ⓞ SELF-TAPPING SCREWS

Ⓞ CONSTRUCTION FASTENERS

Ⓞ SELF-DRILLING FASTENERS

Ⓞ CONSTRUCTION FASTENERS FOR CONCRETE AND WOOD

Ⓞ SELF-DRILLING SCREWS FOR SANDWICH PANELS



Ⓞ ACCESSORIES



SELF-DRILLING AND SELF-TAPPING FIXINGS

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CHAPTER 1 - FIXINGS

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63	GTX 3 AL S14	Bimetallic stainless steel self-drilling screw with stainless washer for aluminum constructions
64	GTZ 5 AGF S16	Screws with a washer for glass mounting in façade systems

SELF-DRILLING SCREWS FOR CONCRETE AND WOOD

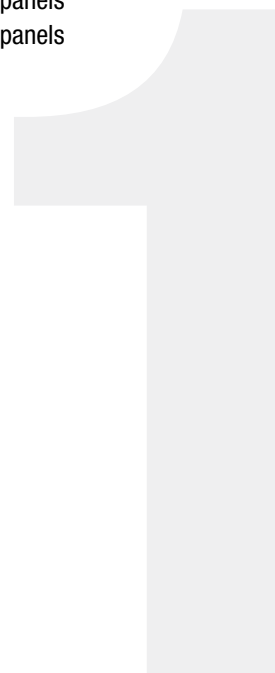
64	GTR W FH	Self-drilling screws with integrated flange head for mounting steel sheets in concrete or wood substrate
65	GTR W	Self-drilling screws without washer for fixing steel sheets on concrete substrate
65	GTR W A16	Self-drilling screws with washer for mounting steel sheets in concrete or wood substrate

SELF-DRILLING SCREWS FOR SANDWICH PANELS

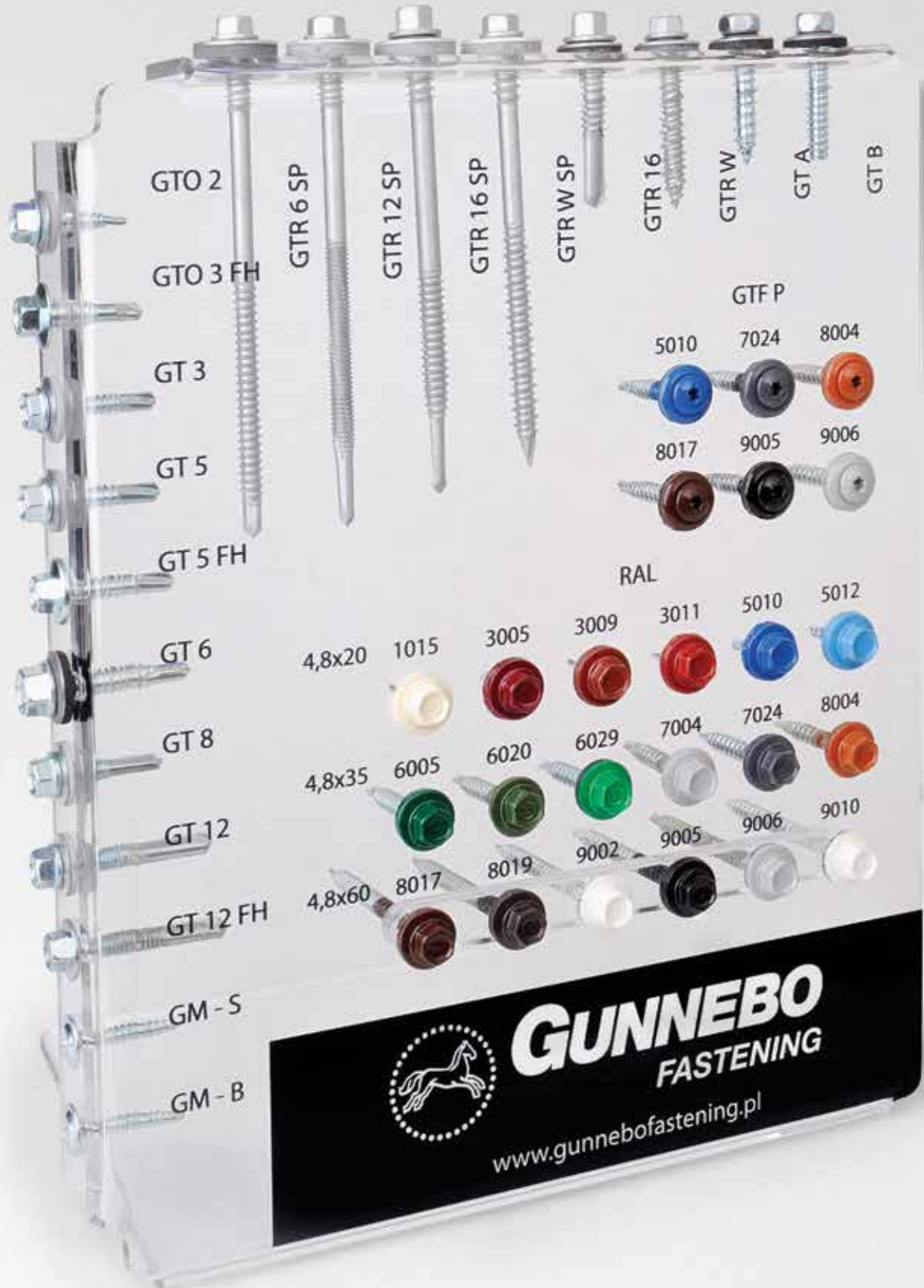
66	GT 6 L Z19	Self-drilling screws for system mounting sheet-wool-sheet
67	GTR 6 SP A19	Self-drilling screws with washer for fixing of the sandwich panels
68	GTX 6 SP S19 S29	Self-drilling bimetallic stainless steel screws with washer for fastening of sandwich panels
69	GTR 12 SP A19	Self-drilling screws with washer for fastening of sandwich panels
70	GTX 12 SP S19 S29	Self-drilling bimetallic stainless steel screws with washer for fastening of sandwich panels
71	GTR 16 SP A19	Self-drilling screws with washer for fastening of sandwich panels
72	GTR W SP A19	Self-drilling screws with washer for fixing of the sandwich panels

ACCESSORIES

73	SADDLE WASHER	Special aluminum washers for sandwich panels fixing
73	ULTRA	Expansion sleeves
74	OPEN-END RIVETS AL/FE	Open-end aluminum rivets - steel
75	CLOSED-END AL/FE	Closed-end aluminum rivets - steel
76	RIVETS AL/INOX	Open-end aluminum rivets - stainless steel
77	CLOSED-END AL/INOX	Closed-end aluminum rivets - stainless steel
77	SCREWDRIVER BITS	Hexagonal screwdriver bits
78	DRILL BITS	Drill bits for the concrete
78	MASKING CUPS	Coloured masking caps
79	PAINTS	Spray Primers
79	PAINTS	Stick Primers
80	SEALING COLLARS	Sealing Collars
80	GASKETS	Universal seals
81	GASKETS	Gaskets for roof tile sheets
81	MOUNTING FOAM	Pistol mounting foam





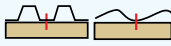
SELF-DRILLING AND SELF-TAPPING




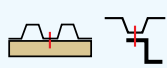
SELECTION OF FASTENERS¹

1) The above classification of fasteners in the C1, C2, C3, C4 environment corrosion classes pertains to the case when only the fastener heads are exposed to the corrosion environment.



ROOF TILES FIXING

application type	example of fixing	minimum thickness of the fixed steel sheets	maximum thickness of the fixed steel sheets	Environment corrosion class*		
		T min	T max	C1-C2	C1-C3	C1-C4**
fixing of steel roof tiles with overlap		2 x 0,5 mm	2 x 1,0 mm	G GTF 02 P	–	GTX F02
fixing of steel roof tiles on wooden structure		1 x 0,5 mm	2 x 1,0 mm	G GT F2 GT F2 HD GTF P	–	GTX F2
		Mounting depth min. 20 mm		GT FS	–	–
		1 x 0,5 mm	2 x 0,75 mm			
fixing of aluminium roof tiles on wooden structure		1 x 0,5 mm	2 x 1,0 mm	–	–	GTZ F2
		Mounting depth min. 20 mm				

FIXING OF STEEL SHEETS WITH OVERLAP AND TO STEEL OR WOODEN CONSTRUCTION

application type	example of fixing	minimum thickness of the fixed steel sheets	maximum thickness of the fixed steel sheets	Environment corrosion class*		
		T min	T max	C2	C3	C4**
steel sheets overlap joints		2 x 0,50 mm	2 x 1,00 mm	GT 02	GTR 02	–
		2 x 0,75 mm	2 x 1,25 mm	GT 03 FH	–	–
fixing of steel sheets to steel thin-wall construction or wood construction		2 x 0,63 mm	2 x 1,50 mm	GT A	–	–
		Mounting depth in wood min. 30 mm				

FIXING OF CORRUGATED STRUCTURAL STEEL SHEETS TO STEEL LOAD-BEARING STRUCTURE

application type	example of fixing	minimum base thickness	maximum thickness of fixed elements	Environment corrosion class*		
		T min	T max	C2	C3	C4**
mounting steel sheets to steel thin-wall construction		1,00 mm	3,00 mm	–	GTS-STAR	–
		1,00 mm	3,00 mm	GT 3 GT 3 HD	GTR 3	GTX 3
		1,50 mm	5,00 mm	GT 5	GTR 5	–
		1,50 mm	5,00 mm	GT 5 FH	–	–
		1,50 mm	5,00 mm	–	–	GTX 5
		2,50 mm	6,00 mm	GT 6	–	–
mounting steel sheets to hot-rolled steel construction		2,00 mm	8,00 mm	GT 8	GTR 8	–
		4,00 mm	12,00 mm	GT 12	GTR 12	GTX 12
		4,00 mm	12,00 mm	GT 12 FH	–	–
		5,00 mm	16,00 mm	–	GTR 16	–
		3,00 mm	limited maximum fastener threading capacity depending on steel grade	GT B	–	–



MOUNTING THIN STEEL SHEET AND PLASTIC ELEMENTS

application type	example of fixing	minimum thickness of fixed steel sheets	maximum thickness of fixed steel sheets	Environment corrosion class*		
		T min	T max	C1-C2	C1-C3	C1-C4**
fastening very thin steel and plastic elements to wooden elements or steel profiles		0,50 mm	0,90 mm	GM-S	-	-
		0,50 mm	0,90 mm			
fastening thin steel elements with overlap or to steel profiles		0,50 mm	2,25 mm	GM-B GM-K	-	-
fixing thin aluminum elements with overlap to wooden elements or aluminium profiles		0,50 mm	0,90 mm	-	-	GMZ-S

SANDWICH PANELS MOUNTING

application type	example of fixing	minimum base thickness	maximum base thickness	Environment corrosion class*		
		T min	T max	C2	C3	C4**
fixing of sandwich panels to steel thin-wall construction		1,00 mm	6,00 mm	-	GTR 6 SP	GTX 6 SP
fixing of sandwich panels to hot rolled steel construction		3,00 mm	12,00 mm	-	GTR 12 SP	GTX 12 SP
		4,00 mm	16,00 mm	-	GTR 16 SP	-
fixing of sandwich panels to concrete structure		60 mm (minimum embedding depth of 30 mm)	-	-	GTR W SP	-
fixing of sandwich panels to wooden structure		30 mm (minimum embedding depth of 30 mm)	-	-	GTR W SP	-

STEEL SHEETS MOUNTING ON ALUMINUM STRUCTURE

application type	example of fixing	minimum base thickness	maximum thickness of fixed elements	Environment corrosion class*		
		T min	T max	C2	C3	C4**
fixing of aluminum sheets to aluminum construction		1,00 mm	3,00 mm	-	-	GTX 3 AL
fixing glazing façade systems mullion-transom to the construction of aluminum		1,50 mm	5,00 mm	-	-	GTZ5 AGF

** Required consultation with the technical department of Gbo Fastening Systems Sp. z o.o.

STEEL SHEETS MOUNTING

application***	example of fixing	minimum thickness of the fixed steel sheets	maximum thickness of the fixed steel sheets	Environment corrosion class*		
		T min	T max	C1-C2	C3	C4
for fixing steel sheets in concrete or wooden substrate ***		0,63 mm	2,0 mm	-	GTR W GTR W FH	-
		0,63 mm	2,0 mm	-	GTR W GTR W FH	-
Mounting depth min. 30 mm						

* Fasteners qualified for higher corrosivity class can be used in lower grades of corrosivity of the environment.

*** pre-drill the hole of $\varnothing 5$ [mm] in concrete base



PAINT COAT POWDER.COAT 50µm

- significant additional protection against corrosion
- perfect match to the colour of the roofing:
- UV stabilizers - unchanged colour even a dozen years after

- modern technology of Powder.coat painting assures durability of the coating in the process of installation and long service life



GUNNEBO FASTENING

- GUNNEBO FASTENING brand stands for more than 250 years of tradition in production of various types of fasteners
- characteristic marking of GUNNEBO FASTENING products allows their easy identification
- strict production control carried out by the in-house laboratory guarantees high quality products
- each production batch is assigned a unique number, which allows its precise identification
- all our products have valid reference documents developed in collaboration with renowned research institutes



STEEL WASHER

- special shape of aluminum washer guarantees proper alignment of sealing material EPDM



ZINC COATING DURA.ZINC

- most basic protection against corrosion
- zinc coating thickness of 20 microns guarantees high quality
- our own modern galvanizing plant ensures the highest quality of protective coating against corrosion



SELF-DRILLING TIP DRILL.POINT

- special design of self-drilling tip GUNNEBO FASTENING Drill.point
- optimal steel sheet drilling in shortest time

- protective layer of zinc coating does not wear off during sheet drilling
- drillability DC max. 2 x 1,0 mm



EPDM WASHER

- made of the best sealing material
- does not lose elasticity in time, very long period of ageing
- resistant to changing weather conditions and UV radiation
- self-vulcanizes on the sheet after installation, forming a tight connection
- retains its properties under the influence of temperature in the range of -50°C to +100°C



PAINT COAT POWDER.COAT 50 µm

- additional protection against corrosion protecting the screw against changing weather conditions
- perfect match to the colour of metal sheet UV-stabilizers

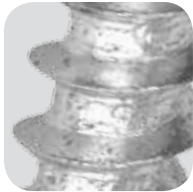
guarantees consistent colour

- UV-stabilizers guarantees consistent colour
- modern technology of Powder.coat painting ensures durability of the coat during installation and long service life



HEAD SHAPE

- modern shape of the head with TX-20 recess gives aesthetic look to the connection
- It adapts perfectly to the surface of a fixture
- design of the underside of the head is closely fitted to shape of the profiled washer



ZINC COATING DURA.ZINC

- key basic protection against corrosion
- zinc coating thickness of 20 microns guarantees high quality
- our own modern galvanizing plant ensures the highest quality of protective coating against corrosion



SELF-DRILLING TIP DRILL.POINT

- specially designed self-drilling tip GUNNEBO FASTENING Drill.point
- optimum plate drilling in a short time

- protective layer of zinc coating does not peel during sheet drilling
- drillability 2 x 1.0 mm



GUNNEBO FASTENING

- stands for more than 250 years of tradition in production of various types of fasteners
- the GUNNEBO FASTENING products can be easily identified through their characteristic marking
- strict production control carried out by the in-house laboratory guarantees high quality products
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- all our products have valid reference documents developed in collaboration with renowned research institutes



METAL WASHER

- special shape of aluminum washer ensures proper placement of the EPDM on the surface of the fixed element.
- material of the washer provides extra resistance against corrosion during use



EPDM WASHER

- made of the best sealing material – EPDM
- does not lose its elasticity during use, material with a very long ageing period
- resistant to changing weather conditions and UV radiation
- self-vulcanizes on the sheet after installation forming a tight-connection
- retains its mechanical properties in range of temperatures -50°C do +100°C



THREAD

- shape of the thread optimally matched to the construction of roof truss, ensuring the highest strength parameters

SELF-DRILLING SCREWS FOR SANDWICH PANELS



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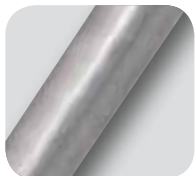
METAL WASHER

- special shape of steel washer ensures proper placement of the EPDM sealing material.



THREAD UNDER SCREW HEAD

- additional thread of larger diameter ensures proper placement of EPDM washers on thin steel sheets of sandwich panels



CERAMIC COATING GREY.COAT

- is the best protection against corrosion with high drilling capacities
- enables the use of fasteners in adverse conditions
- for use in environments with corrosivity classes C1-C3



GTR W SP

- specially designed drilling point together with HI-Lo thread, allows direct mounting in wood and concrete (in case of concrete structure, predrilling with 5mm hole diameter is required).
- in conjunction with ULTRA expansion sleeve you can fix the screw in soft materials such as solid brick, ceramic brick, perforated brick, aerated concrete.



EPDM WASHER

- made of the best sealing material - EPDM
- does not lose its flexibility over time. Very long period of ageing
- resistant to changing weather conditions and UV radiation
- self-vulcanizes on the sheet after installation, forming a tight connection
- retains its properties in temperatures between -50°C to +100°C

PAINT COATING POWDER.COAT

- significant additional protection against corrosion
- a perfect match to the colour of roofing material in the palette of RAL/NCS
- UV stabilizers - the unchanged colour even after several years
- modern technology of Powder coat painting ensures durability of the coat during installation and long service life



GTR 16 SP

- increased height of the head - protects the screw against breaking off of the head during installation
- increased diameter of the washer pressed under the head - ensures the proper distribution of the pressure force
- the maximum capacity of the drilling DC = 16 mm



- the 6,3 mm diameter of the fastener thread ensures very high tensile and shear strength



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- strict production control carried out by in-house laboratory guarantees high quality products
- each production batch is assigned a unique number, which allows its precise identification
- our products have ITB Technical Approval and confirmation of their quality is the certificate of Factory Production Control



EPDM WASHER

- made of the best sealing material - EPDM
- does not lose its flexibility over time. Very long period of ageing
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CERAMIC COATING GREY.COAT

- is the best protection against corrosion with high drilling capacities
- enables the use of fasteners in adverse conditions
- for use in environments with corrosivity classes C1-C3



SPECIAL HI-LO THREAD

- specially designed HI-Lo thread, allows direct mounting in wood and concrete (in case of concrete structure, predrilling with 5mm hole diameter is required).



INTEGRATED FLANGE HEAD

- integrated flange head increases the bearing surface of the fastener to the metal sheet, which increases the strength of tearing metal from the screw head



TYPE OF FASTENER:

- **T** TECNICA
- **M** montage screw

G T R 16 S P D x L

Material of the fastener:

- **No designation** - fastener made of ordinary carbon steel, electroplated
- **A** - aluminum fastener
- **R** - fastener made of standard carbon steel covered with gRey.coat coating
- **X** - bimetallic fastener made of stainless steel 1.4301
- **Z** - fastener made of stainless steel 1.4301

Function:

FARMER SCREWS:

- **F2** farmer screw
- **F02** farmer screw for sheet stitching
- **FS** fastener without drill

SELF TAPPING FASTENERS

- **A** fastener for wood or thin steel structures, up to 3 mm
- **B** fastener for steel structure thicker than 3 mm

MONTAGE SCREWS

- **S** montage screw without a drill
- **B** montage screw with a drill
- **K** montage screw combi type

SELF-DRILLING SCREWS

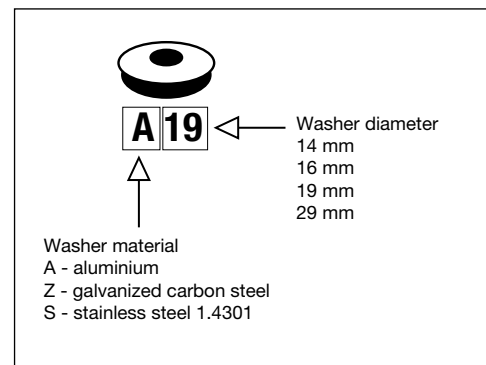
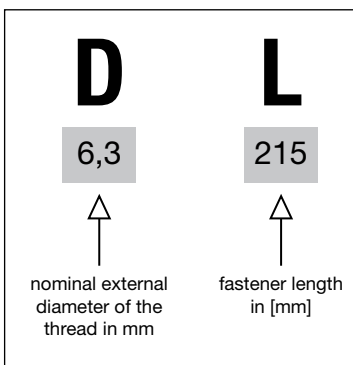
- **3,5,6,8,12,16** maximum drilling capacity of the screw
- **02,03** for steel sheets fastening with overlap joints

SELF-DRILLING SCREWS FOR SANDWICH PANELS

- **6,12,16** maximum drilling capacity of the screw
- **W** for fixing in concrete or wooden substrate

Special Features:

- **FH - FLANGE HEAD** FLANGE HEAD fastener
- **SP - SANDWICH PANEL** fastener for sandwich panels
- **AL - ALUMINUM** fastener for aluminum structures
- **AGF - ALUMINUM GLASS FACADES** fastener to aluminum-glass facades
- **HD - HEAVY DUTY** fastener with increased diameter of the thread
- **P - PANELS** fastener designed for fastening roof panels
- **L - LONG** fastener designed for mounting in the system of sheet-wool-sheet
- **STAR** fastener of flat hexagonal head

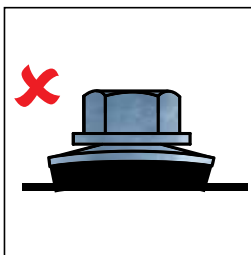




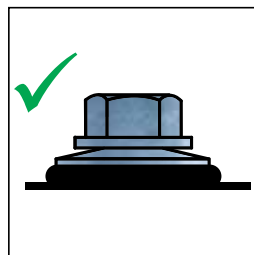
Installation guidelines

- fastener installation should always be perpendicular to the structure
- fastener installation should be done by using a screwdriver equipped with adjustable clutch or embedding depth stop,
- during installation of the fastener, you should follow all recommended parameters for the type of fastener,
- any modification of fasteners, including clipping, is not allowed,
- in the event of any damage to the anticorrosion coating, defects must be secured (touched up)
- for installation of fasteners coated with paint it is recommended to use only spring sockets.

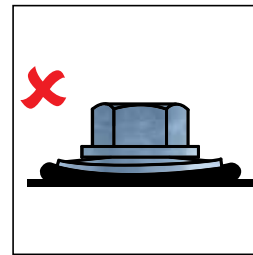
WASHER SETTING RECOMMENDATION (FIXING OF THE SHEET)



Under driven

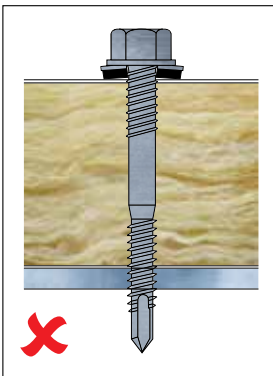


Correct

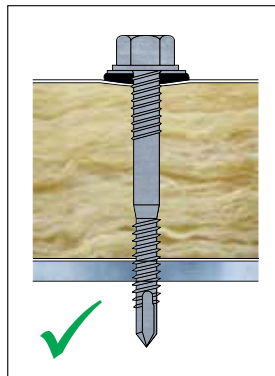


Over driven

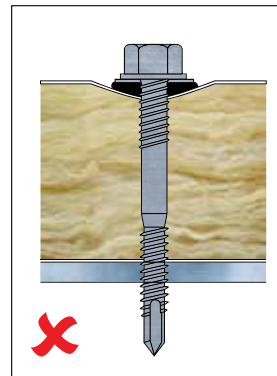
WASHER SETTING RECOMMENDATION (SANDWICH PANEL FIXING)



Under driven

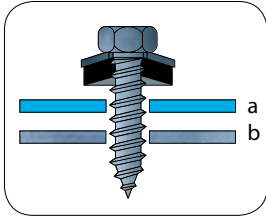


Correct

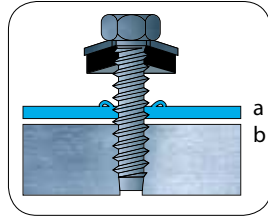


Over driven

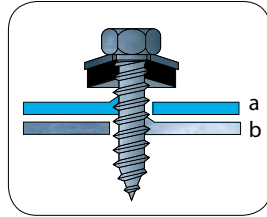
Self-tapping screws



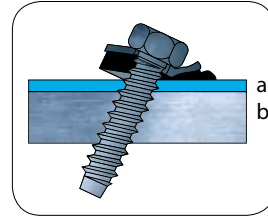
Too large diameter of the initial hole.
Result: no load bearing capacity of connection.



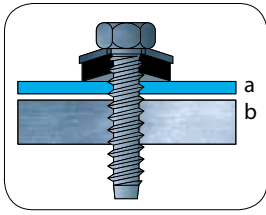
Too small diameter of initial hole. No tapping by fastener.
Result: destruction of the thread, fastener fracture



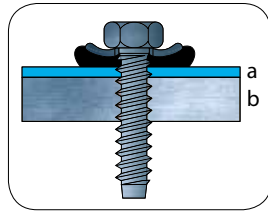
Hole shifted towards the screw axis.
Result: no load bearing capacity of connection or broken fastener



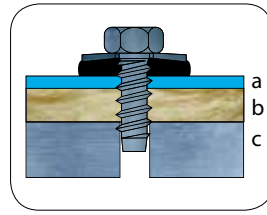
Mounting at an angle.
Result: lack of tightness in connection, no load bearing capacity of connection.



Fastener tightened with too little torque.
Result: lack of tightness in connection.

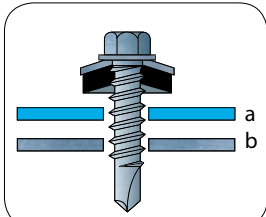


Fastener tightened with too much torque.
Result: lack of tightness in connection reduced load bearing capacity of connection.

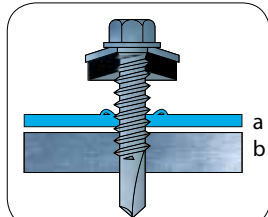


Fastener too short for the application.
Result: no load bearing capacity of connection.

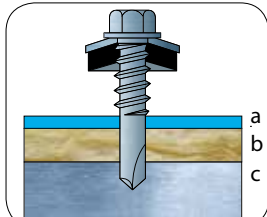
Self-drilling and self-tapping



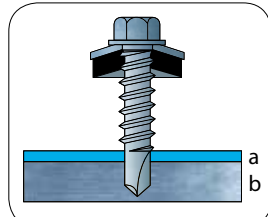
Drill point too large for the structure thickness.
Result: no load bearing capacity of connection.



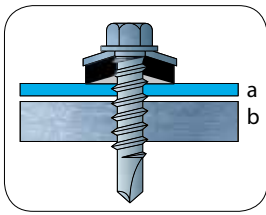
Drill point too short for the structure thickness. broken fastener or partial destruction of the thread - reduced load bearing capacity of connection



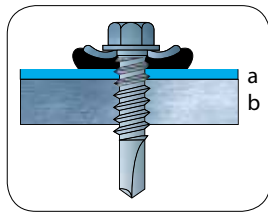
Drilling point too short. Threading of component "a" began, drilling in component "b" was not completed.
Result: thread destruction, destruction of component "a", reduced load bearing capacity of joint.



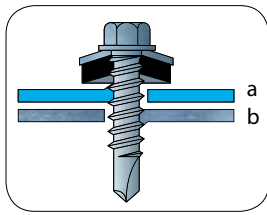
Drilling point too short. Drilling through component "b" impossible.



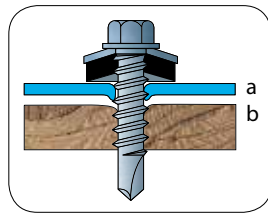
Fastener tightened with too little torque. Result: lack of tightness in connection.



Fastener tightened with too much torque. Result: lack of tightness in connection, reduced load bearing capacity of connection.

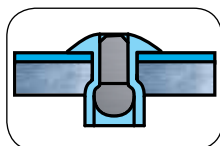


Hole shifted towards the screw axis.
Result: no load bearing capacity of connection or broken fastener.

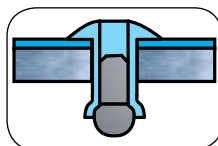


Fastener stuck into the structure. Result: bent, broken wood fibres, no tightness, no load bearing capacity of joint.

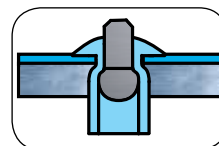
Rivets



Rivet fastened too tightly. Result: reduced load bearing capacity of connection, possible destruction of fastened elements.



Rivet fastened too loose. Result: no durability of connection.

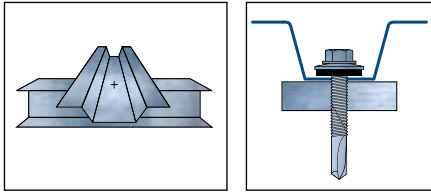


Mounting hole of too large diameter. Result: no connection of components.

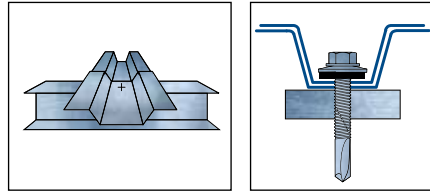
INSTALLATION OF CORRUGATED STRUCTURAL STEEL SHEETS ON STEEL STRUCTURE

Possible fixing systems

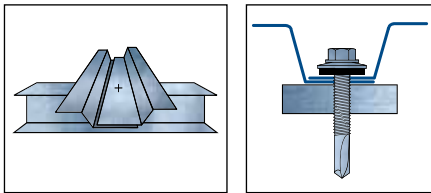
Fixing of one sheet



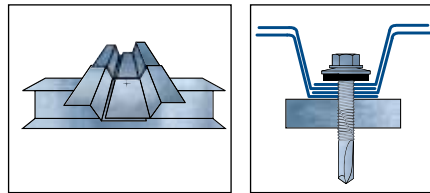
Fixing of two sheets with a crosswise overlap



Fixing of two sheets with a lengthwise overlap

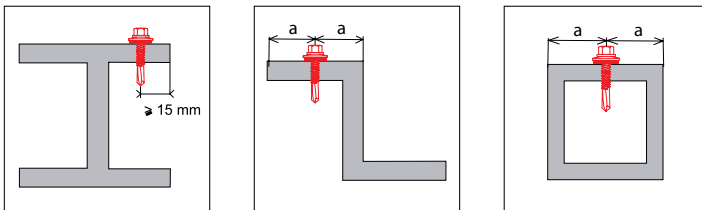


Fixing of four sheets with a lengthwise and crosswise overlap

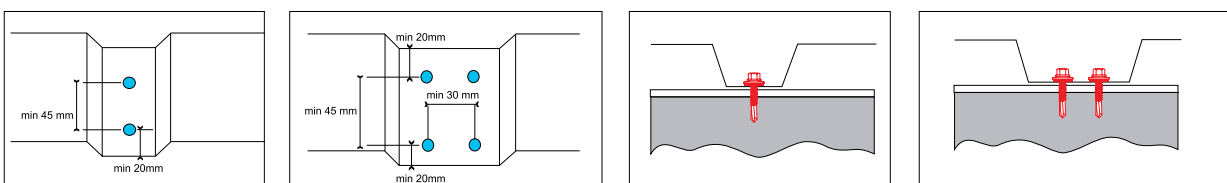


Rules for fixing metal sheets to structures (fixing point location) *

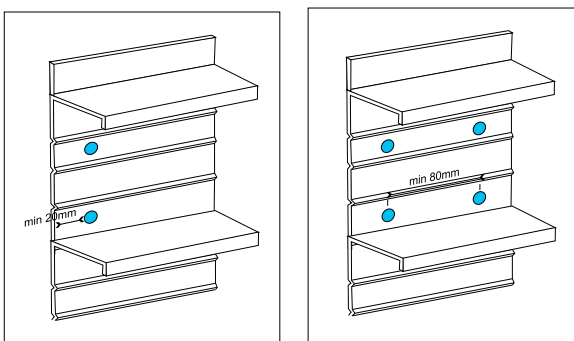
I. RECOMMENDED FASTENER DISTANCE FROM THE PROFILE EDGE



II. RECOMMENDED LOCATION FOR CORRUGATED STRUCTURAL STEEL SHEETS

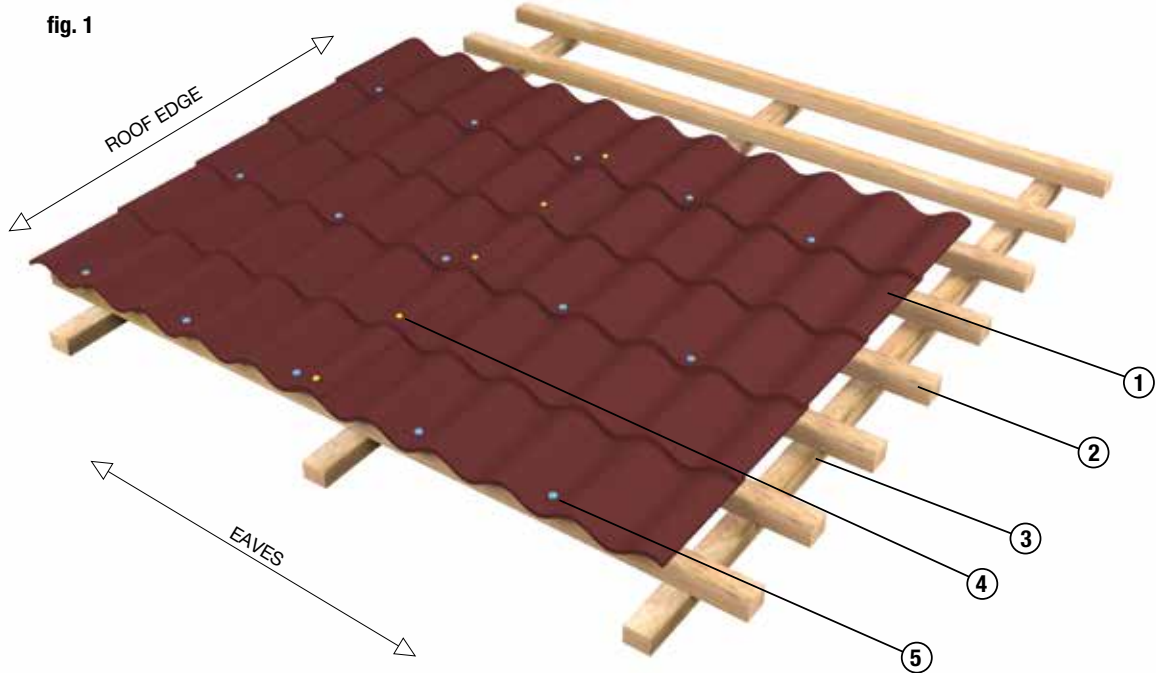


III. RECOMMENDED LOCATION OF WALL CASSETTE FIXING TO STEEL STRUCTURE



* the number of fasteners according to the construction design

USE OF FARMER SCREWS FOR INSTALLATION OF ROOF TILES ON WOODEN STRUCTURE



- 1. roof tiles
- 2. batten
- 3. rafter
- 4. farmer screws for fixing of roof tiles with overlap (e.g. G 4.8 * 20) ●
- 5. farmer screws for fixing of roof tiles on wooden substrate (e.g. G 4.8 * 35) ●

* average consumption of fasteners 6 - 7 pcs/m² of roofing

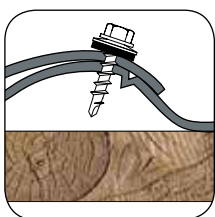
fig. 2



Figure 1 shows the recommended spacing of farmer screws. Roof tile is fixed to the structure by means of 4,8 * 35 screws in the lowest point of the wave (fig. 2). Roof tiles sections on lengthwise overlaps must be connected with 4,8 * 20 screws at the highest point of the wave, just before the cross-embossing of the sheet.

On lengthwise overlaps of the roof tiles the screw must be placed above the capillary groove existing on the sheet underneath (fig. 3).

fig. 3



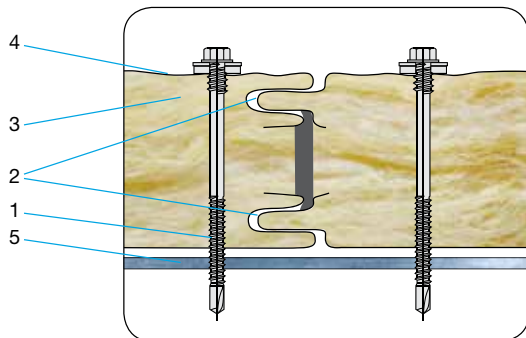
Roof tiles must be fastened to wooden structure to every second batten. On the fastening line the fasteners must be placed on every second wave. Fasteners for overlap sheeting joints should be placed in every row of roof tiles on the sheet overlap.

At the edge of the roof, roof tiles must be attached to each batten. At the ridge the roof tiles must be fastened at each bottom wave of the sheet. At the eaves line of the roof tiles it should be fastened to at least every other bottom wave of the sheet. The cross overlap of the sheeting should be fastened to the batten at every bottom wave of the sheet.

This way of installation ensures optimum functionality of the roofing. The presented method of fixing is an example and may not apply to all roofs. If the roof tiles manufacturer's installation instructions recommend other placement of fasteners than presented above, installation should be carried out in accordance with the instructions of the manufacturer of the roof tiles. If in doubt, take advice from the designer or the technical department of the roof tiles manufacturer.

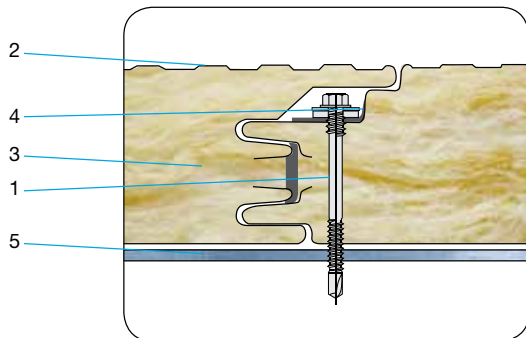
EXAMPLES OF USE OF FASTENERS FOR FIXING OF SANDWICH PANELS*

Fixing of a wall sandwich panel



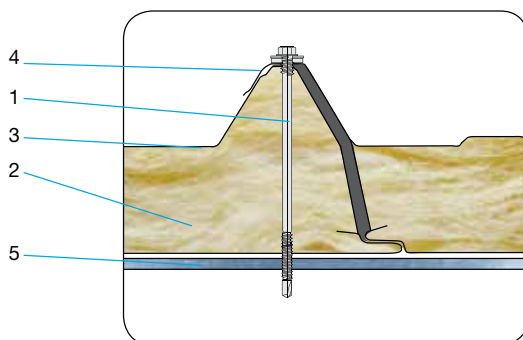
- 1. fastener
- 2. panel scarf joint
- 3. insulating material (panel core)
- 4. panel lining
- 5. substrate

Fixing of a wall sandwich panel with a covered joint

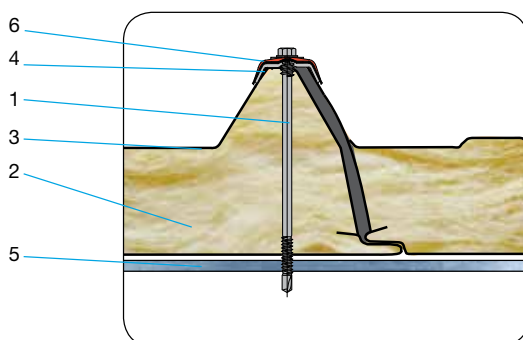


- 1. fastener
- 2. panel lining
- 3. insulating material (panel core)
- 4. covered fastening
- 5. substrate

Fixing of a roof sandwich panel



- 1. fastener
- 2. insulating material (panel core)
- 3. panel lining
- 4. top scarf joint of the roof panel
- 5. substrate

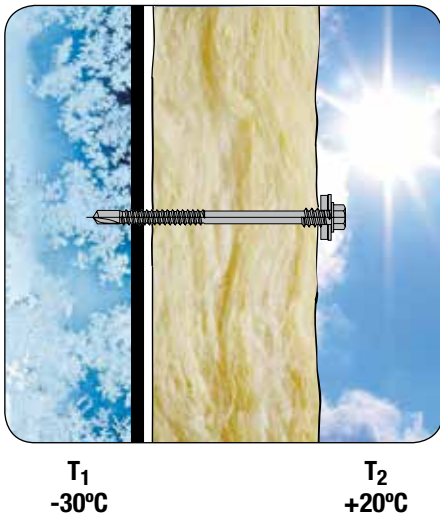


- 1. fastener
- 2. insulating material (panel core)
- 3. panel lining
- 4. top scarf joint of the roof panel
- 5. substrate
- 6. saddle washer

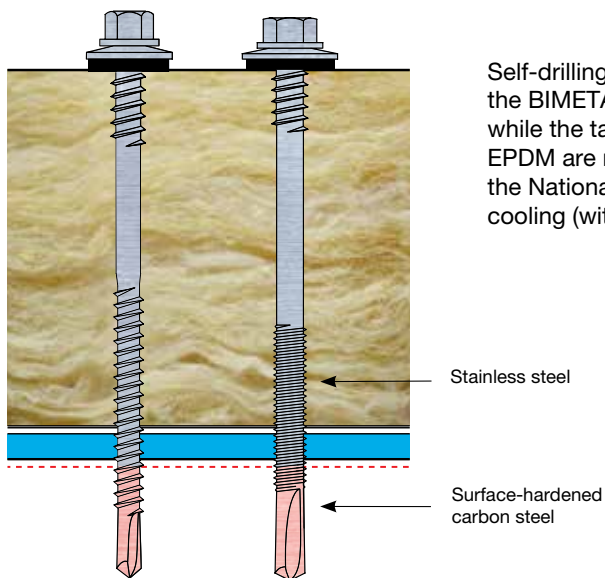
* fixing point location according to the recommendations of the panel manufacturer



Use of fasteners for fixing sandwich panels in cold stores and freezers



Stainless steel self-drilling and self-tapping screws: **GTX 6 SP** and **GTX 12 SP** have undergone thermal conductivity assessment. Assessment included thermal insulation, resistance to freezing and water condensation. Assessment report confirms directly that screws GTX6 SP and GTX 12 SP are well-suited for mounting sandwich panels in cold stores and freezers.



Self-drilling and self-tapping screws **GTX** and **GTX SP** are produced in the BIMETAL technology. The drilling element is made of carbon steel, while the tapping part and head of the screw together with vulcanized EPDM are made of stainless steel. These fasteners are accredited by the National Institute of Hygiene for their use in the food industry and cooling (with no contact with food).





**FARMER SCREWS
WITH ALUMINUM WASHER (STAPLE)**

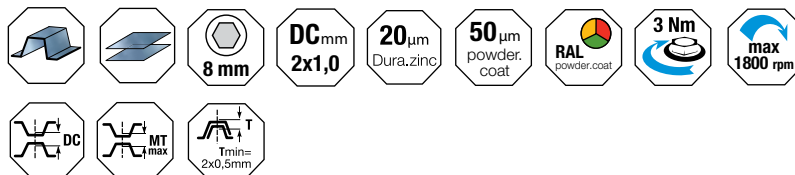
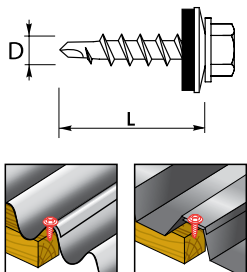
Self-drilling and tapping carbon steel screws, surface-hardened, electro-galvanized, with reduced drilling point and hex head, with integrated steel washer with vulcanized EPDM.



Designed for fastening metal flat and corrugated steel sheets with overlap joints between each other.



Product designation	Fastener			MTmax [mm]	Drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	-		
P140200PL	4.8	20	8	7	2x1.00	A	14	250/6/1500



**FARMER SCREWS
WITH ALUMINUM WASHER**

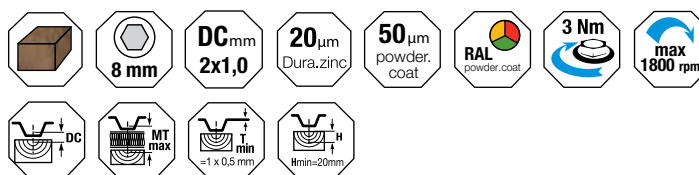
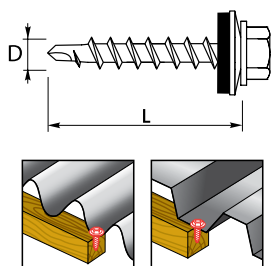
Self-drilling and tapping carbon steel screws, surface-hardened, electro-galvanized, with reduced drilling point, thread for wood and hex head, with integrated steel washer with vulcanized EPDM.



Designed for fastening profiled metal sheets to wooden structures.



Product designation	Fastener				MTmax [mm]	Drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw	anchoring depth			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]		-	-		
P1400280PL	4.8	28	8	20	5	2x1.00	A	14	250/6/1500
P140350PL	4.8	35	8	20	12	2x1.00	A	14	250/6/1500
P1400600PL	4.8	60	8	20	37	2x1.00	A	14	100/6/600
P1400800PL	4.8	80	8	20	57	2x1.00	A	14	100/6/600



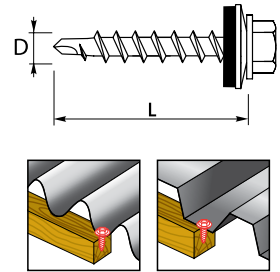
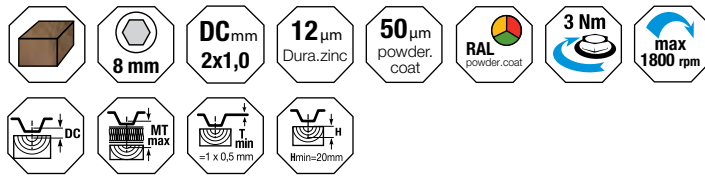
Self-drilling and tapping carbon steel screws, surface-hardened electro-galvanized, with reduced drilling point, thread for wood and hex head, with integrated steel washer with vulcanized EPDM.

GT F2 Z14

FARMER SCREWS WITH STEEL WASHER

Designed for fastening profiled metal sheets to wooden structures.

Product designation	Fastener				MTmax	Drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw	anchoring depth			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]			-	-	
P140028OFA	4.8	28	8	20	5	2x1.00	Z	14	250/6/1500
P14035OFA	4.8	35	8	20	12	2x1.00	Z	14	250/6/1500
P140050OFA	4.8	50	8	20	27	2x1.00	Z	14	100/6/600
P140070OFA	4.8	70	8	20	47	2x1.00	Z	14	100/6/600
P140100OFA	4.8	100	8	20	77	2x1.00	Z	14	100/6/600



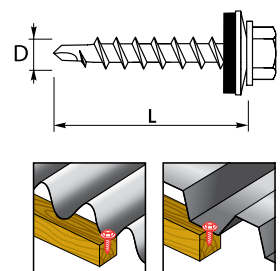
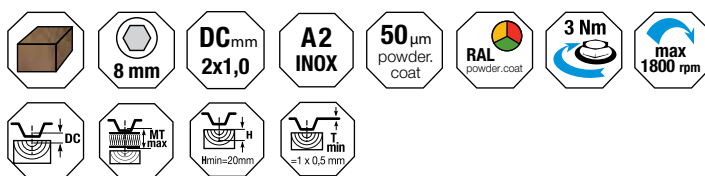
Self-drilling, tapping stainless steel screws, electro-galvanized, with reduced drilling point, thread for wood and hex head, with integrated steel washer with vulcanized EPDM.

GTZ F2 S14

STAINLESS FARMER SCREWS WITH STAINLESS WASHER

Designed for fastening profiled aluminum sheets to wooden structures.

Product designation	Fastener				MTmax	Drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw	anchoring depth			Mat.	Size	
	[mm]	[mm]	[mm]	mm			-	-	
P1740350PL	4.8	35	8	20	12	2x1.00	S	14	250/6/1500



GTX F02 S14

BIMETALLIC STAINLESS FARMER SCREWS WITH STAINLESS WASHER (STAPLE)

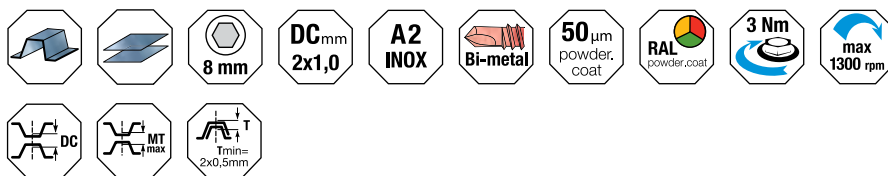
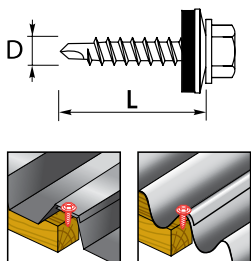
Drilling, self-tapping screws made of austenitic steel, (bimetallic) with a reduced drilling point, wood thread and hex washer head, provided with a stainless washer with vulcanized EPDM.

ETA



Designed for overlap joints of thin corrugated steel sheets (roof tiles) in aggressive environments.

Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		[mm]	DC	-	
P170200PL	4.8	20	8	7	2x1.00	S	14	250/6/1500



GTX F2 S14

BIMETALLIC FARMER STAINLESS SCREWS WITH STAINLESS WASHER

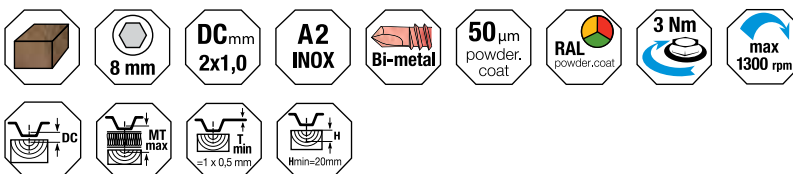
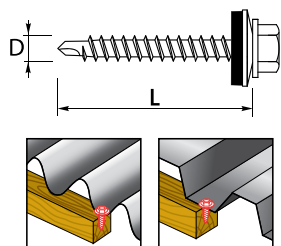
Drilling, self-tapping screws made of austenitic steel (bimetallic), with a reduced drilling point, wood thread and hex washer head, provided with a stainless washer with vulcanized EPDM.

ETA



Designed for fastening profiled metal sheets to wooden structures, in the environment requiring increased anti-corrosion performance.

Product designation	Fastener				MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw	Anchoring depth			Mat.	Size	
	[mm]	[mm]	[mm]	mm		[mm]	DC	-	
P170350PL	4.8	35	8	20	12	2x1.00	S	14	250/6/1500



Drilling carbon steel screws, surface-hardened, electro-galvanized, with thread for wood and hex head, with integrated steel washer with vulcanized EPDM.

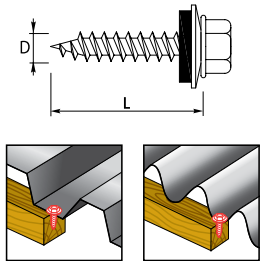
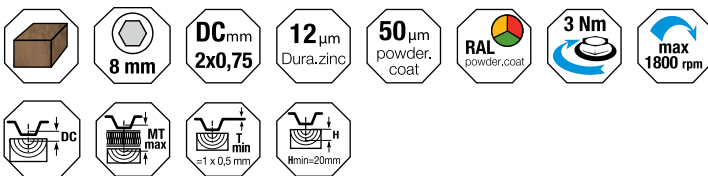
GT FS Z14

FARMER SCREWS WITH STEEL WASHER WITHOUT A DRILL BIT

Designed for fixing thin steel sheets (roof tiles) to a timber structure.



Product designation	Fastener				MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw	Anchoring depth			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]			DC	-	
P140025OFA	4.8	25	8	20	2	2x0.75	Z	14	250/6/1500



Self-drilling and self-tapping carbon steel screws, surface-hardened, electro-galvanized, with reduced drilling point, thread for wood and hex head, with integrated steel washer with vulcanized EPDM.

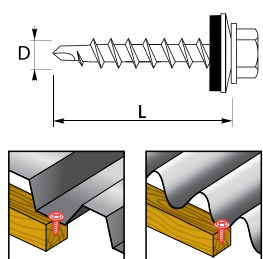
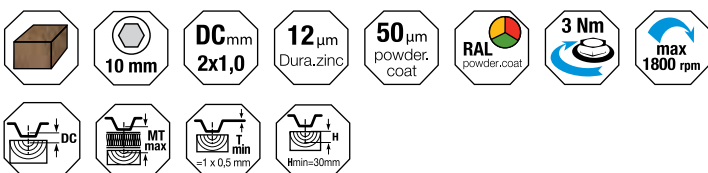
GT F HD Z16

FARMER SCREWS WITH STEEL WASHER

Designed for fastening roof platforms and communication elements to timber structure or as repair elements after removing the screws mounted before with the smaller diameter.



Product designation	Fastener				MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw	Anchoring depth			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]			DC	-	
P1416450OFA	6,4	50	10	30	16	2x1.00	Z	16	100/6/600
P1416470OFA	6,4	70	10	30	36	2x1.00	Z	16	100/6/600



GT F2 P

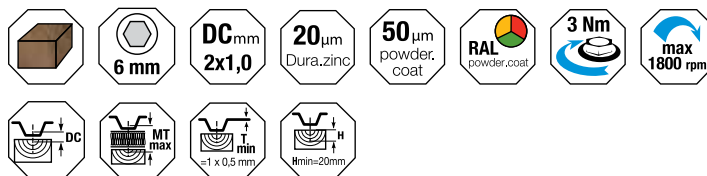
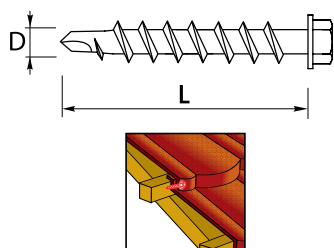
FARMER SCREWS WITHOUT WASHER FOR ROOFING PANELS

Self-drilling and tapping carbon steel screws, surface-hardened, electro-galvanized, with reduced drilling point, thread for wood and hex head 6mm.

Designed for fastening profiled metal sheets of roof tiles to wooden structures.



Product designation	Fastener				MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw	anchoring depth			DC	Size	
	[mm]	[mm]	[mm]	mm		[mm]	-	[mm]	
P14035M63PL	4,8	35	6	20	15	2x1.00	-	-	500/6/3000



GTF P

FARMER SCREWS PANHEAD WITH ALUMINUM WASHER

Self-drilling and tapping carbon steel screws, surface-hardened, electro-galvanized, with reduced drilling point, thread for wood and oval head with TX-20 cut.

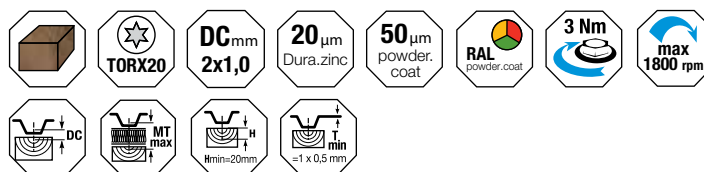
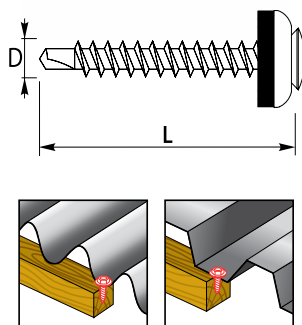
With integrated aluminum washer with vulcanized EPDM layer.

Designed for fastening corrugated metal sheets to wooden structures.



Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	TX			DC	Size	
	[mm]	[mm]	[mm]		[mm]	-	[mm]	
P140028PH	4,8	28	20	2	2x1.00	A	14	250/6/1500
P14035PH	4,8	35	20	9	2x1.00	A	14	250/6/1500
P140060PH	4,8	60	20	34	2x1.00	A	14	100/6/600
P140080PH	4,8	80	20	54	2x1.00	A	14	100/6/600

Installation with a dedicated Gunnebo assembly tip.



Self-drilling and tapping carbon steel screws, surface-hardened, electro-galvanized, with reduced drilling point and oval head with TX-20 cut. With integrated aluminum washer with vulcanized EPDM layer.

GTF 02 P

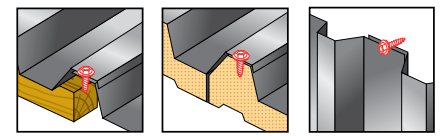
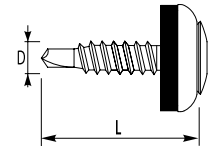
FARMER SCREWS WITH ALUMINUM WASHER (STAPLE)

Designed for fastening metal flat and corrugated steel sheets with overlap joints between each other.



Product designation	Fastener			MTmax	Max drill. thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]			-	[mm]	
P14020PH	4.8	20	8	7	2x1.00	A	14	250/6/1500

Installation with a dedicated Gunnebo assembly tip.



GT A Z16

SELF-TAPPING SCREWS TYPE A WITH STEEL WASHER

Self-tapping carbon steel screws, surface-hardened, electro-galvanized, with loose thread and hex head, with integrated steel washer with vulcanized EPDM.

EOTA

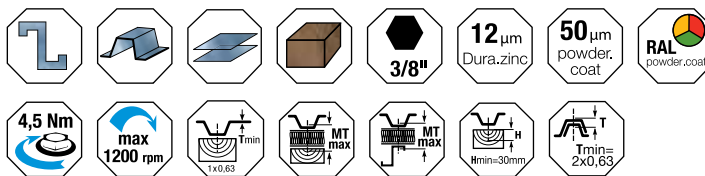
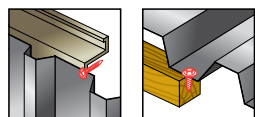
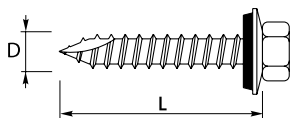


CE



Designed for fastening profiled construction steel sheets to wooden structures and thin-walled steel structures (max 2 x 1.50 mm). Short sizes can be used for overlap joint fixing of constructional steel sheets with each other or as repair switches.

Product designation	Fastener				MTmax		Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw	anchoring depth	wood	steel	Mat.	Size	
							-	-	
P2513250PL	6,5	25	3/8"	30	-	16	Z	16	250/4/1000
P2513320PL	6,5	32	3/8"	30	-	23	Z	16	250/4/1000
P2513380PL	6,5	38	3/8"	30	4	29	Z	16	100/4/400
P2513500PL	6,5	50	3/8"	30	16	41	Z	16	100/4/400
P2513750PL	6,5	75	3/8"	30	41	66	Z	16	100/4/400



Steel construction	Ø drills
0,63	3,5
0,75	4,0
0,88 - 1,25	4,5
1,5	5,0
2,0	5,5

GT B Z16

SELF-TAPPING SCREWS TYPE B WITH STEEL WASHER

Self-tapping screws made of surface-hardened carbon steel, electroplated, with fine thread and a hex head, provided with a steel washer with vulcanized EPDM.

EOTA

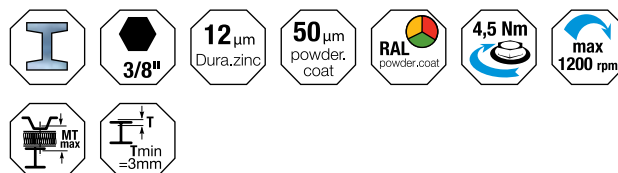
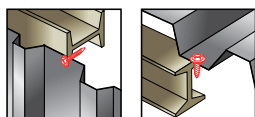
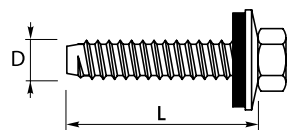


CE



Designed for fixing construction corrugated steel sheets to steel structures. The maximum thickness of the substrate is determined by tapping capacity of the fastener.

Product designation	Fastener			MTmax	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw		Mat.	Size	
					-	-	
P2533250PL	6,3	25	3/8"	19	Z	16	250/4/1000
P2533320PL	6,3	32	3/8"	26	Z	16	250/4/1000
P2533380PL	6,3	38	3/8"	32	Z	16	100/6/600
P2533500PL	6,3	50	3/8"	44	Z	16	100/4/400
P2533750PL	6,3	75	3/8"	69	Z	16	100/4/400



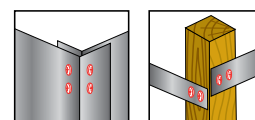
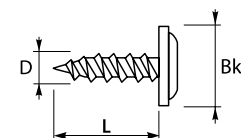
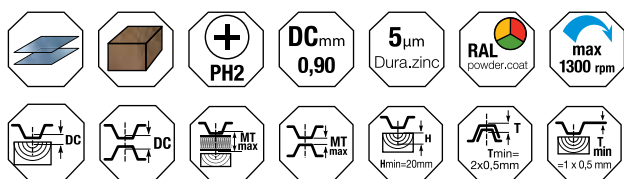
Steel construction	Ø drill bits
3,0 - 5,0	5,3
6,0	5,5
8,00 - ∞	5,7

Drilling montage screws made of surface-hardened carbon steel, electro-plated, with a drilling tip, fine thread, and a 12 mm flat head with PH2 slot.

GM-S UNIVERSAL DRILLING MONTAGE SCREWS

Designed for mounting very thin steel parts and plastic components to wooden components and steel profiles (up to 0.9 mm), and also for overlap joints of these components.

Product designation	Fastener			Anchoring depth	Fastened element		Max drill. thick.	Thread length	Package Separate/Quantity/Collective [pcs]
	D	L	Bk		wood	steel			
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
P20131410PL	4.2	14	12	20	8	-	0,90	14	500/8/4000
P20131610PL	4.2	16	12	20	10	-	0,90	16	500/8/4000
P20131910PL	4.2	19	12	20	13	-	0,90	19	500/8/4000
P20132510PL	4.2	25	12	20	19	5	0,90	25	500/8/4000
P20133010PL	4.2	30	12	20	24	10	0,90	30	500/6/3000
P2013380PL	4.2	38	12	20	32	18	0,90	38	250/8/2000
P2013500PL	4.2	50	12	20	44	30	0,90	50	250/6/1500
P2013650PL	4.2	65	12	20	59	45	0,90	20	250/6/1500
P2013750PL	4.2	75	12	20	69	55	0,90	25	250/6/1500
P2013850PL	4.2	80	12	20	74	60	0,90	25	250/6/1500



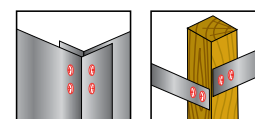
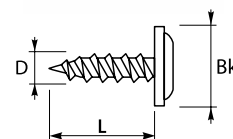
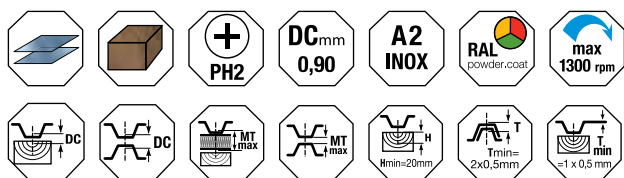
Montage drilling austenitic stainless steel screws with drilling tip, fine thread and flat head with a diameter of 12 mm and PH2 cut.

GMZ-S UNIVERSAL STAINLESS DRILLING MONTAGE SCREWS

Designed for fastening very thin steel parts and plastic components to wooden components and steel profiles (up to 0.9 mm), and also for overlap joints of these components.

No possibility of drilling carbon steel sheets.

Product designation	Fastener			Anchoring depth	Fastened element		Max drill. thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Bk		wood	steel		
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
P20142510PL	4,2	25	12	20	19	5	0.90	500/8/4000



GM-B

SELF-DRILLING MONTAGE SCREWS

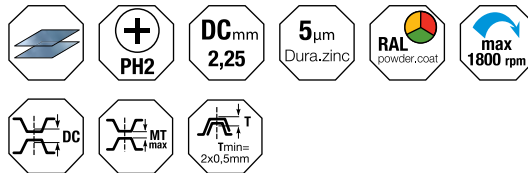
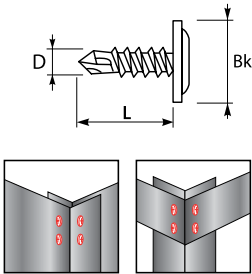
Drilling, self-tapping montage screws made of surface-hardened carbon steel, electroplated, with a drilling point, fine thread, and a 12 mm flat head with PH2 slot.



Designed for mounting very thin steel parts and plastic components to steel profiles (up to 2.25 mm), and also for overlap joints of these components.

Product designation	Fastener			Fastened element MTmx	Max drill. thick. DC	Package Separate/ Quantity/ Collective [pcs]
	D	L	Bk			
	[mm]	[mm]	[mm]	[mm]	[mm]	
P20121310PL	4,2	13	12	2	2,25	500/8/4000
P20121610PL	4,2	16	12	5	2,25	500/8/4000
P20121910PL	4,2	19	12	8	2,25	500/8/4000
P20122010PL	4,2	25	12	14	2,25	500/8/4000
P20123210PL	4,2	32	12	21	2,25	500/8/4000
P2012400PL	4,2	40	12	29	2,25	250/6/1500
P2012650PL	4,2	65	12	54	2,25	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GM-K

SELF-DRILLING MONTAGE SCREWS COMBI TYPE

Drilling, self-tapping montage screws made of surface-hardened carbon steel, electroplated, with a drilling point, fine thread, and a 12 mm flat head with PH2 slot combi type.

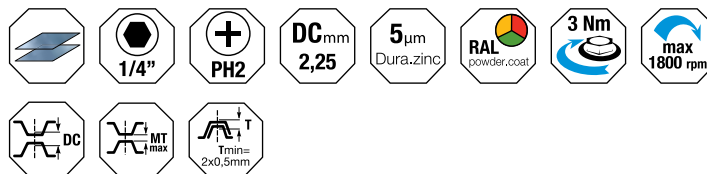
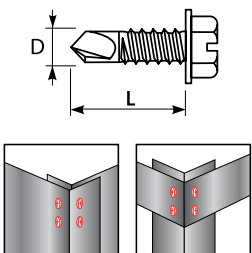


product for special order

Designed for mounting very thin steel parts and plastic components to steel profiles (up to 2.25 mm), and also for overlap joints of these components.

Product designation	Fastener			Fastened element MTmx	Max drill. thick. DC	Package Separate/ Quantity/ Collective [pcs]
	D	L	SW			
	[mm]	[mm]	[mm]	[mm]	[mm]	
P4308140PL	4,2	13	1/4" / PH2	2	2,25	250/8/2000
P4308160PL	4,2	16	1/4" / PH2	5	2,25	250/8/2000
P4308190PL	4,2	19	1/4" / PH2	8	2,25	250/8/2000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point, fine thread and a hex head, without a washer.

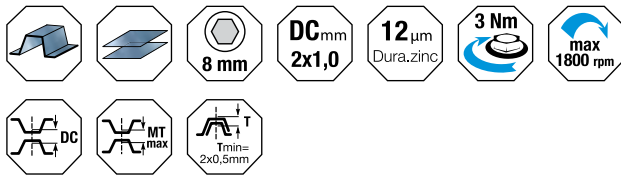
GT 02

SCREWS WITHOUT WASHER
FOR OVERLAP JOINTS (STAPLE)

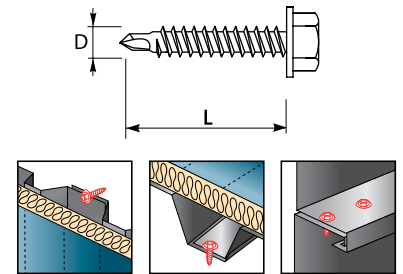
Designed for fastening overlap joints of thin corrugated construction steel sheets and sandwich panels (roof tiles).

Product designation	Fastener			MTmax	Max drill. thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			
	[mm]	[mm]	[mm]	[mm]		
P15048203PL	4.8	20	8	10	2x1.00	500/6/3000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



EOTA



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point, fine thread and a hex head, with integrated steel washer with vulcanized EPDM layer.

GT 02 Z14

FASTENERS WITH WASHER
FOR OVERLAP JOINTS (STAPLE)

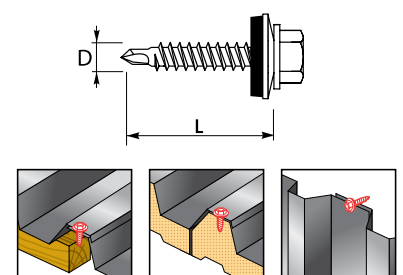
Designed for fastening corrugated construction steel sheets to each other and for overlap joints fastening of sandwich panels (roof tiles).

Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			DC	Mat.	
	[mm]	[mm]	[mm]	[mm]	[mm]		-	
P15048200PL	4.8	20	8	7	2x1.00	Z	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



EOTA



GTR 02

SCREWS WITHOUT WASHER
FOR OVERLAP JOINTS (STAPLE)

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with a reduced drilling point, fine thread and a hex head, without a washer. Additional corrosion protection: gRey.coat coating.

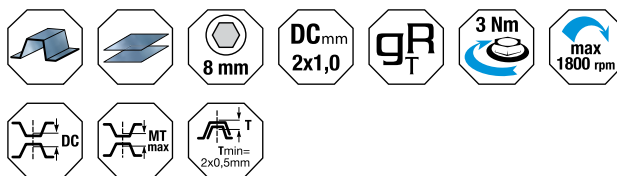
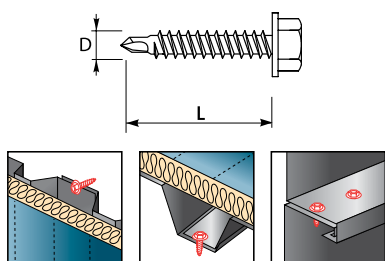
EOTA



Designed for fastening overlap joints of thin corrugated construction steel sheets and sandwich panels (roof tiles).

Product designation	Fastener			MTmax	Max drill. thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]	[mm]	
P1504820R3PL	4.8	20	8	10	2x1.00	500/6/3000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 02 A14

FASTENERS WITH WASHER
FOR OVERLAP JOINTS (STAPLE)

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with a reduced drilling point, fine thread and a hex head, with an integrated aluminum washer with vulcanized EPDM. Additional corrosion protection: gRey.coat coating.

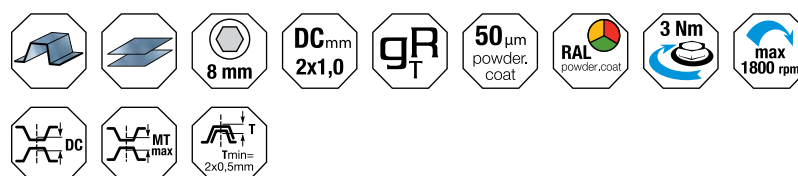
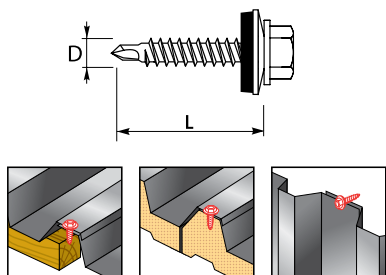
EOTA



Designed for fastening overlap joints of corrugated construction steel sheets and lining of sandwich panels (roof tiles).

Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
P1504820R0PL	4.8	20	8	7	2x1.00	A	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point, fine thread and a hex head, with integrated flange head.

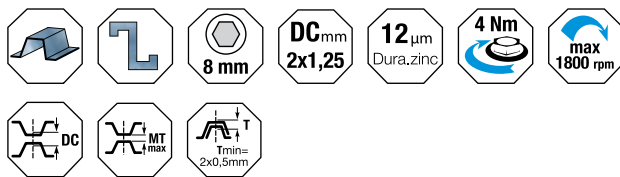
GT 03 FH

SELF-DRILLING SCREWS WITH FLANGE HEAD FOR OVERLAP JOINTS (STAPLE)

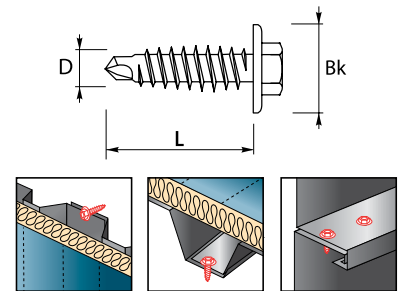
Designed for overlap joints fastening of corrugated construction steel sheets to each other and construction steel sheets to thin-walled steel structures.

Product designation	Fastener				MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw	Bk		DC	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
P15063223PL	6,3	22	8	15	6	2x1.25	500/4/2000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



EOTA



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point #2, fine thread and a hex head, without a washer.

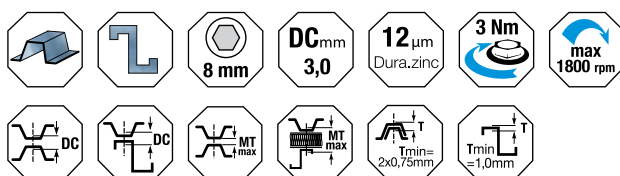
GT 3

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

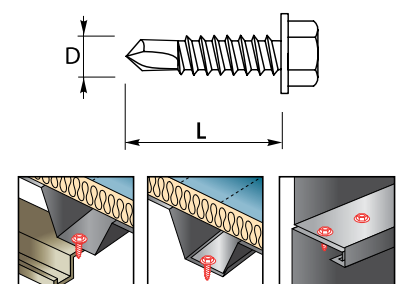
Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of construction steel sheets to each other.

Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]	[mm]	
P150153PL	4.8	16	8	3	3,00	1000/6/6000
P150173PL	4.8	19	8	6	3,00	1000/4/4000
P150213PL	4.8	22	8	9	3,00	1000/4/4000
P150233PL	4.8	25	8	12	3,00	1000/4/4000
P150313PL	4.8	32	8	19	3,00	500/6/3000
P150363PL	4.8	35	8	22	3,00	500/4/2000
P150453PL	4.8	45	8	32	3,00	500/4/2000
P150543PL	4.8	55	8	42	3,00	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



EOTA



GT 3 Z14

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

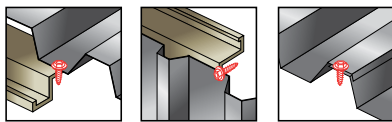
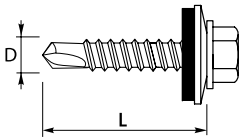
Self-drilling, self-tapping screws made of surface-hardened carbon steel, with a reduced drilling point #2, fine thread and a hex head, with an integrated steel washer with vulcanized EPDM.

EOTA

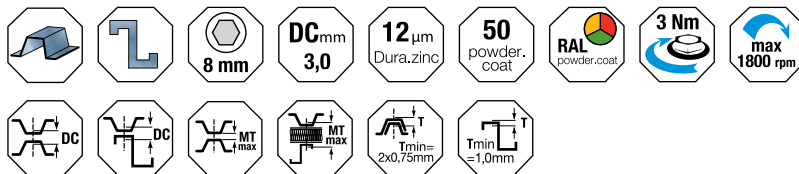


Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of construction steel sheets to each other.

Product designation	Fastener			MTmax	Max. drill. thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
P2594160PL	4.8	16	8	0	3,00	Z	14	250/6/1500
P2594190PL	4.8	19	8	3	3,00	Z	14	250/6/1500
P2594220PL	4.8	22	8	6	3,00	Z	14	250/6/1500
P2594250PL	4.8	25	8	9	3,00	Z	14	250/6/1500
P2594320PL	4.8	32	8	16	3,00	Z	14	250/6/1500
P2594350PL	4.8	35	8	19	3,00	Z	14	250/6/1500
P2594450PL	4.8	45	8	29	3,00	Z	14	250/6/1500
P2594550PL	4.8	55	8	39	3,00	Z	14	250/4/1000



The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GT 3 HD

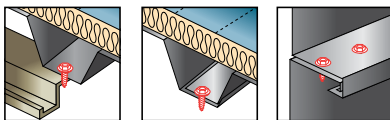
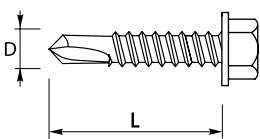
SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point #2, fine thread and a hex head, without a washer.

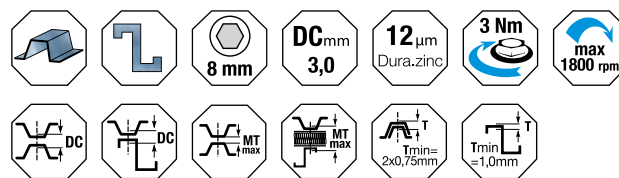


Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of construction steel sheets to each other.

Product designation	Fastener			MTmax	Max drill. thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P15025GT33PL	5.5	25	8	11	3,00	500/6/3000
P15032GT33PL	5.5	32	8	18	3,00	500/4/2000
P15038GT33PL	5.5	38	8	24	3,00	500/4/2000
P15050GT33PL	5.5	50	8	36	3,00	250/4/1000



The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electro-galvanized, drilling point #2, with fine thread and hex head, with integrated steel washer with vulcanized EPDM.

GT 3 HD Z14

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

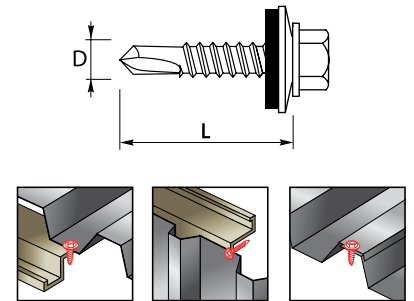
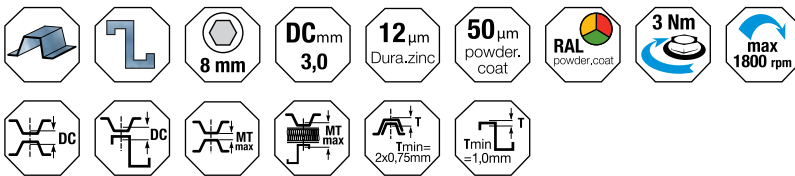
Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of thick construction steel sheets to each other.



Product designation	Fastener			MTmax [mm]	Max drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	-		
P15025GT30PL	5.5	25	8	8	3,00	Z	14	250/6/1500
P15032GT30PL	5.5	32	8	15	3,00	Z	14	250/6/1500
P15038GT30PL	5.5	38	8	21	3,00	Z	14	250/4/1000
P15050GT30PL	5.5	50	8	33	3,00	Z	14	250/4/1000



The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #2, fine thread and a hex head, without a washer. Additional corrosion protection: gRey.coat coating.

GTR 3

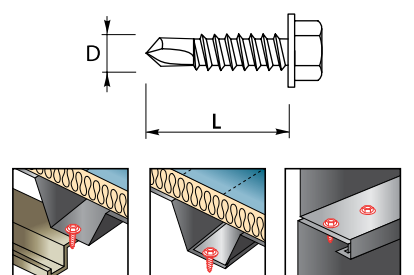
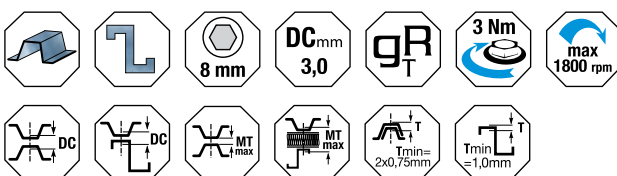
SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of construction steel sheets to each other.

Product designation	Fastener			MTmax [mm]	Max drill. thick. DC [mm]	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			
	[mm]	[mm]	[mm]			
P15015R3PL	4.8	16	8	3	3,00	1000/4/4000
P15017R3PL	4.8	19	8	6	3,00	1000/4/4000
P15023R3PL	4.8	25	8	12	3,00	1000/4/4000



The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 3 A14

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with a drilling point #2, fine thread and a hex head, with an integrated washer with vulcanized EPDM.

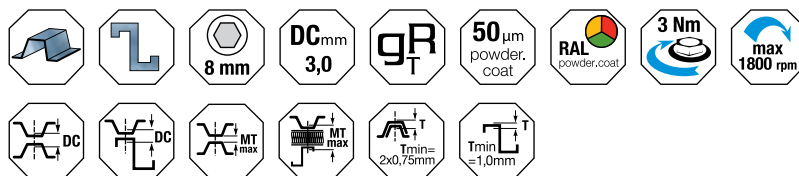
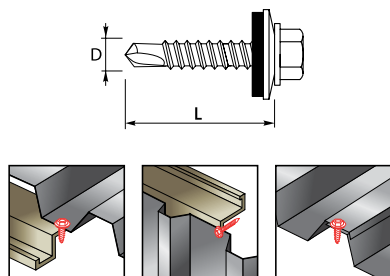
Additional corrosion protection: gRey.coat coating.

Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of construction steel sheets to each other.



Product designation	Fastener			MTmax [mm]	Max drill. thick. DC [mm]	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	[mm]		
P259416R0PL	4.8	16	8	1	3,00	A	14	250/6/1500
P259419R0PL	4.8	19	8	3	3,00	A	14	250/6/1500
P259425R0PL	4.8	25	8	9	3,00	A	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTS-STAR

SELF-DRILLING SCREWS FOR FIXING STEEL PROFILES

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #2, fine thread and a hex head, without a washer.

Additional corrosion protection: gRey.coat coating.

Designed for fixing thin-walled steel profiles.

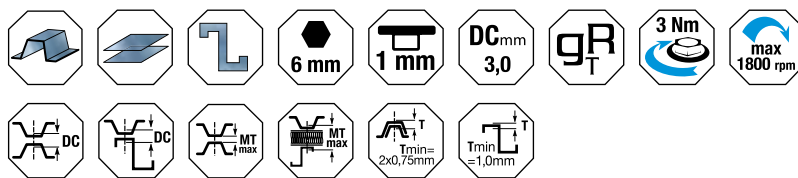
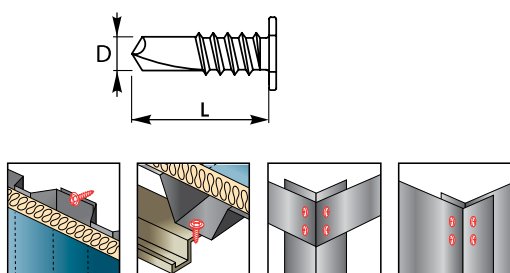
Flat head provides good contact of drywall to steel structure. The threaded part under the head enables correct fixing of one element to another.

* Special mounting tip.



Product designation	Fastener			MTmax [mm]	Max drill. thick. DC [mm]	Package Separate/Quantity/Collective [pcs]
	D	L	Sw			
	[mm]	[mm]	[mm]			
P150153S0PL	4,8	16	8	4	3.00	500/8/4000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTX 3

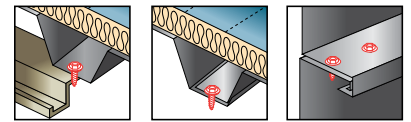
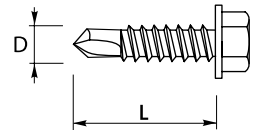
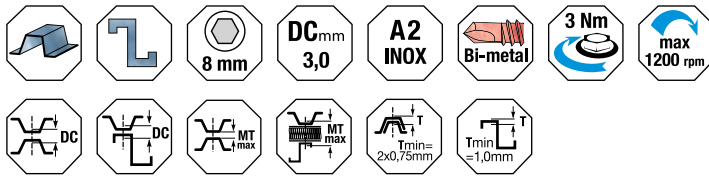
BIMETALLIC STAINLESS STEEL SCREWS WITHOUT WASHER FOR FIXING OF THE STEEL SHEETS

Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #2, fine thread and a hex head, without a washer.

Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of thick construction steel sheets in aggressive environments.

Product designation	Fastener			MTmax	Max drill. thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P170223PL	4,8	25	8	13	3,00	500/6/3000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTX 3 S14

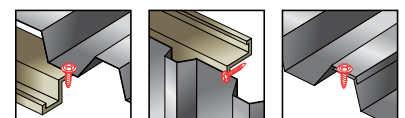
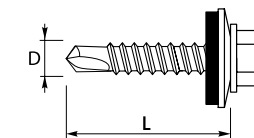
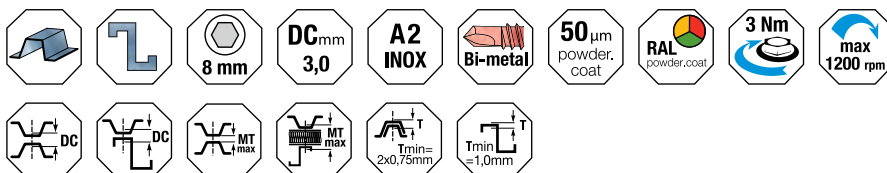
BIMETALLIC STAINLESS STEEL SELF-DRILLING SCREWS WITH WASHER FOR STEEL SHEETS FIXING

Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #2, fine thread and a hex head, with integrated stainless washer with vulcanized EPDM layer.

Designed for fastening corrugated construction steel sheets to thin-walled steel structures and for overlap joints fastening of construction steel sheets to each other.

Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	-	[mm]	
P170220PL	4,8	25	8	10	3,00	S	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GT 5 FH

FASTENERS WITH FLANGE HEAD FOR FIXING OF STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #3, fine thread and a hex head, with integrated flange head.

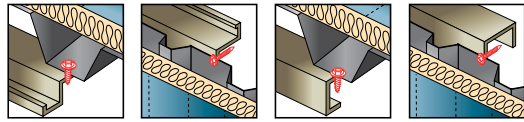
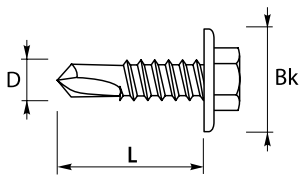


Designed for fixing construction profiled steel sheets to thin-walled steel structures in crucial application types.



Product designation	Fastener				MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw	Bk		DC	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
P15019FH3PL	5.5	19	8	15	3	5.00	500/4/2000
P15025FH3PL	5.5	25	8	15	9	5.00	500/4/2000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GT 5

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with drilling point #3, fine thread and a hex head, without a washer.

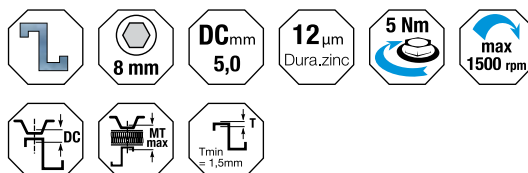
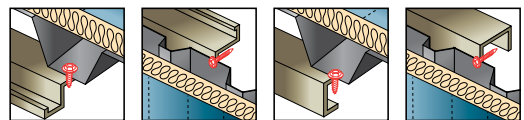
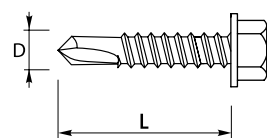


Designed for fixing construction corrugated steel sheets to thin-walled steel structures.



Product designation	Fastener				MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw	DC			
	[mm]	[mm]	[mm]	[mm]	[mm]		
P150193PL	5.5	19	8	3	5.00	500/6/3000	
P150253PL	5.5	25	8	9	5.00	500/6/3000	
P150323PL	5.5	32	8	16	5.00	500/4/2000	
P150383PL	5.5	38	8	22	5.00	500/4/2000	
P150503PL	5.5	50	8	34	5.00	250/4/1000	
P150603PL	5.5	60	8	44	5.00	250/4/1000	
P150703PL	5.5	70	8	54	5.00	250/4/1000	

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electro-galvanized, drilling point #3, with fine thread and hex washer head, with integrated steel washer with vulcanized EPDM layer.

GT 5 Z14/Z16

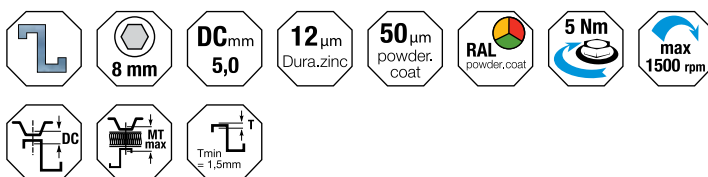
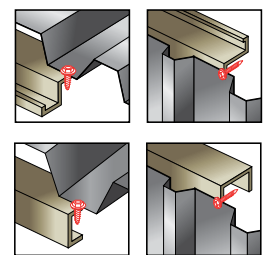
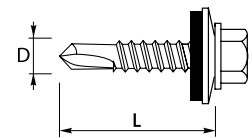
SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Designed for fixing construction corrugated steel sheets to thin-walled steel structures.

Product designation	Fastener			MTmax [mm]	Max. drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	[mm]		
P150190PL	5.5	19	8	0	5.00	Z	14	250/6/1500
P150250PL	5.5	25	8	6	5.00	Z	14	250/6/1500
P150320PL	5.5	32	8	13	5.00	Z	14	250/6/1500
P150380PL	5.5	38	8	19	5.00	Z	14	250/4/1000
P150500PL	5.5	50	8	31	5.00	Z	14	250/4/1000
P150600PL	5.5	60	8	41	5.00	Z	14	100/6/600
P150700PL	5.5	70	8	51	5.00	Z	14	100/6/600

Product designation	Fastener			MTmax [mm]	Max. drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	[mm]		
P15019160PL	5.5	19	8	1	5.00	Z	16	250/6/1500
P15025160PL	5.5	25	8	5	5.00	Z	16	250/6/1500
P15032160PL	5.5	32	8	12	5.00	Z	16	250/6/1500
P15038160PL	5.5	38	8	18	5.00	Z	16	250/4/1000
P15050160PL	5.5	50	8	30	5.00	Z	16	250/4/1000
P15060160PL	5.5	60	8	40	5.00	Z	16	100/6/600
P15070160PL	5.5	70	8	50	5.00	Z	16	100/6/600

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 5

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #3, fine thread and a hex head, without a washer. Additional corrosion protection: gRey.coat coating.

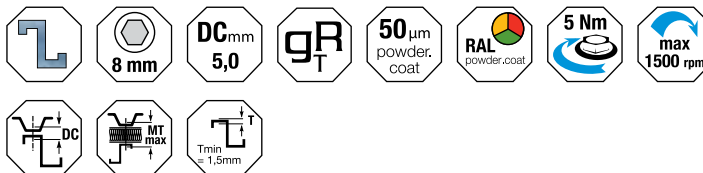
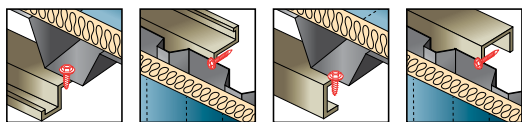
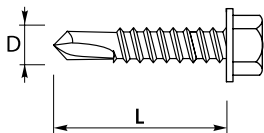
ETA



Designed for fixing construction corrugated steel sheets to thin-walled steel structures.

Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P15025R3PL	5.5	25	8	9	5.00	500/6/3000
P15032R3PL	5.5	32	8	16	5.00	500/4/2000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 5 A14

FASTENERI Z PODKŁADKĄ DO MOCOWANIA BLACH

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with a drilling point #3, fine thread and a hex head, with an integrated washer with vulcanized EPDM. Additional corrosion protection: gRey.coat coating.

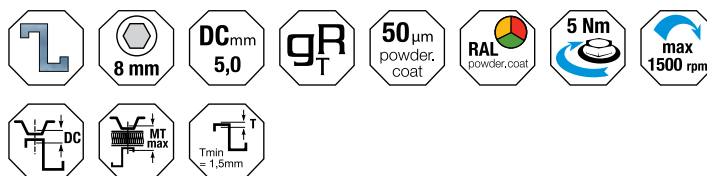
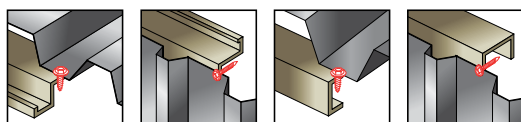
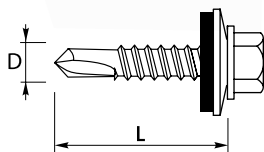
ETA



Designed for fixing construction corrugated steel sheets to thin-walled steel structures.

Product designation	Fastener			MTmax	Max drill.thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	DC	-	[mm]	
P15025R0PL	5.5	25	8	6	5.00	A	14	250/6/1500
P15032R0PL	5.5	32	8	13	5.00	A	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #3, fine thread and a hex head, without a washer.

GTX 5

BIMETALLIC, SELF-DRILLING STAINLESS STEEL SCREWS WITHOUT WASHER FOR FIXING OF THE STEEL SHEETS

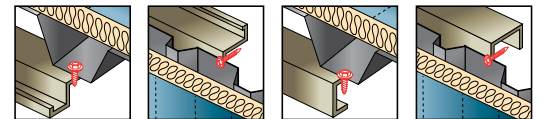
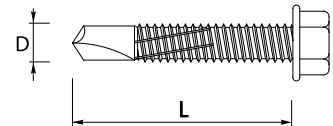
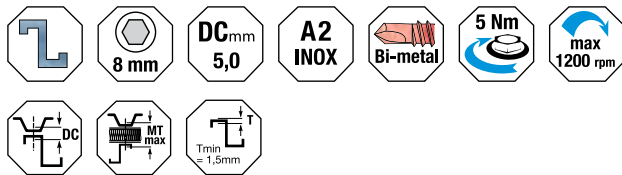
Designed for fixing construction corrugated steel sheets to thin-walled steel structures in aggressive environments.

E.T.A.



Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P170263PL	5.5	25	8	8	5.00	500/6/3000
P170323PL	5.5	32	8	15	5.00	500/6/3000
P170383PL	5.5	38	8	21	5.00	500/4/2000
P170503PL	5.5	50	8	33	5.00	250/4/1000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #3, fine thread and a hex head, with an integrated stainless steel washer with vulcanized EPDM layer.

GTX 5 S14

BIMETALLIC, SELF-DRILLING STAINLESS STEEL SCREWS WITH WASHER FOR FIXING OF THE STEEL SHEETS

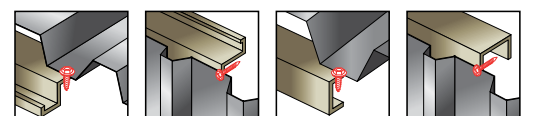
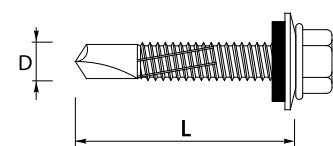
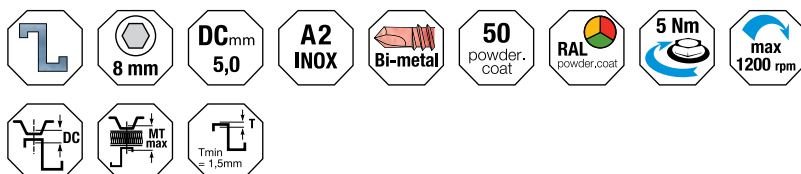
Designed for fixing construction corrugated steel sheets to thin-walled steel structures in aggressive environments.

E.T.A.



Product designation	Fastener			MTmax	Max drill.thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	-	-		
P170260PL	5.5	25	8	5	5.00	S	14	250/6/1500
P170320PL	5.5	32	8	12	5.00	S	14	250/6/1500
P170380PL	5.5	38	8	18	5.00	S	14	250/6/1500
P170500PL	5.5	50	8	30	5.00	S	14	100/6/600

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GT 6

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point #3, fine thread and a hex head, without a washer.

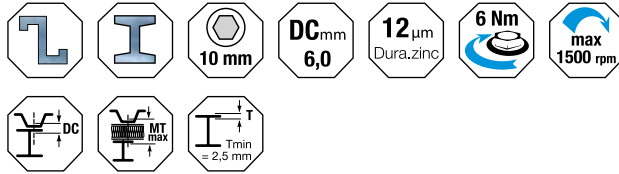
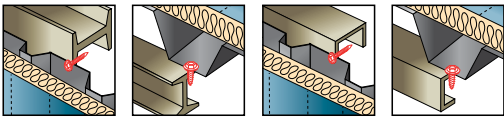
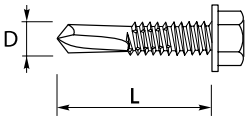
EOTA

Designed for fixing construction corrugated steel sheets to steel structures.



Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P150203PL	6,3	19	10	1	6.00	500/4/2000
P150223PL	6,3	22	10	4	6.00	500/4/2000
P150263PL	6,3	25	10	7	6.00	500/4/2000
P150333PL	6,3	32	10	14	6.00	250/4/1000
P150393PL	6,3	38	10	20	6.00	250/4/1000
P150523PL	6,3	50	10	32	6.00	250/4/1000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GT 6 Z16

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #3, fine thread and a hex head, with an integrated aluminum washer with vulcanized EPDM.

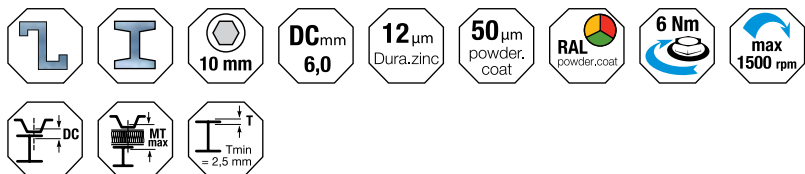
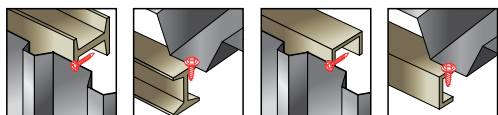
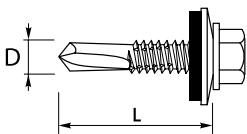
EOTA

Designed for fixing construction corrugated steel sheets to steel structures.



Product designation	Fastener			MTmax	Max drill.thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	-	[mm]		
P150220PL	6,3	22	10	1	6.00	Z	16	250/6/1500
P150260PL	6,3	25	10	3	6.00	Z	16	250/4/1000
P150330PL	6,3	32	10	10	6.00	Z	16	250/4/1000
P150390PL	6,3	38	10	16	6.00	Z	16	250/4/1000
P150520PL	6,3	50	10	28	6.00	Z	16	100/6/600

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with drilling point #4, fine thread and a hex head, without a washer.

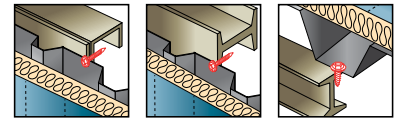
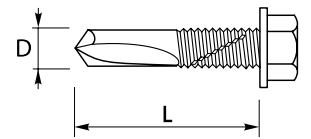
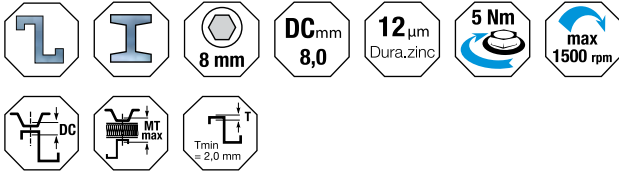
GT 8

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Designed for fixing construction corrugated steel sheets to hot-rolled steel structures.

Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P150243PL	5,5	24	8	1	8.00	500/6/3000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, drilling point #4, with fine thread and hex head, with integrated steel washer with vulcanized EPDM.

GT 8 Z14/Z16

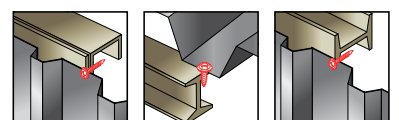
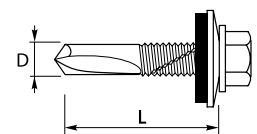
SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Designed for fixing construction corrugated steel sheets to hot-rolled steel structures.

Product designation	Fastener			MTmax	Max drill.thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			DC	Mat.	
	[mm]	[mm]	[mm]	[mm]	[mm]	-	[mm]	
P150240PL	5,5	24	8	2	8.00	Z	14	250/6/1500

Product designation	Fastener			MTmax	Max drill.thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			DC	Mat.	
	[mm]	[mm]	[mm]	[mm]	[mm]	-	[mm]	
P15024160PL	5,5	24	8	3	8.00	Z	16	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 8

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #4, fine thread and a hex head, without a washer. Additional corrosion protection: gRey.coat coating.

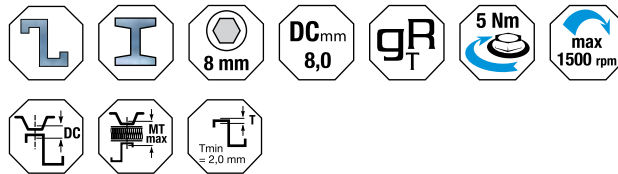
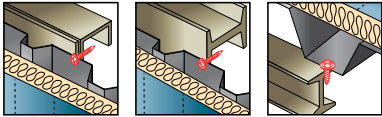
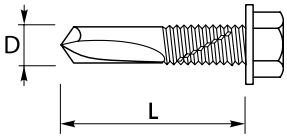
EOTA



Designed for fixing construction profiled steel sheets to hot-rolled steel structures.

Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P15024R3PL	5,5	24	8	1	8.00	500/6/3000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 8 A14/A16

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, drilling point #4, with fine thread and hex head, with integrated aluminum washer with vulcanized EPDM. Additional corrosion protection: gRey.coat coating.

EOTA

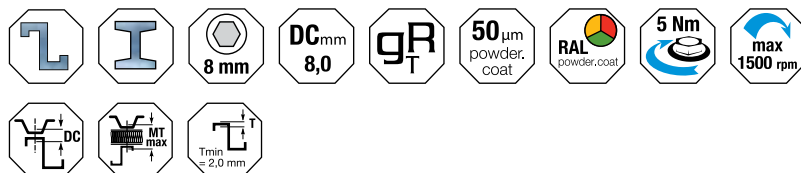
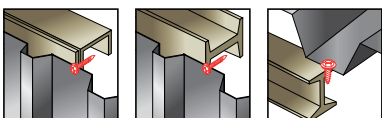
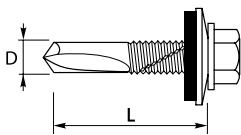


Designed for fixing construction profiled steel sheets to hot-rolled steel structures.

Product designation	Fastener			MTmax	Max drill.thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
P15024R0PL	5,5	24	8	2	8.00	A	14	250/6/1500

Product designation	Fastener			MTmax	Max drill.thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
P1502416R0PL	5,5	24	8	2	8.00	A	16	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with drilling point #5, fine thread and a hex head, with integrated flange head.

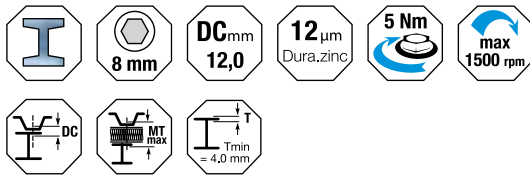
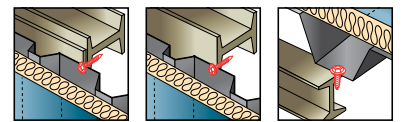
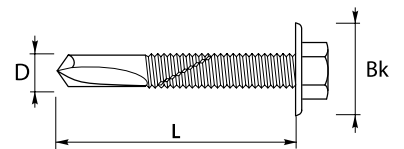
GT 12 FH

FASTENERS WITH FLANGE HEAD FOR FIXING OF STEEL SHEETS

Designed for fixing construction profiled steel sheets to hot-rolled steel structures.

Product designation	Fastener				MTmax [mm]	Max drill. thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw	Bk		DC	
	[mm]	[mm]	[mm]	[mm]		[mm]	
P150373PL	5,5	35	8	14	4	12.00	500/4/2000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, with a reduced drilling point #5, fine thread and a hex head, without a washer.

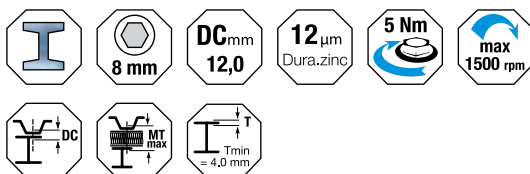
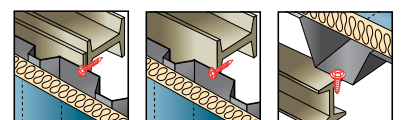
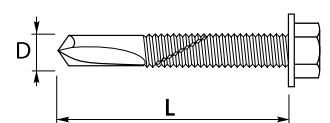
GT 12

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Designed for fixing construction profiled steel sheets to hot-rolled steel structures.

Product designation	Fastener			MTmax [mm]	Max drill.thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]		[mm]	
P150353PL	5,5	35	8	4	12.00	500/4/2000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GT 12 Z14/Z16

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, electroplated, drilling point #5, with fine thread and hex head, with integrated steel washer with vulcanized EPDM.

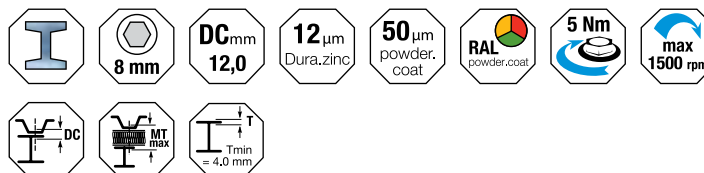
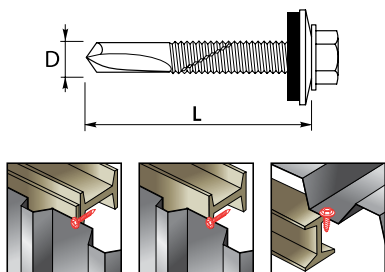
Designed for fastening construction corrugated steel sheets to hot-rolled steel structures.



Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		[mm]	DC	-	
P150350PL	5,5	35	8	1	12.00	Z	14	250/6/1500

Product designation	Fastener			MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		[mm]	DC	-	
P15035160PL	5,5	35	8	1	12.00	Z	16	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 12

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

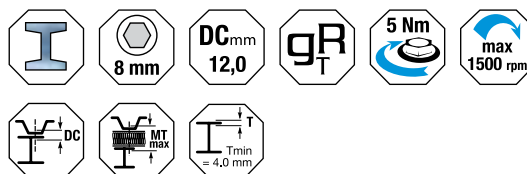
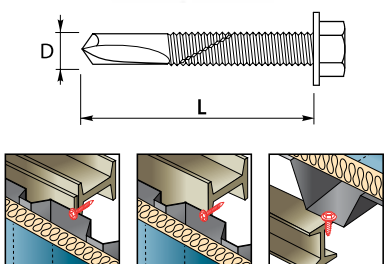
Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #5, fine thread and a hex head, without a washer. Additional corrosion protection: gRey.coat coating.

Designed for fixing construction corrugated steel sheets to hot-rolled steel structures.



Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw			
	[mm]	[mm]	[mm]		[mm]	
P15035R3PL	5,5	35	8	4	12.00	500/4/2000
P15051R3PL	5.5	51	8	20	12.00	250/6/1500
P15067R3PL	5.5	67	8	36	12.00	250/4/1000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #5, fine thread and a hex head, with integrated aluminum washer with vulcanized EPDM layer.
Additional corrosion protection: gRey.coat coating.

GTR 12 A14/A16

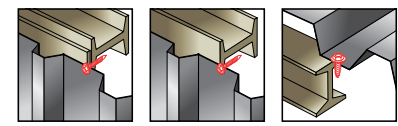
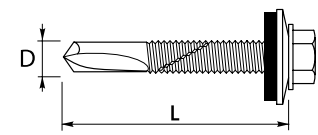
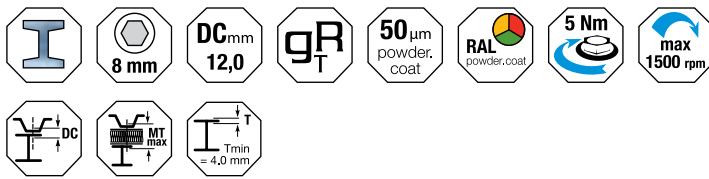
SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Designed for fixing construction corrugated steel sheets to hot-rolled steel structures.

Product designation	Fastener			MTmax [mm]	Max drill.thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	[mm]		
P15035R0PL	5.5	35	8	1	12.00	A	14	250/6/1500
P15051R0PL	5.5	51	8	17	12.00	A	14	100/6/600
P15067R0PL	5.5	67	8	33	12.00	A	14	100/6/600

Product designation	Fastener			MTmax [mm]	Max drill.thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	[mm]		
P1503516R0PL	5.5	35	8	1	12.00	A	16	250/6/1500
P1505116R0PL	5.5	51	8	16	12.00	A	16	100/6/600
P1506716R0PL	5.5	67	8	32	12.00	A	16	100/6/600

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #5, fine thread and a hex head, with an integrated stainless steel washer with vulcanized EPDM layer.

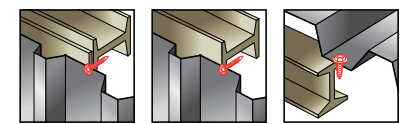
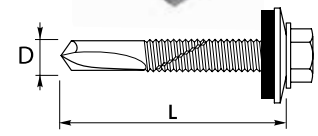
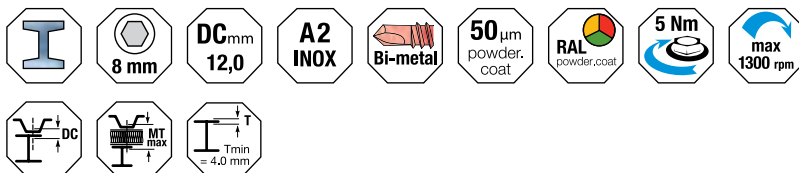
GTX 12 S14

BIMETALLIC SELF-DRILLING STAINLESS STEEL SCREWS WITH WASHER FOR FIXING OF THE STEEL SHEETS

Designed for fixing construction profiled steel sheets to hot-rolled steel structures in aggressive environments.

Product designation	Fastener			MTmax [mm]	Max drill.thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		-	[mm]		
P170400PL	5,5	40	8	6	12.00	S	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 16

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, with drilling point #6, fine thread and a hex head, without a washer. Additional corrosion protection: gRey.coat coating.

ETA



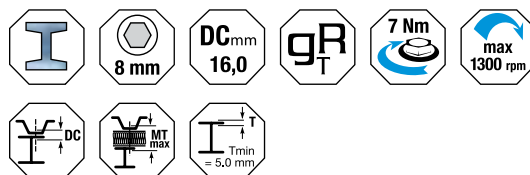
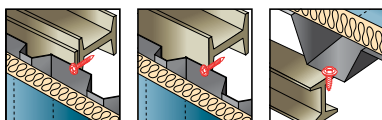
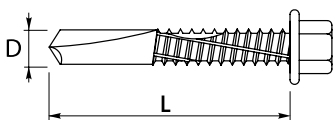
CE



Designed for fixing construction corrugated steel sheets to hot-rolled steel structures in of very high thickness.

Product designation	Fastener			MTmax	Max drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]		
P157040GC3PL	6,3	40	8	3	16.00	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR 16 A16

SELF-DRILLING SCREWS WITH WASHER FOR FIXING STEEL SHEETS

Self-drilling, self-tapping screws made of surface-hardened carbon steel, drilling point #6, with fine thread and hex head, with integrated aluminum washer with vulcanized EPDM. Additional corrosion protection: gRey.coat coating.

ETA



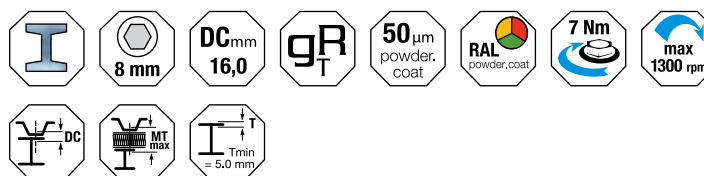
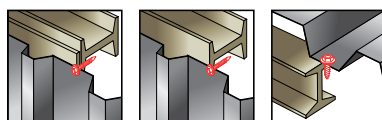
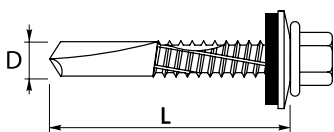
CE



Designed for fixing construction corrugated steel sheets to hot-rolled steel structures of very high thickness.

Product designation	Fastener			MTmax	Max drill.thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	DC	-	[mm]	
P157040GC0PL	6,3	40	8	1	16.00	A	16	250/4/1000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #2, fine thread and a hex head, without a washer.

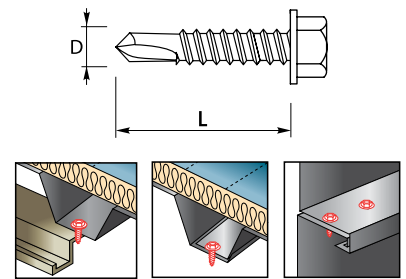
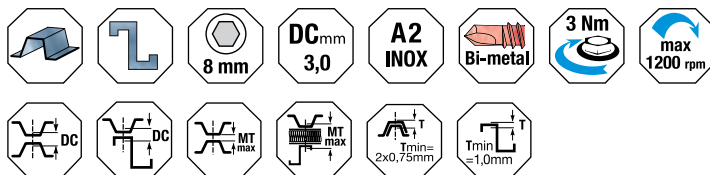
GTX 3 AL

BIMETALLIC STAINLESS STEEL SCREWS FOR ALUMINUM CONSTRUCTION

Designed for fixing elements of aluminum structures also for aggressive environments.

Product designation	Fastener			MTmax [mm]	Max drill. thick. DC [mm]	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			
	[mm]	[mm]	[mm]			
P170233PL	5.5	25	8	11	3.00	500/6/3000
P170373PL	5.5	38	8	24	3.00	500/6/3000

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



Self-drilling, self-tapping screws made of austenitic stainless steel (bimetallic), with drilling point #2, fine thread and a hex head, with an integrated stainless steel washer with vulcanized EPDM layer.

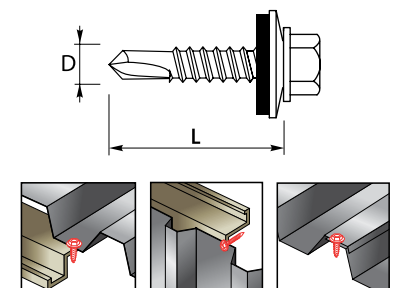
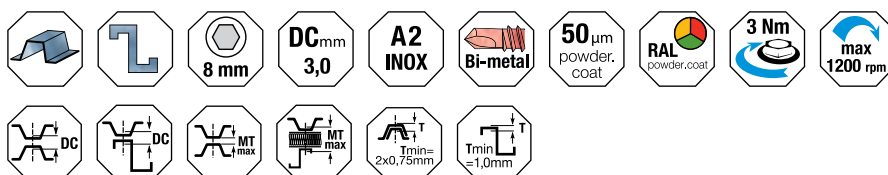
GTX 3 AL S14

BIMETALLIC STAINLESS SCREWS WITH STAINLESS WASHER FOR ALUMINUM CONSTRUCTION

Designed for fixing elements of aluminum structures also for aggressive environments.

Product designation	Fastener			MTmax [mm]	Max drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]		[mm]	-	[mm]	
P170230PL	5.5	25	8	8	3.00	S	14	250/6/1500
P170370PL	5.5	38	8	21	3.00	S	14	250/6/1500

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTZ 5 AGF S16

SELF-DRILLING SCREWS FOR GLAZING
FIXING IN FACADE SYSTEMS

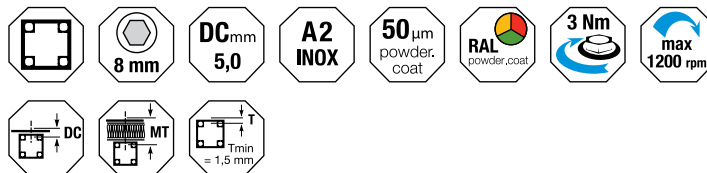
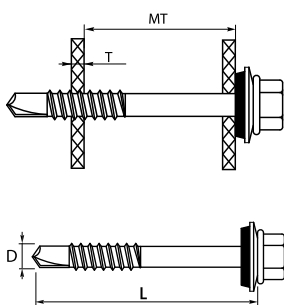
Self-drilling and self-tapping stainless steel screws, with reduced drilling point, fine thread and hex head, with integrated stainless steel washer with vulcanized EPDM.



Fasteners designed for fastening in aluminum substrate only. Together with the relevant elements of the system, they are used for fastening the mullion-transom façade glazing systems made of aluminum. The length of the fastener should be selected depending on the requirements of the system.

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	-	[mm]	
P17404516AGF0PL	5.5	45	8	24	26	5.00	S	16	100/6/600
P17404916AGF0PL	5.5	49	8	28	30	5.00	S	16	100/6/600
P17405316AGF0PL	5.5	53	8	32	34	5.00	S	16	100/6/600
P17405716AGF0PL	5.5	57	8	36	38	5.00	S	16	100/6/600

The working length of the fastener is calculated from the maximum thickness of the DC substrate.



GTR W FH

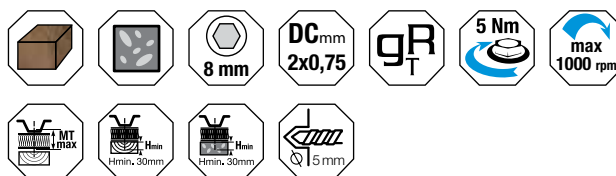
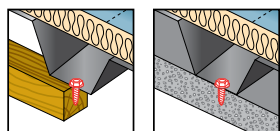
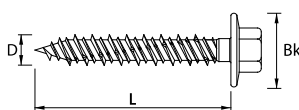
SELF-DRILLING SCREWS WITH
INTEGRATED FLANGE HEAD FOR
FIXING STEEL SHEETS IN CONCRETE
OR WOOD SUBSTRATE

Self-tapping screws made of surface-hardened carbon steel, with drilling point for wood, working Hi-Lo thread and hex head with integrated flange head. Additional corrosion protection: gRey.coat coating.



Designed for fixing corrugated steel sheet in concrete and wood substrate. Direct mounting in concrete and wood. Mounting in concrete structure requires preparation of the preliminary hole.

Product designation	Fastener					MTmax	Max drill. thick. DC	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw	Bk	Gt. Kotw.			
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
P159033FHGC3PL	6,4	33	8	15	30	3	0,75	500/1/500
P159041FHGC3PL	6,4	41	8	15	30	11	0,75	500/1/500



Self-tapping surface-hardened carbon steel screw with cutpoint, working Hi-Lo thread and hex head without washer.
Additional corrosion protection: gRey.coat coating.

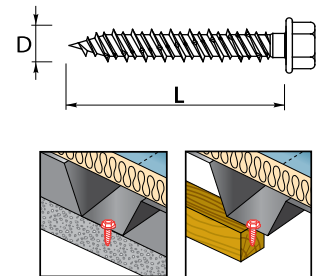
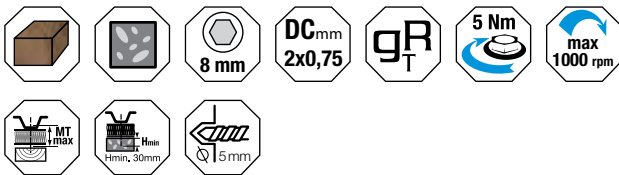
GTR W

SELF-DRILLING SCREWS WITHOUT WASHER FOR FIXING STEEL SHEETS ON CONCRETE SUBSTRATE

Designed for fixing corrugated steel sheet in concrete substrate. Direct mounting in concrete and wood. Mounting in concrete structure requires preparation of the preliminary hole.



Product designation	Fastener			MTmax	Max drill. thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw		DC	
	[mm]	[mm]	[mm]	[mm]	[mm]	
P159033GC3PL	6,4	33	8	3	0,75	500/4/2000
P159041GC3PL	6,4	41	8	11	0,75	500/1/500
P159057GC3PL	6,4	57	8	27	0,75	500/1/500



Self-tapping surface-hardened carbon steel screw with cutpoint for wood, working Hi-Lo thread and hex head with integrated aluminum washer with vulcanized EPDM layer.
Additional corrosion protection: gRey.coat coating.

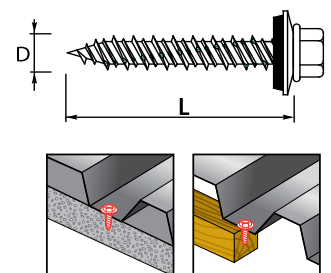
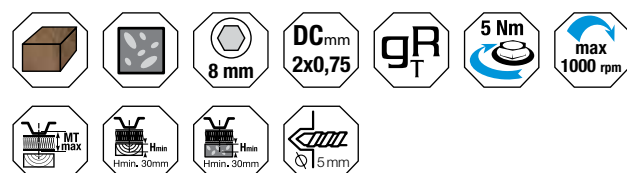
GTR W A16

SELF-DRILLING SCREWS WITH WASHER FOR MOUNTING STEEL SHEETS IN CONCRETE OR WOOD SUBSTRATE

Designed for fixing corrugated steel sheet in concrete and wood substrate. Direct mounting in concrete and wood. Mounting in concrete structure requires preparation of the preliminary hole.



Product designation	Fastener				MTmax	Max drill. thick.	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw	Anchoring depth concrete/wood			Mat.	Size	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	-	[mm]	
P159041GC0PL	6,4	41	8	30	7	0,75	A	16	250/4/1000
P159057GC0PL	6,4	57	8	30	23	0,75	A	16	250/1/250



GT 6 L Z19

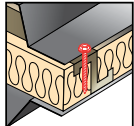
SELF-DRILLING SCREWS FOR SHEET-WOOL-SHEET SYSTEM FIXING

Self-drilling, self-tapping screws made of surface-hardened carbon steel, electro-galvanized, drilling point #3, with fine thread and hex head, with integrated steel washer with vulcanized EPDM layer.

Designed for fixing the steel sheet-wool-steel sheet system to steel structures.

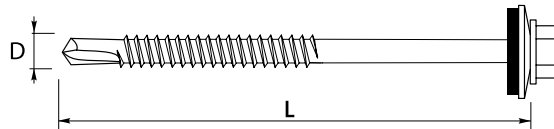
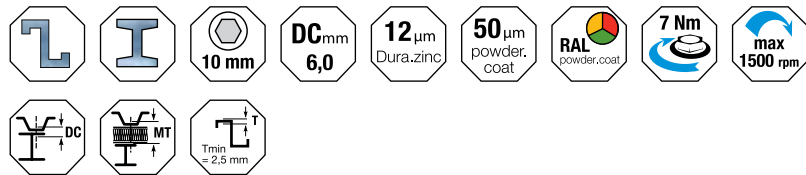


product for special order



Product designation	Fastener			MTmin [mm]	MTmax [mm]	Max drill. thick. DC [mm]	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				-	[mm]	
P1510600PL	6.3	60	10	-	39	6.00	Z	19	100/4/400
P1510800PL	6.3	80	10	-	59	6.00	Z	19	100/4/400
P1511000PL	6.3	100	10	40	79	6.00	Z	19	100/1/100
P1511200PL	6.3	120	10	60	99	6.00	Z	19	100/1/100
P1511400PL	6.3	140	10	80	119	6.00	Z	19	100/1/100
P1511600PL	6.3	160	10	100	139	6.00	Z	19	100/1/100
P1511800PL	6.3	180	10	120	159	6.00	Z	19	100/1/100

The working length of the fastener is calculated from the maximum thickness of the DC substrate. In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



Self-drilling, self-tapping screws (double thread) made of surface-hardened carbon steel, drilling point #3, with fine thread and hex head, with integrated aluminum washer with vulcanized EPDM.
Additional corrosion protection: gRey.coat coating.

GTR 6 SP A19

SELF-DRILLING SCREWS WITH A WASHER
FOR SANDWICH PANELS FIXING

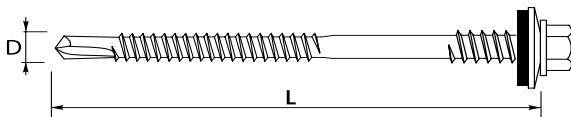
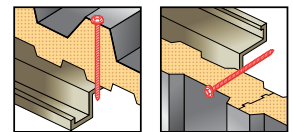
Designed for mounting sandwich panels to hot rolled steel structures.

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				-	[mm]	
P153065R0PL	5,5/6,3	65	8	20	40	6.00	A	19	100/4/400
P153090R0PL	5,5/6,3	90	8	35	65	6.00	A	19	100/4/400
P153110R0PL	5,5/6,3	110	8	55	85	6.00	A	19	100/1/100
P153125R0PL	5,5/6,3	125	8	70	100	6.00	A	19	100/1/100
P153130R0PL	5,5/6,3	130	8	75	105	6.00	A	19	100/1/100
P153150R0PL	5,5/6,3	150	8	95	125	6.00	A	19	100/1/100
P153175R0PL	5,5/6,3	175	8	120	150	6.00	A	19	100/1/100
P153200R0PL	5,5/6,3	200	8	145	175	6.00	A	19	100/1/100
P153230R0PL	5,5/6,3	230	8	155	205	6.00	A	19	100/1/100
P153275R0PL	5,5/6,3	275	8	200	250	6.00	A	19	100/1/100
P153320R0PL	5,5/6,3	320	8	245	295	6.00	A	19	100/1/100

The working length of the fastener is calculated from the maximum thickness of the DC substrate. In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



EOTA



GTX 6 SP S19 S29

BIMETALLIC SELF-DRILLING STAINLESS STEEL SCREWS WITH WASHER FOR FIXING OF SANDWICH PANELS

Self-drilling, self-tapping screws (double thread) made of austenitic stainless steel (bimetallic), with drilling point #3, fine working thread and a hex head, with an integrated stainless steel washer with vulcanized EPDM layer.

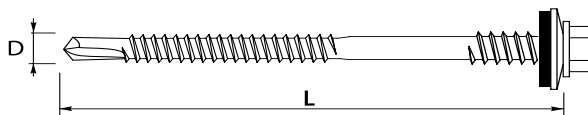
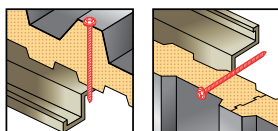
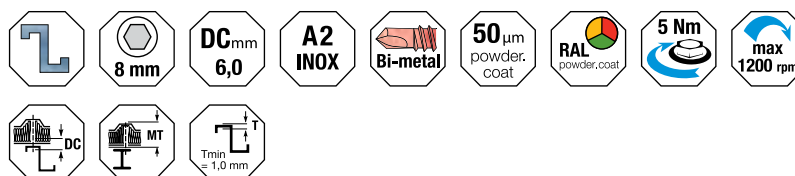


Designed for mounting sandwich panels to thin-walled steel structures in aggressive environments.

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				-	[mm]	
P1730850PL	5,5/6,3	85	8	35	60	6.00	S	19	100/4/400
P1731100PL	5,5/6,3	110	8	60	85	6.00	S	19	100/1/100
P1731300PL	5,5/6,3	130	8	80	105	6.00	S	19	100/1/100
P1731500PL	5,5/6,3	150	8	100	125	6.00	S	19	100/1/100
P1731700PL	5,5/6,3	170	8	120	145	6.00	S	19	100/1/100
P1731950PL	5,5/6,3	195	8	145	170	6.00	S	19	100/1/100
P1732250PL	5,5/6,3	225	8	175	200	6.00	S	19	100/1/100
P1732400PL	5,5/6,3	240	8	190	215	6.00	S	19	100/1/100
P1732650PL	5,5/6,3	265	8	215	240	6.00	S	19	100/1/100

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				-	[mm]	
P17308520PL	5,5/6,3	85	8	35	60	6.00	S	29	100/1/100
P17311020PL	5,5/6,3	110	8	60	85	6.00	S	29	100/1/100
P17313020PL	5,5/6,3	130	8	80	105	6.00	S	29	100/1/100
P17315020PL	5,5/6,3	150	8	100	125	6.00	S	29	100/1/100
P17317020PL	5,5/6,3	170	8	120	145	6.00	S	29	100/1/100
P17319520PL	5,5/6,3	195	8	145	170	6.00	S	29	100/1/100
P17322520PL	5,5/6,3	225	8	175	200	6.00	S	29	100/1/100
P17324020PL	5,5/6,3	240	8	190	215	6.00	S	29	100/1/100
P17326520PL	5,5/6,3	265	8	215	240	6.00	S	29	100/1/100

The working length of the fastener is calculated from the maximum thickness of the DC substrate. In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



Self-drilling, self-tapping screws (double thread) made of surface-hardened carbon steel, drilling point #5, with very fine thread and hex head, with integrated aluminum washer with vulcanized EPDM layer.
Additional corrosion protection: gRey.coat coating.

GTR 12 SP A19

SELF-DRILLING SCREWS FOR SANDWICH PANELS

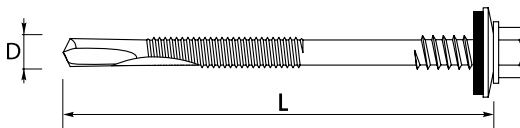
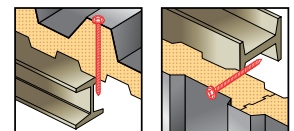
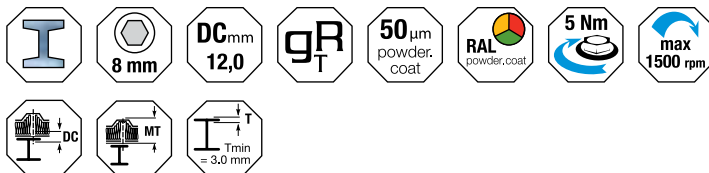
Designed for mounting sandwich panels to hot rolled steel structures.



Product designation	Fastener			MTmin	MTmax	Max drill. thick.	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				DC	-	
P155070R0PL	5,5/6,3	70	8	25	30	12.00	A	19	100/4/400
P155090R0PL	5,5/6,3	90	8	25	50	12.00	A	19	100/4/400
P155110R0PL	5,5/6,3	110	8	45	70	12.00	A	19	100/1/100
P155130R0PL	5,5/6,3	130	8	65	90	12.00	A	19	100/1/100
P155140R0PL	5,5/6,3	140	8	75	100	12.00	A	19	100/1/100
P155150R0PL	5,5/6,3	150	8	85	110	12.00	A	19	100/1/100
P155160R0PL	5,5/6,3	160	8	95	120	12.00	A	19	100/1/100
P155175R0PL	5,5/6,3	175	8	110	135	12.00	A	19	100/1/100
P155185R0PL	5,5/6,3	185	8	110	145	12.00	A	19	100/1/100
P155190R0PL	5,5/6,3	190	8	115	150	12.00	A	19	100/1/100
P155200R0PL	5,5/6,3	200	8	125	160	12.00	A	19	100/1/100
P155230R0PL	5,5/6,3	230	8	155	190	12.00	A	19	100/1/100
P155240R0PL	5,5/6,3	240	8	165	200	12.00	A	19	100/1/100
P155285R0PL	5,5/6,3	285	8	200	245	12.00	A	19	100/1/100
P155330R0PL	5,5/6,3	330	8	245	290	12.00	A	19	100/1/100



The working length of the fastener is calculated from the maximum thickness of the DC substrate. In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



GTX 12 SP S19 S29

BIMETALLIC STAINLESS STEEL SELF-DRILLING SCREWS WITH WASHER FOR FIXING OF SANDWICH PANELS

Self-drilling, self-tapping screws (double thread) made of austenitic stainless steel (bimetallic), with drilling point #5, very fine working thread and a hex head, with an integrated stainless steel washer with vulcanized EPDM layer.

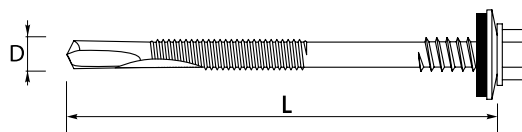
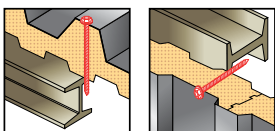
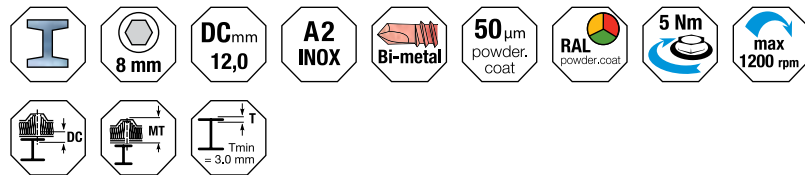


Designed for mounting sandwich panels to hot-rolled steel structures in aggressive environments.

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				-	[mm]	
P1750950PL	5,5/6,3	95	8	45	60	12.00	S	19	100/4/400
P1751250PL	5,5/6,3	125	8	75	90	12.00	S	19	100/1/100
P1751500PL	5,5/6,3	150	8	100	115	12.00	S	19	100/1/100
P1751750PL	5,5/6,3	175	8	125	140	12.00	S	19	100/1/100
P1751850PL	5,5/6,3	185	8	135	150	12.00	S	19	100/1/100
P1752100PL	5,5/6,3	210	8	160	175	12.00	S	19	100/1/100
P1752350PL	5,5/6,3	235	8	185	200	12.00	S	19	100/1/100
P1752500PL	5,5/6,3	250	8	200	210	12.00	S	19	100/1/100
P1752750PL	5,5/6,3	275	8	225	235	12.00	S	19	100/1/100

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]
	D	L	Sw				Mat.	Size	
	[mm]	[mm]	[mm]				-	[mm]	
P17509520PL	5,5/6,3	95	8	45	55	12.00	S	29	100/1/100
P17512520PL	5,5/6,3	125	8	75	85	12.00	S	29	100/1/100
P17515020PL	5,5/6,3	150	8	100	110	12.00	S	29	100/1/100
P17517520PL	5,5/6,3	175	8	125	135	12.00	S	29	100/1/100
P17518520PL	5,5/6,3	185	8	135	145	12.00	S	29	100/1/100
P17521020PL	5,5/6,3	210	8	160	170	12.00	S	29	100/1/100
P17523520PL	5,5/6,3	235	8	185	195	12.00	S	29	100/1/100
P17525020PL	5,5/6,3	250	8	200	210	12.00	S	29	100/1/100
P17527520PL	5,5/6,3	275	8	225	235	12.00	S	29	100/1/100

The working length of the fastener is calculated from the maximum thickness of the DC substrate. In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



Self-drilling, self-tapping screws (double thread) made of surface-hardened carbon steel, drilling point #6, with fine working thread and enlarged hex head, with integrated aluminum washer with vulcanized EPDM. Additional corrosion protection: gRey.coat coating.

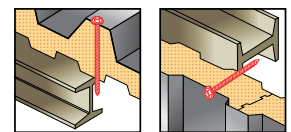
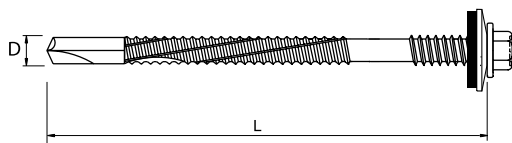
GTR 16 SP A19

SELF-DRILLING SCREWS
FOR SANDWICH PANELS

Designed for mounting sandwich panels to hot-rolled steel structures of very high thickness.

Product designation	Fastener			MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/ Quantity/ Collective [pcs]								
	D	L	Sw				Mat.	Size									
	[mm]	[mm]	[mm]				-	[mm]									
P157085R0PL	6,3/7,0	85	8	35	40	16.00	A	19	100/4/400								
P157105R0PL	6,3/7,0	105	8	55	60	16.00	A	19	100/1/100								
P157125R0PL	6,3/7,0	125	8	50	80	16.00	A	19	100/1/100								
P157135R0PL	6,3/7,0	135	8	60	90	16.00	A	19	100/1/100								
P157155R0PL	6,3/7,0	155	8	65	110	16.00	A	19	100/1/100								
P157160R0PL	6,3/7,0	160	8	70	115	16.00	A	19	100/1/100								
P157180R0PL	6,3/7,0	180	8	90	135	16.00	A	19	100/1/100								
P157190R0PL	6,3/7,0	190	8	100	145	16.00	A	19	100/1/100								
P157215R0PL	6,3/7,0	215	8	125	170	16.00	A	19	100/1/100								
P157250R0PL	6,3/7,0	250	8	160	205	16.00	A	19	100/1/100								
P157280R0PL	6,3/7,0	280	8	190	235	16.00	A </tr <tr> <td>P157315R0PL</td> <td>6,3/7,0</td> <td>315</td> <td>8</td> <td>225</td> <td>270</td> <td>16.00</td> <td>A</td> <td>19</td> <td>100/1/100</td> </tr>	P157315R0PL	6,3/7,0	315	8	225	270	16.00	A	19	100/1/100
P157315R0PL	6,3/7,0	315	8	225	270	16.00	A	19	100/1/100								

The working length of the fastener is calculated from the maximum thickness of the DC substrate. In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



GTR W SP A19

SELF-DRILLING SCREWS
FOR SANDWICH PANELS

Self-tapping screws (double thread) made of surface-hardened carbon steel, with drilling point for wood, working Hi-Lo thread and hex head with integrated aluminum washer with vulcanized EPDM washer. Additional corrosion protection: gRey.coat coating.

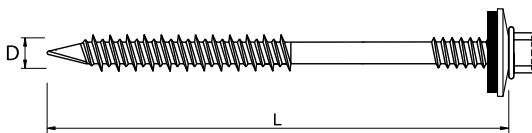
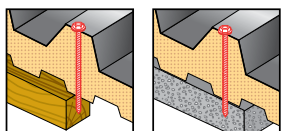
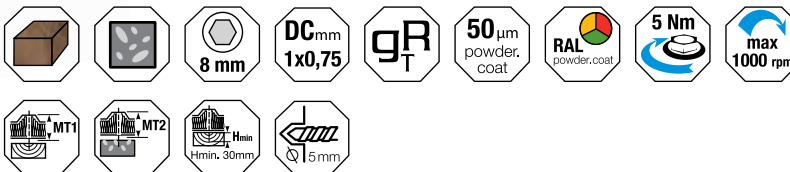


Designed for mounting sandwich panels in solid materials such as wood, concrete, aerated concrete, brick. Direct mounting in concrete and wood. Mounting in concrete structure requires preparation of the preliminary hole.

Installation of brick and aerated concrete with expansion sleeve type ULTRA.

Product designation	Fastener				MTmin	MTmax	Max drill. thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw	Gt. Kot.				Mat.	Size	
	[mm]	[mm]	[mm]	[mm]				-	[mm]	
P150100R0PL	6,4/7,0	100	8	30	40	65	0.75	A	19	100/1/100
P150120R0PL	6,4/7,0	120	8	30	60	85	0.75	A	19	100/1/100
P150140R0PL	6,4/7,0	140	8	30	80	105	0.75	A	19	100/1/100
P150160R0PL	6,4/7,0	160	8	30	100	125	0.75	A	19	100/1/100
P150190R0PL	6,4/7,0	190	8	30	130	155	0.75	A	19	100/1/100
P150210R0PL	6,4/7,0	210	8	30	150	175	0.75	A	19	100/1/100
P150240R0PL	6,4/7,0	240	8	30	180	205	0.75	A	19	100/1/100
P150260R0PL	6,4/7,0	260	8	30	200	225	0.75	A	19	100/1/100
P150280R0PL	6,4/7,0	280	8	30	220	245	0.75	A	19	100/1/100
P150310R0PL	6,4/7,0	310	8	30	250	275	0.75	A	19	100/1/100

In case of calculation with a calotte for roof sandwich panels the thickness of the fastened element is increased by 5mm.



CALOTTES

SPECIAL ALUMINIUM WASHERS FOR SANDWICH PANELS FIXING

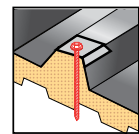
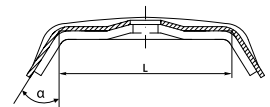
Calottes made of high quality aluminum with vulcanized EPDM layer.

Designed for fixing sandwich panels by means of GTR SP screws. Calottes increase the capacity of the connection thanks to larger contact surface area with the lining of sandwich panel. While vulcanized EPDM material provides excellent sealing properties and excellent flexibility.

Product designation	Calottes			Package Separate/ Quantity/ Collective [pcs]
	Width	Length	Inclination angle	
	L	D	α	
	[mm]	[mm]	[°]	
PKAL2627	26	41,5	27	100/1/100
PKAL3225	32	41,5	25	100/1/100
PKAL4132	41	41,5	32	100/1/100



* available in RAL colours

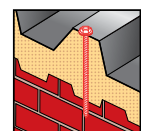
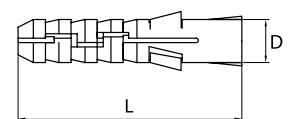


Expansion sleeves made of high quality nylon.

ULTRA EXPANSION SLEEVES

Designed for mounting sandwich panels in soft solid materials such as aerated concrete, brick in combination with GTR W SP screws.

Product designation	Sleeve		Package Separate/ Quantity/ Collective [pcs]
	Lenght	Width	
	L	D	
	[mm]	[mm]	
PUP00792	50	10	50/1/50



OPEN-END RIVETS

AL/FE

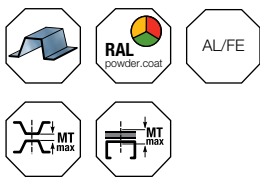
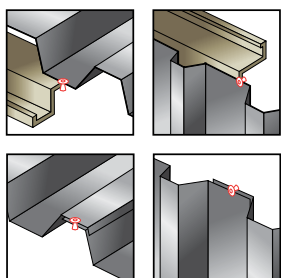
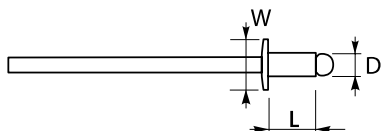
OPEN-END ALUMINUM RIVETS - STEEL

Open-end aluminum rivets with carbon steel head.

Designed for economical fastening of different elements made of steel sheet or aluminum inside buildings (lack of moisture).



Product designation	Fastener			Recommended fastening scope		Holes diameters		Package Separate/Quantity/Collective [pcs]
	D	L	W	MTmin	MTmax	dh. min.	dh. max	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
PN0124060PL	2,4	6	max. 5	2,00	4,00	2,50	2,60	500/8/4000
PN0124080PL	2,4	8	max. 5	4,00	6,00	2,50	2,60	500/8/4000
PN0124100PL	2,4	10	max. 5	6,00	8,00	2,50	2,60	500/8/4000
PN0124120PL	2,4	12	max. 5	8,00	9,50	2,50	2,60	500/8/4000
PN0132060PL	3,2	6	max. 6,7	1,50	3,50	3,30	3,40	500/8/4000
PN0132080PL	3,2	8	max. 6,7	3,50	5,00	3,30	3,40	500/8/4000
PN0132100PL	3,2	10	max. 6,7	5,00	7,00	3,30	3,40	500/8/4000
PN0132120PL	3,2	12	max. 6,7	7,00	9,00	3,30	3,40	500/8/4000
PN0132140PL	3,2	14	max. 6,7	7,00	11,00	3,30	3,40	500/8/4000
PN0140080PL	4	8	max. 8,4	3,00	5,00	4,10	4,20	500/8/4000
PN0140100PL	4	10	max. 8,4	5,00	6,50	4,10	4,20	500/8/4000
PN0140120PL	4	12	max. 8,4	6,50	8,50	4,10	4,20	500/8/4000
PN0140140PL	4	14	max. 8,4	7,00	11,00	4,10	4,20	500/8/4000
PN0140160PL	4	16	max. 8,4	8,50	12,50	4,10	04,2	500/8/4000
PN0148080PL	4,8	8	max. 10,1	2,50	4,00	4,90	5,00	500/8/4000
PN0148100PL	4,8	10	max. 10,1	4,00	6,00	4,90	5,00	500/8/4000
PN0148120PL	4,8	12	max. 10,1	6,00	8,00	4,90	5,00	500/8/4000
PN0148140PL	4,8	14	max. 10,1	7,00	11,00	4,90	5,00	500/8/4000
PN0148160PL	4,8	16	max. 10,1	8,00	12,00	4,90	5,00	500/8/4000
PN0148200PL	4,8	20	max. 10,1	12,00	15,00	4,90	5,00	500/8/4000
PN0160120PL	6	12	max. 12,6	5,00	7,00	6,10	6,20	500/8/4000
PN0160140PL	6	14	max. 12,6	7,00	11,00	6,10	6,20	500/8/4000
PN0160220PL	6	22	max. 12,6	11,00	18,00	6,10	6,20	500/8/4000
PN0160260PL	6	26	max. 12,6	17,00	20,00	6,10	6,20	500/8/4000



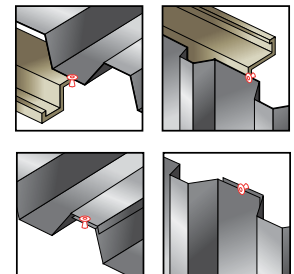
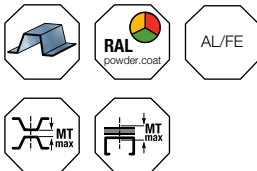
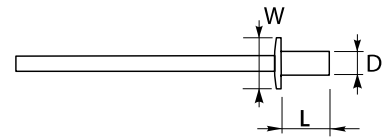
Closed-end aluminum rivets with carbon steel shank.

CLOSED-END RIVETS AL/FE

CLOSED-END ALUMINUM RIVETS - STEEL

Designed for waterproof fastening of different elements made of steel sheet or aluminum.

Product designation	Fastener			Recommended scope of fastening		Diameters of clearance holes		Package Separate/Quantity/Collective [pcs]
	D	L	W	MTmin	MTmax	dh min.	dh. max	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
PN2632650PL	3,2	6,5	max. 6,7	0,50	2,00	3,30	3,40	500/8/4000
PN2632800PL	3,2	8	max. 6,7	2,00	3,50	3,30	3,40	500/8/4000
PN2632950PL	3,2	9,5	max. 6,7	3,50	5,00	3,30	3,40	500/8/4000
PN2632100PL	3,2	10,7	max. 6,7	3,50	5,00	3,30	3,40	500/8/4000
PN2632120PL	3,2	12,7	max. 6,7	6,50	8,00	3,30	3,40	500/8/4000
PN2640800PL	4	8	max. 8,4	0,50	3,50	4,10	4,20	500/8/4000
PN2640950PL	4	9,5	max. 8,4	3,50	5,00	4,10	4,20	500/8/4000
PN2640110PL	4	11	max. 8,4	5,00	6,50	4,10	4,20	500/8/4000
PN2640120PL	4	12,7	max. 8,4	6,50	8,00	4,10	4,20	500/8/4000
PN2640150PL	4	15	max. 8,4	8,00	10,00	4,10	4,20	500/8/4000
PN2648090PL	4,8	9,5	max. 10,1	3,50	5,00	4,90	5,00	500/8/4000
PN2648110PL	4,8	11	max. 10,1	5,00	6,50	4,90	5,00	500/8/4000
PN2648120PL	4,8	12,5	max. 10,1	6,50	8,00	4,90	5,00	500/8/4000
PN2648160PL	4,8	16	max. 10,1	9,50	11,00	4,90	5,00	500/8/4000
PN2648180PL	4,8	18	max. 10,1	11,00	13,00	4,90	5,00	500/8/4000
PN2648210PL	4,8	21	max. 10,1	13,00	16,00	4,90	5,00	500/8/4000
PN2664120PL	6,4	12,5	max. 13,4	1,50	6,50	6,50	6,60	500/8/4000
PN2664160PL	6,4	16	max. 13,4	6,50	9,50	6,50	6,60	500/8/4000

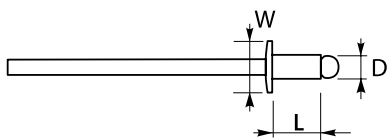


OPEN-END RIVETS AL/INOX

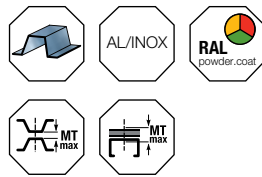
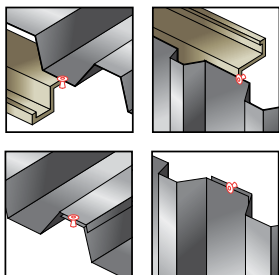
OPEN-END RIVETS - ALUMINIUM
- STAINLESS STEEL

Aluminum open-end rivets with stainless steel shank.

Designed for economical fastening of different elements made of steel sheet or aluminum in damp environments, for example flashings.



Product designation	Fastener			Recommended range of fastening		Diameters of clearance holes		Package Separate/Quantity/Collective [pcs]
	D	L	W	MTmin	MTmax	dh min.	dh. max	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
PN0832060PL	3,2	6	max. 6,7	0,50	3,00	3,30	3,40	500/8/4000
PN0832080PL	3,2	8	max. 6,7	3,00	5,00	3,30	3,40	500/8/4000
PN0832100PL	3,2	10	max. 6,7	5,00	6,50	3,30	3,40	500/8/4000
PN0832120PL	3,2	12	max. 6,7	6,50	8,50	3,30	3,40	500/8/4000
PN0840080PL	4	8	max. 8,4	2,50	4,50	4,10	4,20	500/8/4000
PN0840100PL	4	10	max. 8,4	4,50	6,50	4,10	4,20	500/8/4000
PN0840120PL	4	12	max. 8,4	6,50	8,50	4,10	4,20	500/8/4000
PN0840140PL	4	14	max. 8,4	8,50	10,00	4,10	4,20	500/8/4000
PN0840160PL	4	16	max. 8,4	10,00	12,00	4,10	4,20	500/8/4000
PN0848080PL	4,8	8	max. 10,1	2,00	4,00	4,90	5,00	500/8/4000
PN0848100PL	4,8	10	max. 10,1	4,00	6,00	4,90	5,00	500/8/4000
PN0848120PL	4,8	12	max. 10,1	6,00	8,00	4,90	5,00	500/8/4000
PN0848140PL	4,8	14	max. 10,1	6,00	10,00	4,90	5,00	500/8/4000
PN0848160PL	4,8	16	max. 10,1	8,00	11,00	4,90	5,00	500/8/4000
PN0848200PL	4,8	20	max. 10,1	13,00	16,00	4,90	5,00	500/8/4000



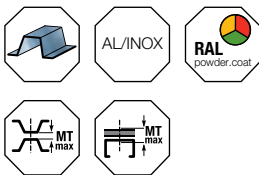
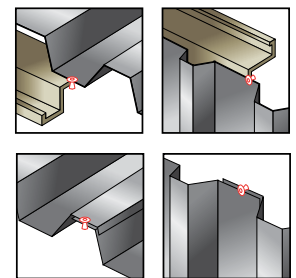
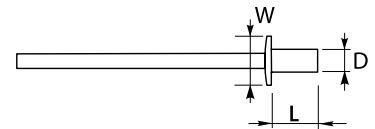
CLOSED-END RIVETS AL/INOX

CLOSED-END ALUMINUM RIVETS -
STAINLESS STEEL

Aluminum closed-end rivets with austenitic steel shank.

Designed for waterproof fastening of different elements made of steel sheet or aluminum in damp environments, for example flashings.

Product designation	Fastener			Recommended range of fastening		Diameters of clearance holes		Package Separate/Quantity/Collective [pcs]
	D	L	W	MTmin	MTmax	dh min.	dh. max	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	
PN3032060PL	3,2	6,5	max. 6,7	0,50	2,00	3,30	3,40	500/8/4000
PN3032080PL	3,2	8	max. 6,7	0,50	3,50	3,30	3,40	500/8/4000
PN3032090PL	3,2	9,5	max. 6,7	3,50	5,00	3,30	3,40	500/8/4000
PN3032100PL	3,2	10,7	max. 6,7	5,00	6,50	3,30	3,40	500/8/4000
PN3032120PL	3,2	12,7	max. 6,7	6,50	8,00	3,30	3,40	500/8/4000
PN3040080PL	4	8	max. 8,4	2,50	4,50	4,10	4,20	500/8/4000
PN3040090PL	4	9,5	max. 8,4	1,00	5,00	4,10	4,20	500/8/4000
PN3040110PL	4	11	max. 8,4	5,00	6,50	4,10	4,20	500/8/4000
PN3040120PL	4	12,7	max. 8,4	6,50	8,00	4,10	4,20	500/8/4000
PN3048090PL	4,8	9,5	max. 10,1	3,50	5,00	4,90	5,00	500/8/4000
PN3048110PL	4,8	11	max. 10,1	3,50	6,50	4,90	5,00	500/8/4000
PN3048120PL	4,8	12,5	max. 10,1	6,50	8,00	4,90	5,00	500/8/4000
PN3048160PL	4,8	16	max. 10,1	9,00	11,00	4,90	5,00	500/8/4000
PN3048180PL	4,8	18	max. 10,1	9,50	13,50	4,90	5,00	500/8/4000
PN3048210PL	4,8	21	max. 10,1	13,00	16,00	4,90	5,00	500/8/4000

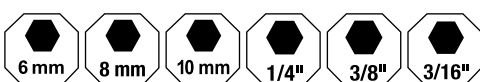
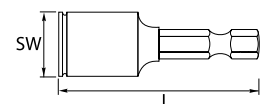


Screwdrivers bits (keys) are made of high quality chrome vanadium steel, surface hardened, protected from corrosion. Hexagonal shape, different sizes screw holding systems (magnetic with an internal or external spring).

HEX SCREWDRIVER BITS

Designed for use in screwdrivers. Used for correct screwing hex head fasteners into the structure material. For GTX fasteners as well as painted fasteners it is recommended to use the bits with spring.

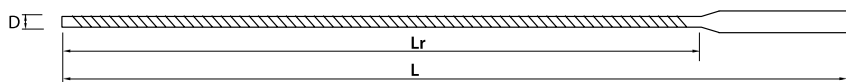
Product designation	Key			Package Separate/Quantity/Collective [pcs]
	SW	L	Type	
	[mm]	[mm]		
P181031	6	45	magnetic-operated	1/1/1
P189903	6	50	spring-operated	1/1/1
P189899	8	45	magnetic-operated	1/1/1
P189898	8	45	spring-operated	1/1/1
P189901	10	45	magnetic-operated	1/1/1
P181033	3/8"	45	magnetic-operated	1/1/1
P181032	1/4"	45	magnetic-operated	1/1/1
P181034	3/16"	45	magnetic-operated	1/1/1



DRILL BITS FOR CONCRETE

Drills designed to carry out an initial hole for screws in concrete.

Product designation	Drills SDS+				Package Separate/ Quantity/ Collective [pcs]
	L	Lr	D	Fastening	
	[mm]	[mm]	[mm]	Type	
PSP223207	260	200	5	SDS+	1/1/1
PSP223205	350	300	5	SDS+	1/1/1
PSP223206	300	250	5	SDS+	1/1/1
PUP05160	160	100	5,5	SDS+	1/1/1
PUP05210	210	150	5,5	SDS+	1/1/1
PUP05260	260	200	5,5	SDS+	1/1/1
PUP05310	310	250	5,5	SDS+	1/1/1
PUP05410	410	350	5,5	SDS+	1/1/1
PUP08110	110	50	8	SDS+	1/1/1
PSP054052	110	50	8	SDS+	1/1/1
PWSDS8110	110	50	8	SDS+	1/1/1
PWSDS8210	210	150	8	SDS+	1/1/1
PWSDS8260	260	200	8	SDS+	1/1/1
PSP054055	260	200	8	SDS+	1/1/1



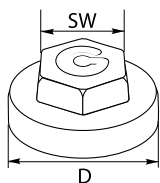
COLOR CAPS MASKING

Masking caps made of a modified polyethylene containing UV stabilizers. The caps are manufactured in different RAL colours.

Designed for placing on the heads of drilling self-tapping screws to visually unify the colour of screws to the colour of the façade or roof of the building.



Product designation	Caps			Package Separate/ Quantity/ Collective [pcs]
	SW	D	Colour	
	[mm]	[mm]	RAL	
P000011	8	19	1002	1000/1/1000
P000021	8	19	1015	1000/1/1000
P000081	8	19	9006	1000/1/1000
P000131	8	19	3016	1000/1/1000
P000141	8	19	5010	1000/1/1000
P000171	8	19	9002	1000/1/1000
P000091	8	19	9010	1000/1/1000
P000243	8	19	7024	1000/1/1000



Acrylic paints in a container of 400 ml spray, contain UV stabilizers. Paints are manufactured in different RAL colours, in matt or gloss.

SPRAY PRIMERS

Designed for painting the damaged surface of the steel sheets and screws covering. It is recommended to carefully remove the grease from surfaces to be painted, and follow the instructions for use on the container.

Product designation	Colour	Package Separate/ Quantity/ Collective [pcs]
	RAL	
PFA1002	1002	1/12/12
PFA1015	1015	1/12/12
PFA3000	3000	1/12/12
PFA3005	3005	1/12/12
PFA3009	3009	1/12/12
PFA3011	3011	1/12/12
PFA3016	3016	1/12/12
PFA5002	5002	1/12/12
PFA5005	5005	1/12/12
PFA5010	5010	1/12/12
PFA6005	6005	1/12/12

PFA6011	6011	1/12/12
PFA6020	6020	1/12/12
PFA6029	6029	1/12/12
PFA7011	7011	1/12/12
PFA7024	7024	1/12/12
PFA7035	7035	1/12/12
PFA8004	8004	1/12/12
PFA8017	8017	1/12/12
PFA8019	8019	1/12/12
PFA9002	9002	1/12/12
PFA9003	9003	1/12/12
PFA9005	9005	1/12/12
PFA9006	9006	1/12/12
PFA9010	9010	1/12/12



Acrylic paints in a container of 20 ml with a brush, contain UV stabilizers. Paints are manufactured in different RAL colours, in matt or gloss.

STICK PRIMERS

Designed for spot repair of the damaged surface of the steel sheets and for screws covering. It is recommended to carefully remove the grease from surfaces to be painted, and follow the instructions for use on the container.

Product designation	Colour	Package Separate/ Quantity/ Collective [pcs]
	RAL	
PFAS201002	1002	1/1/1
PFAS201015	1015	1/1/1
PFAS203000	3000	1/1/1
PFAS203005	3005	1/1/1
PFAS203009	3009	1/1/1
PFAS203011	3011	1/1/1
PFAS203016	3016	1/1/1
PFAS205002	5002	1/1/1
PFAS205005	5005	1/1/1
PFAS205010	5010	1/1/1
PFAS206005	6005	1/1/1
PFAS206011	6011	1/1/1
PFAS206020	6020	1/1/1

PFAS206029	6029	1/1/1
PFAS207011	7011	1/1/1
PFAS207024	7024	1/1/1
PFAS207035	7035	1/1/1
PFAS208004	8004	1/1/1
PFAS208017	8017	1/1/1
PFAS208019	8019	1/1/1
PFAS209002	9002	1/1/1
PFAS209003	9003	1/1/1
PFAS209005	9005	1/1/1
PFAS209006	9006	1/1/1
PFAS209010	9010	1/1/1



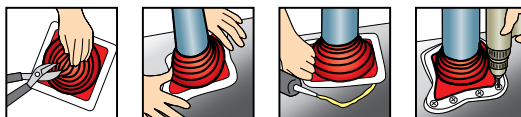
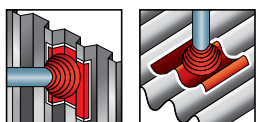
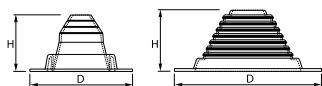
SEALING COLLARS

Collars with a square base, of various sizes, made of EPDM reinforced with aluminum tape



Designed for sealing the penetration holes of circular cross-section of different types of building installation (chimneys, ventilation, water pipes and sewer, cables, etc.) in the façades and roofs made of corrugated sheets. Mounting of collars takes place by means of self-tapping screws and sealing silicone. The hole diameter should be about 20% smaller than of the sealed element.

Product designation	Collar				Package Separate/Quantity/Collective [pcs]
	Height	Base width	Diameter of fastened element		
	H [mm]	D [mm]	min [mm]	max [mm]	
PGMF1	55	114	6	50	1/93/93
PGMF2	75	155	32	76	1/93/93
PGMF3	83	205	60	102	1/45/45
PGMF4	102	255	76	152	1/20/20
PGMF5	115	275	102	178	1/20/20
PGMF6	128	305	127	228	1/16/16
PGMF7	132	365	152	280	1/16/16
PGMF8	140	425	178	330	1/6/6



UNIVERSAL GASKETS

Self-adhesive wedge gasket for roofs made of polyurethane foam

Designed to fill the gap created in the ridge belt between the pantile sheeting and the ridge tiles or in the area above the gutters



Product designation	Type	Gasket				Package Separate/Quantity/Collective [pcs]
		Width	Height	Length	Colour	
		D [mm]	H [mm]	L [mm]		
P10003060S1	wedge	60	30	1000	szary	200/1/200

Profiled roof tile sheet gaskets made of cross linked polyethylene foam.

GASKETS FOR ROOF TILE SHEETS

Designed for sealing gaps formed for example between the roof slope and the flashings, especially in the valley, ridge and in the gutter area.

Product designation	Gasket	Package Separate/ Quantity/ Collective [pcs]
	Type	
PB2DP	ridge tile gasket	100/1/100



Single-component polyurethane foam GF and low pressure LGF with a capacity of 750 ml

PISTOL MOUNTING FOAM

Mounting foam has excellent adhesion to typical construction materials. An excellent thermal and acoustic insulation in joints.

Product designation	Capacity	Package Separate/ Quantity/ Collective [pcs]
	[ml]	
PGF750	750	1/12/12
PLGF750	750	1/12/12





CHAPTER 2 - FASTENINGS

- Ⓞ PLASTIC TUBES
- Ⓞ INSULATION FASTENERS
- Ⓞ INSULATION PLATES
- Ⓞ ACCESSORIES



FOR FLAT ROOF INSULATION

page designation name

PLASTIC TUBES

94	G1	Plastic tubes
94	G2	Plastic tubes

INSULATION SCREWS

95	GTS-S	Self-tapping insulation screws
96	GTS-B	Drilling, self-tapping insulation screws
97	GTS-BZT	Drilling, self-tapping insulation screws (double thread)
97	GTHD	Insulation screws for concrete
98	U-ZK	Expansion sleeves for concrete

INSULATION PLATES

98	DVP	Recessed round insulation plates
99	DVP	Recessed oval insulation plates
99	DVP	Flat round insulation plates
100	DVP	Flat oval insulation plates

ACCESSORIES

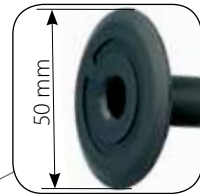
100		Cross-cut Screwdriver bits
101		Torx cut Screwdriver bit
101		Drills for concrete
102		Cone drill bits
102		Adapter for cone drill bits





GUNNEBO FASTENING

- stands for more than 250 years of tradition in production of various types of fasteners
- the GUNNEBO FASTENING products can be easily identified through their characteristic marking
- strict production control carried out by the in-house laboratory guarantees high quality products
- each production batch is assigned a unique number, which allows its precise identification
- our products have European Technical Approval (ETA),
- and confirmation of their quality is the declaration of performance (DoP).



50 MM HEAD:

- expanded plate diameter of 50 mm provides increased material holding surface



BOTTOM HEAD

- G1 spiked
- G2 standard



- with support thread (head + thread) guarantees high performance impact resistance according to ETAG 006



CONE PART:

- specially designed conical part of the tube enables the delivery of assembled sets (steel screw plus a telescope) directly to the building site



MATERIAL:

- high quality polyethylene copolymer guarantees constant mechanical characteristics for many years
- retains its properties under the influence of wide temperature amplitude
- delivers high performance in tensile strength



GUNNEBO
FASTENING

TECNICA

G T S-S

4,8 x 60

outer diameter
of thread and length of the fastener

Function:

- S-S steel structure self-tapping screw
- S-B steel structure drilling, self-tapping screw
- HD wooden and concrete structure screw
- S-BZT steel structure drilling, self-tapping screw, with support thread



GUNNEBO
FASTENING

G 2

14,5 x 35

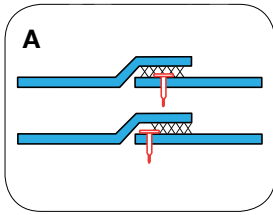
tube diameter
and length

Function:

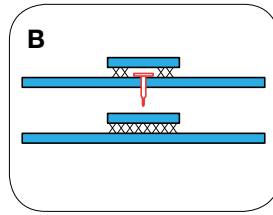
1. plastic tube with spiked head
2. plastic tube with standard head



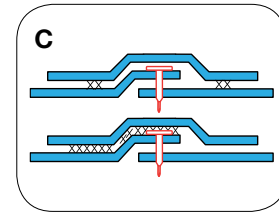
EXAMPLES OF FASTENING OF WATERPROOFING MATERIALS ACCORDING TO ETAG 006



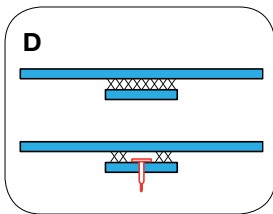
A
Fasteners in the overlap area. Linear, single joint within the overlap along the edge of the waterproofing product.



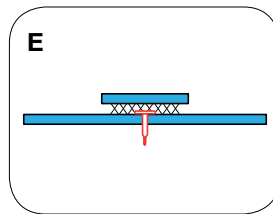
B
Installation on a roof slope without self-sealing. Single fasteners outside overlaps penetrating roofing and covered with thermally welded strips of waterproofing products.



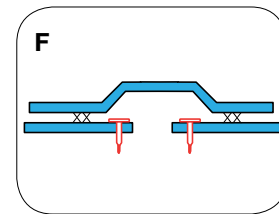
C
Covered fasteners in the overlap area. Linear, single joint in the roofing overlap area covered with thermally welded strips of waterproofing products.





D
Fixing from the bottom. Flexible bands of waterproofing products or metal sheet attached with single fittings, covered with waterproofing product by adhesive bonding or thermal welding.



E
Linear fastening sections. Linear fasteners with the use of sections covered with thermally welded strips of waterproofing products.



F
Covered edge fasteners. Butt joints of waterproofing products installed on both sides of the joints and covered with a welded band of the waterproofing product.

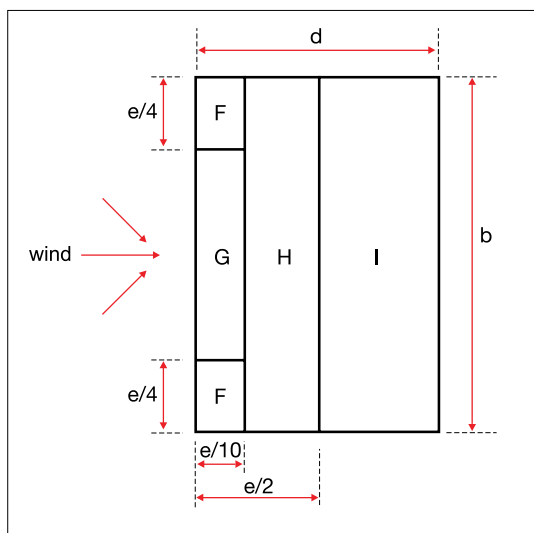
	flexible waterproofing products (waterproofing)
	bonding, welding

EXAMPLES OF FASTENING OF WATERPROOFING MATERIALS ACCORDING TO ETAG 006

FIXING PLAN FOR INSTALLATION OF WATERPROOFING MATERIALS ACCORDING TO PN-EN-1991-1-4:2008

The harmonized standard EN-1991-1-4: 2008 contains guidelines for wind suction calculations of flat roofs. This helps prepare the fixing plan.

To prepare it, you need a number of detailed information items on the structure and geographical location of the facility. The referenced standard assumes 4 areas of wind effect on a flat roof. Each area is shown in figure beside.

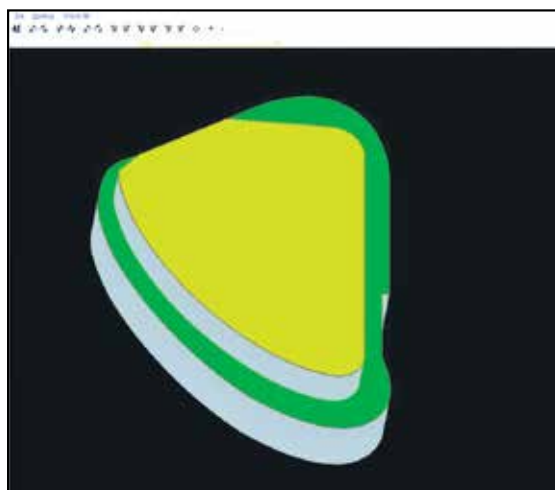
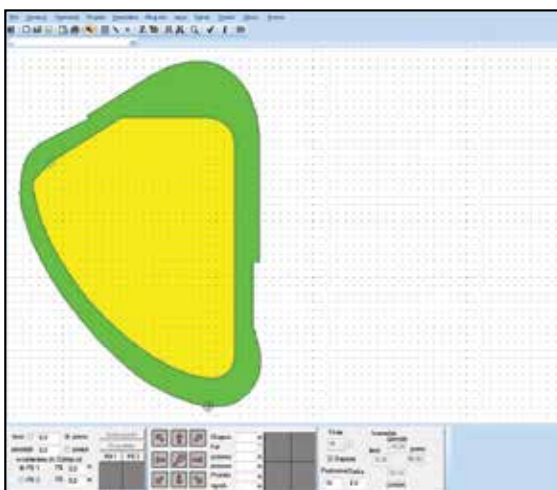


where:

- e** = b or $2h$ (the lesser of the two)
- b** cross direction to the wind direction
- d** dimension along the wind
- h** direction
- F** corner area
- G** edge area, external
- H** edge area, internal
- I** internal zone

In order to prepare the fixing plan please get in touch with GUNNEBO INDUSTRIES technical consultant.

Using specialized software a design will be prepared and the number of fasteners will be optimized. The design will contain all the information needed to attach the roofing. The picture beside presents an example of a facility.



MECHANICAL FIXING RULES OF THERMAL INSULATION AND WATERPROOFING MATERIALS ON FLAT ROOFS

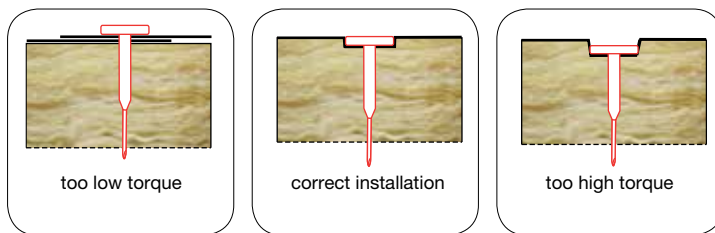
Flat roofs are roofs with a slope of up to 5° (range from -5° to 5°). Depending on the roof design, adequate mechanical fasteners must be used for installation of thermal insulation or waterproofing, or just waterproofing. Mechanical fixing can be used on most roofs, provided that the requirements for the structure and the system are met. In some cases it may be necessary to apply different kind of attachment, for example, full-surface gluing. The information in the technical approval of the product is used for verifying the correct application of the fastening system used.

Mechanical installation should be done based on fixing plan in accordance with the applicable standard such as PN-EN-1991-1-4:2008. If it is planned to lay thermal insulation panels on the roof before waterproofing installation, these panels must be initially attached. Initial attachment of the thermal insulation should be performed according to manufacturer's instructions, using no less than two fasteners per panel.

GENERAL INSTALLATION GUIDELINES:

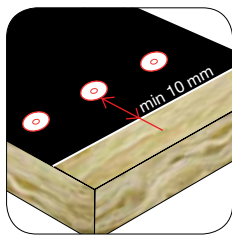
- a fastener installation should always be perpendicular to the structure
- b installation should be done using a screwdriver equipped with adjustable clutch
- c during installation of the fastener, you should follow all recommended parameters for the type of fastener,
- d any modification of fasteners is not allowed
- e the fastener must be properly embedded (fig.1).

fig. 1



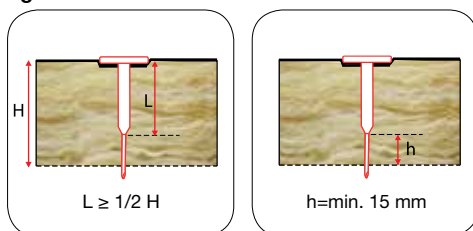
- f fastener must be placed in proper distance from membrane edge (fig.2)

fig. 2



- g switch should be of sufficient length (fig. 3)

fig. 3



H = 15 mm or 10% of the maximum deflection of isolation * (larger of the two)

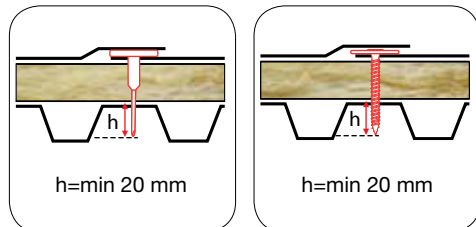
* applies to wool

MECHANICAL FIXING RULES OF THERMAL INSULATION AND WATERPROOFING MATERIALS ON FLAT ROOFS

INSTALLATION ON STEEL STRUCTURE

RECOMMENDATIONS:

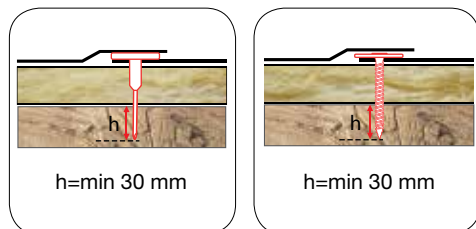
- the insulating fastener type should be selected to match the thickness of the steel structure
- fasteners are always installed on the upper wave of the sheet
- installation lines should always be carried out perpendicular to the sheet embossing direction
- the insulation fastener should go through the steel sheet for a distance of at least 20 mm



INSTALLATION ON WOODEN STRUCTURE

RECOMMENDATIONS:

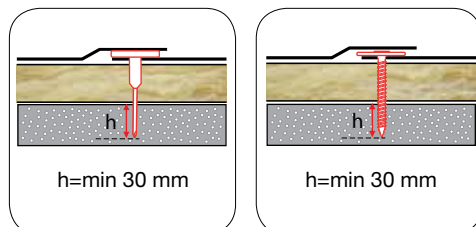
- minimum class of wooden structure - C24
- insulation fastener should be embedded in the structure at a depth of at least 30 mm (or 40 mm)
- making of an initial hole is not required
- thickness of the wooden structure should meet the requirements of the technical approval
- Installation lines should always be carried out perpendicular to the direction of the boarding. If it is not possible it should be ensured that the fixing lines do not coincide with gaps between the boards.



INSTALLATION ON CONCRETE STRUCTURE

RECOMMENDATIONS:

- the minimum class monolithic concrete slab should be C20/25
- insulation fastener should be embedded in the structure at a depth of at least 30 mm
- the initial hole should be deeper by 10mm from the depth of fastener embedding
- thickness of the concrete structure should meet the requirements of the technical approval



FIXING ON STRUCTURE WITH UNKNOWN PARAMETERS

If the quality of the structure is not known, please contact the GUNNEBO FASTENING technical consultant.

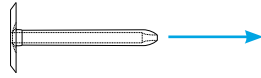
Tests performed on site using a portable strength testing machine will allow to define such parameters as:


- uniformity of the substrate (concrete substrate)
- recommended pull-out load of the fastener.



SELECTION OF ISOLATION THICKNESS FOR TELESCOPE FASTENERS

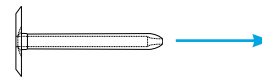
Steel




GTS-S	Tube length									
	35	65	85	105	135	165	185	235	285	
50	50	80	100	120	150	180	200	250	300	insulation thickness (polystyrene, pi-r)
60	60	90	110	130	160	190	210	260	310	
70	70	100	120	140	170	200	220	270	320	
80		110	130	150	180	210	230	280	330	
90		120	140	160	190	220	240	290	340	
100		130	150	170	200	230	250	300	350	
110			160	180	210	240	260	310	360	
120			170	190	220	250	270	320	370	
130				200	230	260	280	330	380	
140				210	240	270	290	340	390	
150					250	280	300	350	400	
160					260	290	310	360	410	
170					270	300	320	370	420	
180						310	330	380	430	
200						330	350	400	450	
220							370	420	470	
240								440	490	
260								460	510	
280									530	
300									550	



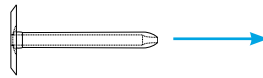
Steel




GTS-S	Tube length									
	35	65	85	105	135	165	185	235	285	
50	50	80	100	120	150					insulation thickness (wool)
60	60	90	110	130	160	190	210			
70	70	100	120	140	170	200	220	270	320	
80		110	130	150	180	210	230	280	330	
90		120	140	160	190	220	240	290	340	
100		130	150	170	200	230	250	300	350	
110			160	180	210	240	260	310	360	
120			170	190	220	250	270	320	370	
130				200	230	260	280	330	380	
140				210	240	270	290	340	390	
150					250	280	300	350	400	
160					260	290	310	360	410	
170					270	300	320	370	420	
180						310	330	380	430	
200							330	350	400	
220								370	420	
240									440	
260									460	
280									530	
300									550	



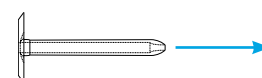
Steel




GTS-B	Tube length									
	35	65	85	105	135	165	185	235	285	
50	50	80	100	120	150	180	200	250	300	insulation thickness (polystyrene, pi-r)
60	60	90	110	130	160	190	210	260	310	
70	70	100	120	140	170	200	220	270	320	
80		110	130	150	180	210	230	280	330	
90		120	140	160	190	220	240	290	340	
100		130	150	170	200	230	250	300	350	
110			160	180	210	240	260	310	360	
120			170	190	220	250	270	320	370	
130				200	230	260	280	330	380	
140				210	240	270	290	340	390	
150					250	280	300	350	400	
180						310	330	380	430	
210							360	410	460	
240								440	490	
280									530	
300									550	



Steel

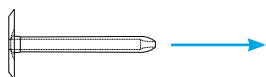


GTS-B	Tube length									
	35	65	85	105	135	165	185	235	285	
50	50	80	100	120	150					insulation thickness (wool)
60	60	90	110	130	160	190	210			
70	70	100	120	140	170	200	220	270	320	
80		110	130	150	180	210	230	280	330	
90		120	140	160	190	220	240	290	340	
100		130	150	170	200	230	250	300	350	
110			160	180	210	240	260	310	360	
120			170	190	220	250	270	320	370	
130				200	230	260	280	330	380	
140				210	240	270	290	340	390	
150					250	280	300	350	400	
180						310	330	380	430	
210							360	410	460	
240								440	490	
280									530	
300									550	



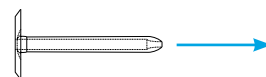
SELECTION OF ISOLATION THICKNESS FOR TELESCOPE FASTENERS

Concrete



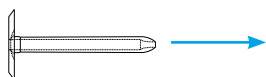
Screw length	GTS-S + sleeve UZ-K	Tube length									Insulation thickness (polystyrene, pi-r)
		35	65	85	105	135	165	185	235	285	
90	50	80	100	120	150	180	200	250	300		
100	60	90	110	130	160	190	210	260	310		
110	70	100	120	140	170	200	220	270	320		
120		110	130	150	180	210	230	280	330		
130		120	140	160	190	220	240	290	340		
140		130	150	170	200	230	250	300	350		
150			160	180	210	240	260	310	360		
160			170	190	220	250	270	320	370		
170				200	230	260	280	330	380		
180				210	240	270	290	340	390		
200					260	290	310	360	410		
220						310	330	380	430		
240							330	350	400	450	
260								370	420	470	
280									440	490	
300									460	510	

Concrete



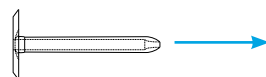
Screw length	GTS-S + sleeve UZ-K	Tube length									Insulation thickness (wool)
		35	65	85	105	135	165	185	235	285	
90	50	80	100	120	150						
100	60	90	110	130	160	190	210				
110	70	100	120	140	170	200	220	270	320		
120		110	130	150	180	210	230	280	330		
130		120	140	160	190	220	240	290	340		
140		130	150	170	200	230	250	300	350		
150			160	180	210	240	260	310	360		
160			170	190	220	250	270	320	370		
170				200	230	260	280	330	380		
180				210	240	270	290	340	390		
200					260	290	310	360	410		
220						310	330	380	430		
240							330	350	400	450	
260								370	420	470	
280									440	490	
300									460	510	

Concrete



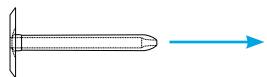
Screw length	GTHD	Tube length									Insulation thickness (polystyrene, pi-r)
		35	65	85	105	135	165	185	235	285	
60	50	80	100	120	150	180	200	250	300		
70	60	90	110	130	160	190	210	260	310		
80	70	100	120	140	170	200	220	270	320		
90		110	130	150	180	210	230	280	330		
100		120	140	160	190	220	240	290	340		
130			170	190	220	250	270	320	370		
160					250	280	300	350	400		
180						300	320	370	420		
200							320	340	390	440	
220								360	410	460	
250									440	490	
280										520	
300										540	

Concrete



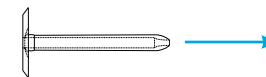
Screw length	GTHD	Tube length									Insulation thickness (wool)
		35	65	85	105	135	165	185	235	285	
60	50	80	100	120	150						
70	60	90	110	130	160	190	210				
80	70	100	120	140	170	200	220	270	320		
90		110	130	150	180	210	230	280	330		
100		120	140	160	190	220	240	290	340		
130			170	190	220	250	270	320	370		
160					250	280	300	350	400		
180						300	320	370	420		
200							320	340	390	440	
220								360	410	460	
250									440	490	
280										520	
300										540	

Wood



Screw length	GTHD	Tube length									Insulation thickness (polystyrene, pi-r)
		35	65	85	105	135	165	185	235	285	
60	50	80	100	120	150	180	200	250	300		
70	60	90	110	130	160	190	210	260	310		
80	70	100	120	140	170	200	220	270	320		
90		110	130	150	180	210	230	280	330		
100		120	140	160	190	220	240	290	340		
130			170	190	220	250	270	320	370		
160					250	280	300	350	400		
180						300	320	370	420		
200							320	340	390	440	
220								360	410	460	
250									440	490	
280										520	
300										540	

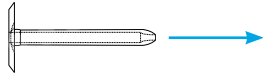
Wood



Screw length	GTHD	Tube length									Insulation thickness (wool)
		35	65	85	105	135	165	185	235	285	
60	50	80	100	120	150						
70	60	90	110	130	160	190	210				
80	70	100	120	140	170	200	220	270	320		
90		110	130	150	180	210	230	280	330		
100		120	140	160	190	220	240	290	340		
130			170	190	220	250	270	320	370		
160					250	280	300	350	400		
180						300	320	370	420		
200							320	340	390	440	
220								360	410	460	
250									440	490	
280										520	
300										540	

SELECTION OF ISOLATION THICKNESS FOR TELESCOPE FASTENERS

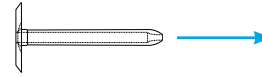
Wood



GTS-S	Tube length										
	35	65	85	105	135	165	185	235	285		
50	50	80	100	120	150	180	200	250	300		
60	60	90	110	130	160	190	210	260	310		
70	70	100	120	140	170	200	220	270	320		
80		110	130	150	180	210	230	280	330		
90		120	140	160	190	220	240	290	340		
100		130	150	170	200	230	250	300	350		
110			160	180	210	240	260	310	360		
120			170	190	220	250	270	320	370		
130				200	230	260	280	330	380		
140				210	240	270	290	340	390		
150					250	280	300	350	400		
160					260	290	310	360	410		
170					270	300	320	370	420		
180						310	330	380	430		
200							330	350	400	450	
220								370	420	470	
240									440	490	
260										460	510
280											530
300											550



Wood



GTS-S	Tube length										
	35	65	85	105	135	165	185	235	285		
50	50	80	100	120	150						
60	60	90	110	130	160	190	210				
70	70	100	120	140	170	200	220	270	320		
80		110	130	150	180	210	230	280	330		
90		120	140	160	190	220	240	290	340		
100		130	150	170	200	230	250	300	350		
110			160	180	210	240	260	310	360		
120			170	190	220	250	270	320	370		
130				200	230	260	280	330	380		
140				210	240	270	290	340	390		
150					250	280	300	350	400		
160					260	290	310	360	410		
170					270	300	320	370	420		
180						310	330	380	430		
200							330	350	400	450	
220								370	420	470	
240									440	490	
260										460	510
280											530
300											550



Steel



GTS-S+DVP	Scope of insulation thickness		
	min	max	
50	3	28	
60	8	38	
70	8	48	
80	8	58	
90	8	68	
100	18	78	
110	28	88	
120	38	98	
130	48	108	
140	58	118	
150	68	128	
160	78	138	
170	88	148	
180	98	158	
200	118	178	
220	138	198	
240	158	218	
260	178	238	
280	198	258	
300	218	278	

Steel

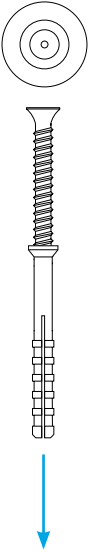



GTS-B+DVP	Scope of insulation thickness		
	min	max	
50	3	28	
60	8	38	
70	18	48	
80	28	58	
90	38	68	
100	48	78	
110	58	88	
120	68	98	
130	78	108	
140	88	118	
150	98	128	
180	128	158	
210	158	188	
240	188	218	
280	228	258	
300	248	278	

SELECTION OF ISOLATION THICKNESS FOR RIGID CONNECTIONS

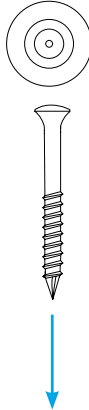



Concrete



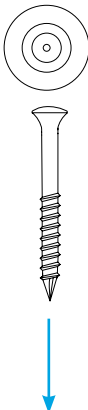
Screw length	GTS-S + DVP + sleeve UZ-K	Scope of insulation thickness 	
		min	max
		90	7
100	17	40	
110	27	50	
120	37	60	
130	47	70	
140	57	80	
150	67	90	
160	77	100	
170	87	110	
180	97	120	
200	117	140	
220	137	160	
240	157	180	
260	177	200	
280	197	220	
300	217	240	


Concrete



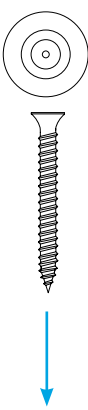
Screw length	GTHD + DVP	Scope of insulation thickness 	
		min	max
		60	26
70	26	37	
80	26	47	
90	26	57	
100	36	67	
130	66	97	
160	96	127	
180	116	147	
200	136	167	
220	156	187	
250	186	217	
280	216	247	
300	236	267	


Wood



Screw length	GTHD + DVP	Scope of insulation thickness 	
		min	max
		60	26
70	26	37	
80	26	47	
90	26	57	
100	36	67	
130	66	97	
160	96	127	
180	116	147	
200	136	167	
220	156	187	
250	186	217	
280	216	247	
300	236	267	

Wood

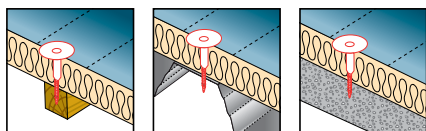
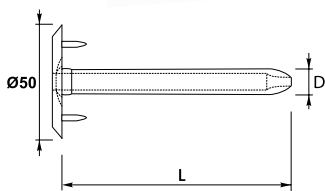


Screw length	GTS-S + DVP	Scope of insulation thickness 	
		min	max
		50	3
60	8	33	
70	8	43	
80	8	53	
90	8	63	
100	18	73	
110	28	83	
120	38	93	
130	48	103	
140	58	113	
150	68	123	
160	78	133	
170	88	143	
180	98	153	
200	118	173	
220	138	193	
240	158	213	
260	178	233	
280	198	253	
300	218	273	

G1

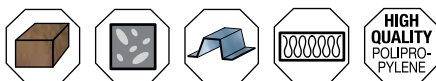
PLASTIC TUBES

Plastic tubes with a round head with a diameter of 50 mm, made from high quality polypropylene copolymer.



Designed for fastening insulation materials on flat roof applications, in combination with screws of type GTS-S, GTS-B, GTHD. Additional spikes provide higher bearing capacity of the connection tube-membrane.

Product designation	Tube					Package Separate/Quantity/Collective [pcs]
	Plate diameter	Tube diameter	Length	Min. insulation thickness		
	D [mm]	d [mm]	L [mm]	Polystyrene, pir [mm]	Wool [mm]	
PG145035	50	14,5	35	50	50	500/1/500
PG145065	50	14,5	65	80	80	500/1/500
PG145085	50	14,5	85	100	100	500/1/500
PG145105	50	14,5	105	120	120	400/1/400
PG145135	50	14,5	135	150	150	250/1/250
PG145165	50	14,5	165	180	190	250/1/250
PG145185	50	14,5	185	200	210	200/1/200
PG145235	50	14,5	235	250	270	150/1/150
PG145285	50	14,5	285	300	320	125/1/125

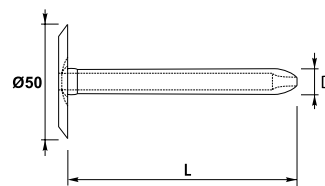


product for special order

G2

PLASTIC TUBES

Plastic tubes with a round head with a diameter of 50 mm, made from high quality polypropylene copolymer.



Designed for fastening insulation materials on flat roof applications, in combination with screws of type GTS-S, GTS-B, GTHD.

Product designation	Tube					Package Separate/Quantity/Collective [pcs]
	Plate diameter	Tube diameter	Length	Min. insulation thickness		
	D [mm]	d [mm]	L [mm]	Polystyrene, pir [mm]	Wool [mm]	
PG245035	50	14,5	35	50	50	500/1/500
PG245065	50	14,5	65	80	80	500/1/500
PG245085	50	14,5	85	100	100	500/1/500
PG245105	50	14,5	105	120	120	400/1/400
PG245135	50	14,5	135	150	150	250/1/250
PG245165	50	14,5	165	180	190	250/1/250
PG245185	50	14,5	185	200	210	200/1/200
PG245235	50	14,5	235	250	270	150/1/150
PG245285	50	14,5	285	300	320	125/1/125



Screws made of surface-hardened carbon steel, with a drilling tip, fine thread, and bugle head with PH2 slot. Covered with an additional gRey.coat corrosion protection coat.

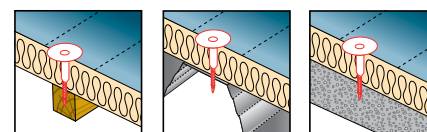
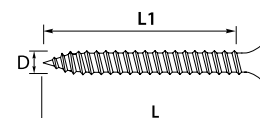
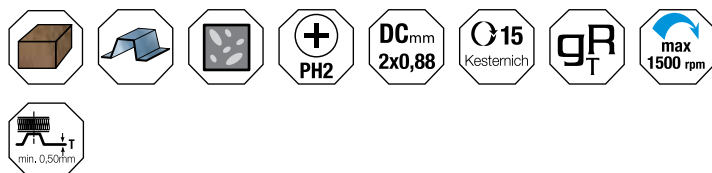
GTS-S

SELF-TAPPING INSULATION SCREWS

Designed for fastening insulation materials in applications of flat roofs in combination with a plastic tube for corrugated structural steel sheets (up to 2 x 0.88 mm). In combination with expansion sleeve for concrete construction.



Product designation	Fastener				Max drill. thick.	Min. drill. thick.	Package				
	D	L	L1	PH			DC	T	Indiv. *GC0PL	Indiv. *GC3PL	Quantity
	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[pcs]	[pcs]	[pcs]	[pcs]
P152050GC0PL	4,8	50	45	2	2 x 0,88	0,50	1000	-	1	1000	-
P152060GC0PL	4,8	60	50	2	2 x 0,88	0,50	500	-	1	500	-
P152070GC0PL	4,8	70	60	2	2 x 0,88	0,50	500	-	1	500	-
P152080GC0PL	4,8	80	70	2	2 x 0,88	0,50	500	-	1	500	-
P152090GC0PL	4,8	90	80	2	2 x 0,88	0,50	500	-	1	500	-
P152100GC0PL	4,8	100	80	2	2 x 0,88	0,50	500	100	1	500	100
P152110GC0PL	4,8	110	80	2	2 x 0,88	0,50	500	100	1	500	100
P152120GC0PL	4,8	120	80	2	2 x 0,88	0,50	500	100	1	500	100
P152130GC0PL	4,8	130	80	2	2 x 0,88	0,50	500	100	1	500	100
P152140GC0PL	4,8	140	80	2	2 x 0,88	0,50	500	100	1	500	100
P152150GC0PL	4,8	150	80	2	2 x 0,88	0,50	500	100	1	500	100
P152160GC0PL	4,8	160	80	2	2 x 0,88	0,50	500	100	1	500	100
P152170GC0PL	4,8	170	80	2	2 x 0,88	0,50	500	100	1	500	100
P152180GC0PL	4,8	180	80	2	2 x 0,88	0,50	500	100	1	500	100
P152200GC0PL	4,8	200	80	2	2 x 0,88	0,50	500	100	1	500	100
P152220GC0PL	4,8	220	80	2	2 x 0,88	0,50	500	100	1	500	100
P152240GC0PL	4,8	240	80	2	2 x 0,88	0,50	500	100	1	500	100
P152260GC0PL	4,8	260	80	2	2 x 0,88	0,50	500	100	1	500	100
P152280GC0PL	4,8	280	80	2	2 x 0,88	0,50	500	100	1	500	100
P152300GC0PL	4,8	300	80	2	2 x 0,88	0,50	500	100	1	500	100



Drilling, self-tapping screws made of surface-hardened carbon steel, with a reduced drilling point, fine thread, and bugle head with PH2 or TORX25 slot. Covered with an additional gRey.coat corrosion protection coat.



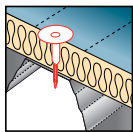
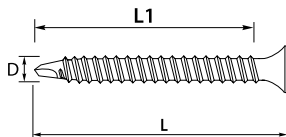
Designed for fastening insulation materials in applications of flat roofs in combination with a plastic tube for corrugated structural steel sheets (up to 2 x 1.25 mm)

Product designation	Fastener				Max drill.thick.	Min.drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	L1	PH			
	[mm]	[mm]	[mm]		DC [mm]	T [mm]	
P153050GC0PL	4,8	50	45	2	2 x 1,25	0,75	1000/1/1000
P153060GC0PL	4,8	60	50	2	2 x 1,25	0,75	500/1/500
P153070GC0PL	4,8	70	50	2	2 x 1,25	0,75	500/1/500
P153080GC0PL	4,8	80	50	2	2 x 1,25	0,75	500/1/500
P153091GC0PL	4,8	90	50	2	2 x 1,25	0,75	500/1/500
P153100GC0PL	4,8	100	50	2	2 x 1,25	0,75	500/1/500
P153109GC0PL	4,8	110	50	2	2 x 1,25	0,75	500/1/500
P153120GC0PL	4,8	120	50	2	2 x 1,25	0,75	500/1/500
P153130GC0PL	4,8	130	50	2	2 x 1,25	0,75	500/1/500
P153140GC0PL	4,8	140	50	2	2 x 1,25	0,75	500/1/500
P153149GC0PL	4,8	150	50	2	2 x 1,25	0,75	500/1/500

Product designation	Fastener				Max drill.thick.	Min.drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	L1	PH			
	[mm]	[mm]	[mm]		DC [mm]	T [mm]	
P153109GC3PL	4,8	110	50	2	2 x 1,25	0,75	100/1/100
P153120GC3PL	4,8	120	50	2	2 x 1,25	0,75	100/1/100
P153130GC3PL	4,8	130	50	2	2 x 1,25	0,75	100/1/100
P153140GC3PL	4,8	140	50	2	2 x 1,25	0,75	100/1/100
P153149GC3PL	4,8	150	50	2	2 x 1,25	0,75	100/1/100
P153180GC3PL	4,8	180	50	2	2 x 1,25	0,75	100/1/100
P153210GC3PL	4,8	210	50	2	2 x 1,25	0,75	100/1/100
P153240GC3PL	4,8	240	50	2	2 x 1,25	0,75	100/1/100
P153280GC3PL	4,8	280	50	2	2 x 1,25	0,75	100/1/100
P153300GC3PL	4,8	300	50	2	2 x 1,25	0,75	100/1/100

Product designation	Fastener				Max drill.thick.	Min.drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	L1	TX			
	[mm]	[mm]	[mm]		DC [mm]	T [mm]	
P153050T25GC0PL	4,8	50	45	25	2 x 1,25	0,75	1000/1/1000
P153060T25GC0PL	4,8	60	50	25	2 x 1,25	0,75	500/1/500
P153070T25GC0PL	4,8	70	50	25	2 x 1,25	0,75	500/1/500
P153080T25GC0PL	4,8	80	50	25	2 x 1,25	0,75	500/1/500
P153090T25GC0PL	4,8	90	50	25	2 x 1,25	0,75	500/1/500
P153100T25GC0PL	4,8	100	50	25	2 x 1,25	0,75	500/1/500

Product designation	Fastener				Max drill.thick.	Min.drill.thick.	Package Separate/Quantity/Collective [pcs]
	D	L	L1	TX			
	[mm]	[mm]	[mm]		DC [mm]	T [mm]	
P153110T25GC3PL	4,8	110	50	25	2 x 1,25	0,75	100/1/100
P153120T25GC3PL	4,8	120	50	25	2 x 1,25	0,75	100/1/100
P153130T25GC3PL	4,8	130	50	25	2 x 1,25	0,75	100/1/100
P153140T25GC3PL	4,8	140	50	25	2 x 1,25	0,75	100/1/100
P153150T25GC3PL	4,8	150	50	25	2 x 1,25	0,75	100/1/100
P153180T25GC3PL	4,8	180	50	25	2 x 1,25	0,75	100/1/100
P153210T25GC3PL	4,8	210	50	25	2 x 1,25	0,75	100/1/100
P153300T25GC3PL	4,8	300	50	25	2 x 1,25	0,75	100/1/100



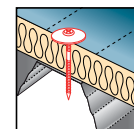
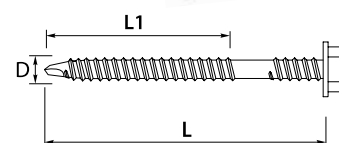
Screws made of surface-hardened carbon steel, with a reduced drilling point, fine thread, and a hex washer head. Covered with an additional gRey.coat corrosion protection coat.

GTS-BZT

DRILLING, SELF-TAPPING INSULATION SCREWS (DOUBLE THREAD)

Designed for fastening insulation materials in applications of flat roofs in combination with a recessed decking plate for corrugated structural steel sheets (up to 2 x 1.25 mm).

Product designation	Fastener				Max drill. thick.	Min.drill. thick.	Package Separate/ Quantity/ Collective [pcs]
	D	L	L1	SW			
	[mm]	[mm]	[mm]	[mm]	DC [mm]	T [mm]	
P154080GC0PL	4,8	80	60	8	2 x 1,25	0,75	500/1/500
P154100GC0PL	4,8	100	60	8	2 x 1,25	0,75	500/1/500
P154120GC0PL	4,8	120	60	8	2 x 1,25	0,75	500/1/500
P154140GC0PL	4,8	140	60	8	2 x 1,25	0,75	500/1/500



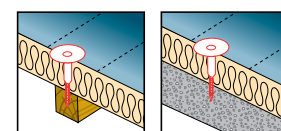
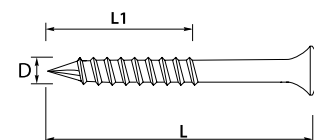
Screws made of surface-hardened carbon steel, with a Ricoh drilling point, loose thread, and bugle head with TORX 25 slot. Covered with an additional gRey.coat corrosion protection coat.

GTHD

INSULATION SCREWS FOR CONCRETE CONSTRUCTION

Designed for fastening insulation materials on flat roof applications, in combination with a plastic tube for concrete and wooden structure.

Product designation	Fastener				Anchoring depth		Package Separate/ Quantity/ Collective [pcs]
	D	L	L1	TX	H [mm]		
	[mm]	[mm]	[mm]		Concrete	Wood	
P156060GC0PL	6,3	60	31	25	30	30	500/1/500
P156070GC0PL	6,3	70	41	25	30	30	500/1/500
P156080GC0PL	6,3	80	51	25	30	30	500/1/500
P156090GC0PL	6,3	90	61	25	30	30	500/1/500
P156100GC0PL	6,3	100	61	25	30	30	500/1/500
P156130GC0PL	6,3	130	61	25	30	30	500/1/500
P156160GC0PL	6,3	160	61	25	30	30	500/1/500
P156180GC0PL	6,3	180	61	25	30	30	500/1/500
P156200GC0PL	6,3	200	61	25	30	30	500/1/500
P156220GC0PL	6,3	220	61	25	30	30	500/1/500
P156250GC0PL	6,3	250	61	25	30	30	500/1/500
P156280GC0PL	6,3	280	61	25	30	30	500/1/500
P156300GC0PL	6,3	300	61	25	30	30	500/1/500



U-ZK

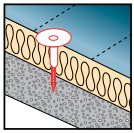
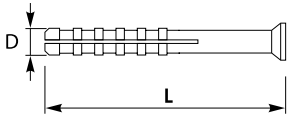
EXPANSION SLEEVES FOR CONCRETE

Nylon sleeves with a collar made of high quality polyamide.



Designed for fastening insulation materials on concrete in applications of flat roofs in combination with GTS-S screw. Long expansion zone ensures proper attachment even in lower grade concrete.

Product designation	Fastener			Package Separate/Quantity/Collective [pcs]
	Type	L	D	
		[mm]	[mm]	
PBP80570PL	U-ZK	60	8,0	200/4/800



DVP

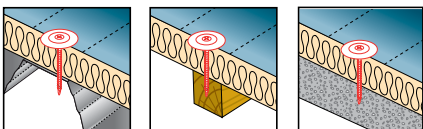
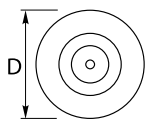
RECESSED, ROUND DECKING PLATES

Round insulation decking plates made of steel sheet, covered with aluminum-zinc corrosion coating.



Designed for fastening insulation materials on flat roof applications, in combination with insulation screws.

Product designation	Washer			Package Separate/Quantity/Collective [pcs]
	D	H	d	
	[mm]	[mm]	[mm]	
PDVPEF5010D	50	1,0	7,0	1000/1/1000
PDVPEF7010D	70	1,0	7,0	500/1/500



Oval insulation decking plates made of steel sheet, covered with aluminum-zinc corrosion coating.

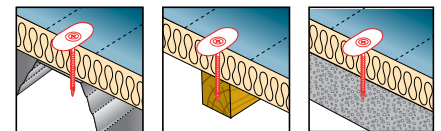
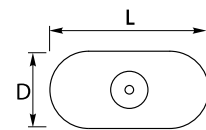
DVP

RECESSED, OVAL INSULATION DECKING PLATES

Designed for fastening insulation materials on flat roof applications, in combination with insulation screws.



Product designation	Washer				Package Separate/Quantity/Collective [pcs]
	D	L	H	d	
	[mm]	[mm]	[mm]	[mm]	
PDVPEF8040D	40	80	1,0	7	500/1/500



Round insulation decking plates made of steel sheet, covered with aluminum-zinc corrosion coating.

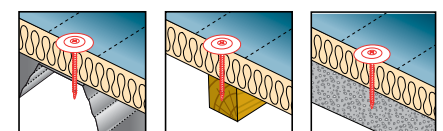
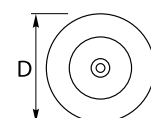
DVP

ROUND FLAT INSULATION DECKING PLATES

Designed for fastening insulation materials on flat roof applications, in combination with insulation screws.



Product designation	Washer			Package Separate/Quantity/Collective [pcs]
	D	H	d	
	[mm]	[mm]	[mm]	
PDVPEF4010N	40	1,0	7,0	1000/1/1000
PDVPEF5010N	50	1,0	7,0	1000/1/1000
PDVPEF7010N	70	1,0	7,0	500/1/500



DVP

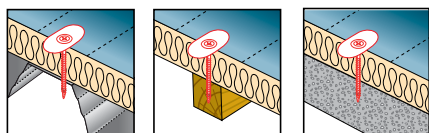
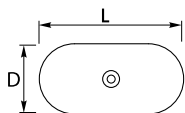
FLAT, OVAL INSULATION DECKING PLATES

Oval insulation decking plates made of steel sheet, covered with aluminum-zinc corrosion coating.



Designed for fastening insulation materials on flat roof applications, in combination with insulation screws.

Product designation	Washer				Package Separate/Quantity/Collective [pcs]
	D	L	H	d	
	[mm]	[mm]	[mm]	[mm]	
PDVPEF8040N	40	80	1,0	7,0	500/1/500



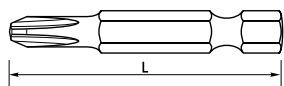
CROSS-CUT SCREWDRIVER BITS

Screwdrivers bits are made of high quality chrome vanadium steel, surface hardened, protected from corrosion.

Designed for use in screwdrivers. Used for correct screwing fasteners into the structure material.



Product designation	Bit		Package Separate/Quantity/ Collective [pcs]
	L	Type	
	[mm]		
P189502	50	PH2	5/1/5
P189510	100	PH2	1/1/1
P189515	150	PH2	1/1/1
P189520	200	PH2	1/1/1
P189525	250	PH2	1/1/1
P189530	300	PH2	1/1/1
P189535	350	PH2	1/1/1

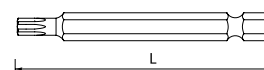


Screwdrivers bits are made of high quality chrome vanadium steel, surface hardened, protected from corrosion.

SCREWDRIVER BITS WITH TORX CUT

Designed for use in screwdrivers. Used for correct screwing fasteners into the structure material.

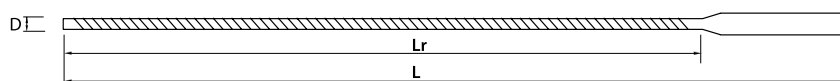
Product designation	Bit		Package Separate/Quantity/ Collective [pcs]
	L [mm]	Type	
P189001	100	TX25	1/1/1
P189002	150	TX25	1/1/1
P189003	200	TX25	1/1/1
P189004	250	TX25	1/1/1
P189005	300	TX25	1/1/1
P189008	350	TX25	1/1/1



Drills designed to carry out an initial hole in concrete.

DRILLS FOR CONCRETE

Product designation	Drill				Package Separate/Quantity/Collective [pcs]
	L [mm]	Lr [mm]	D [mm]	Mounting Type	
PSP223207	260	200	5	SDS+	1/1/1
PSP223206	300	250	5	SDS+	1/1/1
PSP223205	350	300	5	SDS+	1/1/1
PUP05160	160	100	5,5	SDS+	1/1/1
PUP05210	210	150	5,5	SDS+	1/1/1
PUP05260	260	200	5,5	SDS+	1/1/1
PUP05310	310	250	5,5	SDS+	1/1/1
PUP05410	410	350	5,5	SDS+	1/1/1
PUP08110	110	50	8	SDS+	1/1/1
PSP054052	110	50	8	SDS+	1/1/1
PWSDS8110	110	50	8	SDS+	1/1/1
PWSDS8210	210	150	8	SDS+	1/1/1
PWSDS8260	260	200	8	SDS+	1/1/1
PSP054055	260	200	8	SDS+	1/1/1

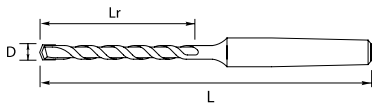


CONE DRILLS

Drills designed to carry out an initial hole in concrete.



Product designation	Drill				Package Separate/Quantity/Collective [pcs]
	L	Lr	D	Mounting	
	[mm]	[mm]	[mm]	Type	
P5X55X115	110	50	5	cone	1/1/1
P5X110X160	160	110	5	cone	1/1/1



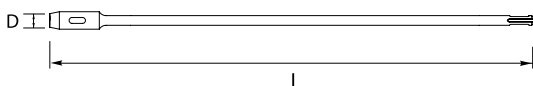
ADAPTER FOR CONE DRILLS

SDS adapter made of high quality material for use with cone drills.

Supplied with ejecting drift.



Product designation	Adapter				Drill mounting
	L	D	d	Element installation	
	[mm]	[mm]	[mm]	Type	
PZAK500	500	18	10	SDS+	Cone
PZAK800	800	18	10	SDS+	Cone





CHAPTER 3 - FASTENINGS

- Ⓞ STYRENE-FREE RESINS
- Ⓞ EXPANSION SLEEVES
- Ⓞ ANCHOR COMPOUND ACCESSORIES
- Ⓞ SHOOTING TECHNOLOGY



DESIGNED FOR CONCRETE AND STEEL

page designation name

STYRENE-FREE RESINS

112 **GTM-P** Styrene free vinylester resin
112 **GTM-V** Styrene free polyester resin

EXPANSION SLEEVES

113 **GD** Steel expansion sleeve
113 **GD-B** Brass expansion sleeve

ANCHOR COMPOUND ACCESSORIES

114 **FEEDER** Feeder
114 **BRUSH** Cleaning brush
115 **PUMP** Pump
115 **SLEEVE** Meshwork sleeve

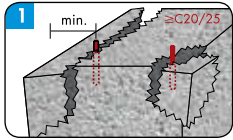
SHOOTING TECHNOLOGY

116 **HSBR 14** Nails shot into steel with washer
116 **P560** Powder actuated nail gun to steel (façade)
117 **P525 L** Powder actuated nail gun to steel (roof)
117 **AMMUNITION** Powder ammunition in disks

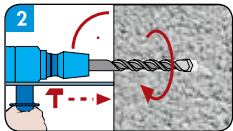
3

ASSEMBLY OF CHEMICAL ANCHORS

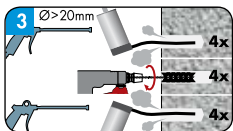
Suitability for use of chemical anchors can be assumed only if it has been installed in the following way:



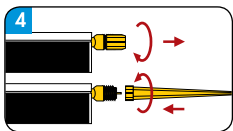
- Installation was performed by trained personnel under the supervision of the construction manager



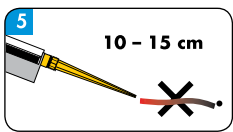
- Installation was executed, according to the manufacturer's instructions and drawings, using the tools indicated in the ETA-10/411 technical approval documentation.



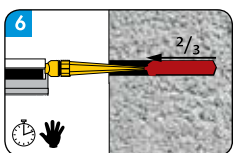
- Threaded studs and rebars meet the requirements of the ETA-10/411 technical approval.
- Assembly was performed using the anchoring set supplied by the manufacturer, without replacing components with different ones.



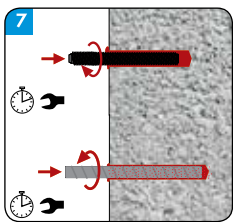
- Correct anchorage depth was marked on the rod. This operation can be performed by the bar manufacturer or an employee on site.
- Before embedding the chemical anchor the concrete substrate was checked to ensure that the concrete strength grade is not lower than that for which the characteristic loads were identified.



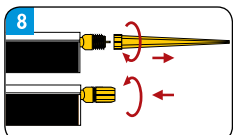
- A check was performed whether the concrete is well compacted, i.e. without significant voids.



- The anchorage depth marked on the rod is observed during embedding of the chemical rod.



- The distance from the edge and the spacing between anchors is not less than the specified values without minus tolerances.



- The holes were arranged in such a way as not to damage the reinforcement.

- The hole was drilled using a hammer drill.

- In the event of incorrectly drilled holes, they should be filled with chemical mortar.

- Before embedding the chemical anchor, the hole was cleaned using the procedure defined in the ETA-10/411 technical approval.

- During embedding and curing of the chemical mortar, the temperature is at least -10°C . The anchor can be loaded only after the lapse of the curing time indicated in Table 1.10

- Special adaptors were used to inject the chemical mortar into holes with diameter of $d_0 > 20\text{ mm}$. This applies to fixings made horizontally and in the ceiling.

- Correct operation of the chemical anchor does not require the use of an exact tightening torque. However, the tightening torque may not exceed the values specified in the ETA-10/411 approval.



Table 1
MINIMUM MORTAR GELLING AND CURING TIMES

The temperature of the concrete base	Gelling time (working time)	Minimum curing (setting) time in dry concrete	Minimum curing (setting) time in wet concrete
from -10°C to -5°C	90 min	24 h	48 h
from -5°C to 0°C	90 min	14 h	28 h
from 0°C to 5°C	45 min	7 h	14 h
from 5°C to 10°C	25 min	2 h	4 h
from 10°C to 20°C	15 min	80 min	160 min
from 20°C to 30°C	6 min	45 min	90 min
from 30°C to 35°C	4 min	25 min	50 min
from 35°C to 40°C	2 min	20 min	40 min
above 40°C	1,5 min	15 min	30 min

Table 2

THREADED ROD fixed in non-cracked concrete*

ASSEMBLY DATA

Diameter of threaded rod d [mm]	M8	M10	M12	M16	M20	M24	M27	M30
Diameter of drilled hole d_0 [mm]	10	12	14	18	24	28	32	35
Minimum embedding depth h_{ef} min. [mm]	60	60	70	80	90	96	108	120
Maximum embedding depth h_{ef} max. [mm]	160	200	240	320	400	480	540	600
Minimum member thickness h_{min} [mm]	$h_{ef} + 30 \text{ mm} \geq 100 \text{ mm}$			$h_{ef} + 2 \cdot d_0$				

COMBINED PULLOUT FAILURE AND CONCRETE CONE FAILURE

Temperature range I: max. short term temperature 40°C, max. long term temperature 24°C

Bond resistance in C20/25 concrete T_{Rk} [N/mm ²]	10	12	12	12	12	11	10	9
Recommended resistance for h_{ef} min. N_{RC} [kN]	7,2	9,0	12,6	19,1	26,9	31,6	36,3	40,4
Recommended resistance for h_{ef} max. N_{RC} [kN]	19,1	29,9	43,1	76,6	119,6	157,9	181,7	201,9
Partial safety factor λ_{Mc}	1,5				1,8			

Temperature range II: max. short term temperature 80°C, max. long term temperature 50°C

Bond resistance in C20/25 concrete T_{Rk} [N/mm ²]	7,5	9	9	9	9	8,5	7,5	6,5
Recommended resistance for h_{ef} min. N_{RC} [kN]	5,4	6,7	9,4	14,4	20,2	24,4	27,3	29,2
Recommended resistance for h_{ef} max. N_{RC} [kN]	14,4	22,4	32,3	57,4	89,7	122,0	136,3	145,8
Partial safety factor λ_{Mc}	1,5				1,8			

Threaded rods property class 5.8

Diameter of threaded rod d [mm]	M8	M10	M12	M16	M20	M24	M27	M30
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STEEL FAILURE

Recommended tension resistance N_{RC} [kN]	8,6	13,8	20,0	37,1	58,1	83,8	109,5	133,3
Partial safety factor $\lambda_{MS,V}$	1,5							

STEEL FAILURE WITHOUT LEVER ARM

Recommended shear resistance V_{RC} [kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Partial safety factor $\lambda_{MS,V}$	1,25							

STEEL FAILURE WITH LEVER ARM

Recommended bending moment M^0_{RC} [Nm]	10,9	21,1	37,1	94,9	185,1	320,0	476,0	641,7
Partial safety factor $\lambda_{MS,V}$	1,25							

*The data is valid only for fixing of a single anchor, without considering the combined effect of tensile and shear loads. The edge effect and spacing between anchors was not taken into account.

Table 3

REBARS - fixing in non-cracked concrete*

ASSEMBLY DATA

Diameter of threaded bar d [mm]	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
Diameter of drilled hole d ₀ [mm]	12	14	16	18	20	24	32	35	40
Minimum embedding depth h _{ef} min. [mm]	60	60	70	75	80	90	100	112	128
Maximum embedding depth h _{ef} max. [mm]	160	200	240	280	320	400	480	540	640
Minimum member thickness h _{min} [mm]	h _{ef} + 30 mm ≥ 100 mm		h _{ef} + 2 * d ₀						

COMBINED PULLOUT FAILURE AND CONCRETE CONE FAILURE

Temperature range I: short term temperature 40°C, long term temperature 24°C

Bond resistance in C20/25 concrete T _{Rk} [N/mm ²]	8,5	10	10	10	10	10	9	8	7
Recommended resistance for h _{ef} min. N _{RC} [kN]	6,1	7,5	10,5	13,1	15,9	22,4	28,0	31,3	35,7
Recommended resistance for h _{ef} max. N _{RC} [kN]	16,3	24,9	35,9	48,8	63,8	99,7	134,6	150,7	178,6
Partial safety factor λ _{MC}	1,5		1,8						

Temperature range II: short term temperature 80°C, long term temperature 50°C

Bond resistance in C20/25 concrete TR _k [N/mm ²]	6	7,5	7,5	7,5	7,5	7,5	7	6	5
Recommended resistance for h _{ef} min. N _{RC} [kN]	4,3	5,6	7,9	9,8	12,0	16,8	21,8	23,4	25,5
Recommended resistance for h _{ef} max. N _{RC} [kN]	11,5	18,7	26,9	36,6	47,8	74,8	104,7	113,0	127,6
Partial safety factor λ _{MC}	1,5		1,8						

Rebars class B and C (according to EN 1992-1-1 Annex C, Table C.1 and C2.N)

Diameter of reinforcing bar d [mm]	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø28	Ø32
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STEEL FAILURE

Recommended tension resistance BSt 500 S** N _{RC} [kN]	14,3	21,9	31,6	43,4	56,6	88,3	137,8	173,0	225,5
Partial safety factor λ _{M_{S,V}}	1,4								

STEEL FAILURE WITHOUT LEVER ARM

Recommended shear resistance BSt 500 S** V _{RC} [kN]	6,7	10,5	14,8	20,0	26,2	41,0	64,3	80,5	105,2
Partial safety factor λ _{M_{S,V}}	1,5								

STEEL FAILURE WITH LEVER ARM

Recommended bending moment for BSt 500 S** M ⁰ _{RC} [Nm]	15,7	31,0	53,3	84,8	126,2	246,7	481,9	677,1	1011,0
Partial safety factor λ _{M_{S,V}}	1,5								

* The data is valid only for fixing of a single anchor, without considering the combined effect of tensile and shear loads. The edge effect and spacing between anchors was not taken into account.

** BSt 500 S in accordance with DIN 488-2:1986 or E DIN 488-2:2006. For rebars which do not conform with DIN 488, values of N_{Rk,S}, V_{Rk,S} and M⁰_{Rk,S} should be calculated in accordance with the TR 029 Technical Report, equations 5.1; 5.5; 5.6b



Table 4

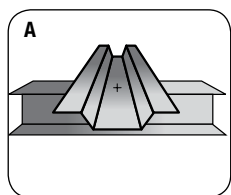
Threaded rod size	Compound consumption (examples of anchorage depth from the range indicated in approval) [ml]																				
	60	70	80	90	96	108	120	160	200	240	250	300	320	350	400	450	480	500	540	550	600
M8	2,8	3,2	3,7	4,1	4,4	4,9	5,5	7,3	-	-	-	-	-	-	-	-	-	-	-	-	-
M10	3,5	4,1	4,7	5,3	5,6	6,3	7,0	9,3	11,7	-	-	-	-	-	-	-	-	-	-	-	-
M12	-	5,1	5,8	6,5	7,0	7,8	8,7	11,6	14,5	17,4	-	-	-	-	-	-	-	-	-	-	-
M16	-	-	8,0	9,0	9,6	10,8	12,0	15,9	19,9	23,9	24,9	29,8	31,8	-	-	-	-	-	-	-	-
M20	-	-	-	18,8	20,1	22,6	25,1	33,4	41,7	50,1	52,2	62,6	66,8	73,0	83,4	-	-	-	-	-	-
M24	-	-	-	-	25,0	28,1	31,3	41,7	52,1	62,5	65,1	78,1	83,3	91,1	104,1	117,1	124,9	-	-	-	-
M27	-	-	-	-	-	37,5	41,6	55,5	69,3	83,2	86,7	104,0	110,9	121,3	138,6	155,9	166,3	173,3	187,1	-	-
M30	-	-	-	-	-	-	47,7	63,6	79,5	95,4	99,4	119,3	127,2	139,2	159,0	178,9	190,8	198,8	214,7	218,7	238,5
Effective embedding depth h_{ef} [mm]	60	70	80	90	96	108	120	160	200	240	250	300	320	350	400	450	480	500	540	550	600

Table 5

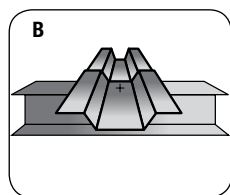
Size of rebar	Compound consumption (examples of anchorage depth from the range indicated in approval) [ml]																			
	60	70	75	80	90	100	112	128	160	200	240	280	300	320	350	400	480	500	540	640
Ø8	4,2	4,9	5,3	5,6	6,3	7,0	7,8	8,9	11,2	-	-	-	-	-	-	-	-	-	-	-
Ø10	5,0	5,9	6,3	6,7	7,5	8,4	9,4	10,7	13,4	16,7	-	-	-	-	-	-	-	-	-	-
Ø12	-	6,8	7,3	7,8	8,8	9,7	10,9	12,4	15,5	19,4	23,3	-	-	-	-	-	-	-	-	-
Ø14	-	-	8,3	8,9	10,0	11,1	12,4	14,2	17,7	22,2	26,6	31,0	-	-	-	-	-	-	-	-
Ø16	-	-	-	10,1	11,4	12,6	14,1	16,2	20,2	25,2	30,2	35,3	37,8	40,3	-	-	-	-	-	-
Ø20	-	-	-	-	13,9	15,4	17,2	19,7	24,6	30,7	36,9	43,0	46,1	49,1	53,8	61,4	-	-	-	-
Ø25	-	-	-	-	-	33,9	38,0	43,4	54,2	67,8	81,3	94,9	101,7	108,4	118,6	135,5	162,6	-	-	-
Ø28	-	-	-	-	-	-	41,9	47,9	59,9	74,9	89,8	104,8	112,3	119,7	131,0	149,7	179,6	187,1	202,0	-
Ø32	-	-	-	-	-	-	-	62,8	78,5	98,1	117,7	137,4	147,2	157,0	171,7	196,2	235,4	245,2	264,9	313,9
Effective embedding depth h_{ef} [mm]	60	70	75	80	90	100	112	128	160	200	240	280	300	320	350	400	480	500	540	640

SELECTION OF HSBR-14 NAILS FOR SHEET MOUNTING ON STEEL STRUCTURE

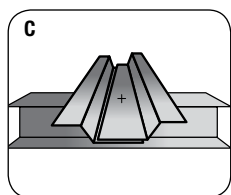
1. Make sure that the mounting meets the assumptions shown in the table below**



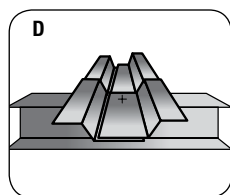
1 steel sheet mounting



2 steel sheets mounting



2 steel sheets mounting

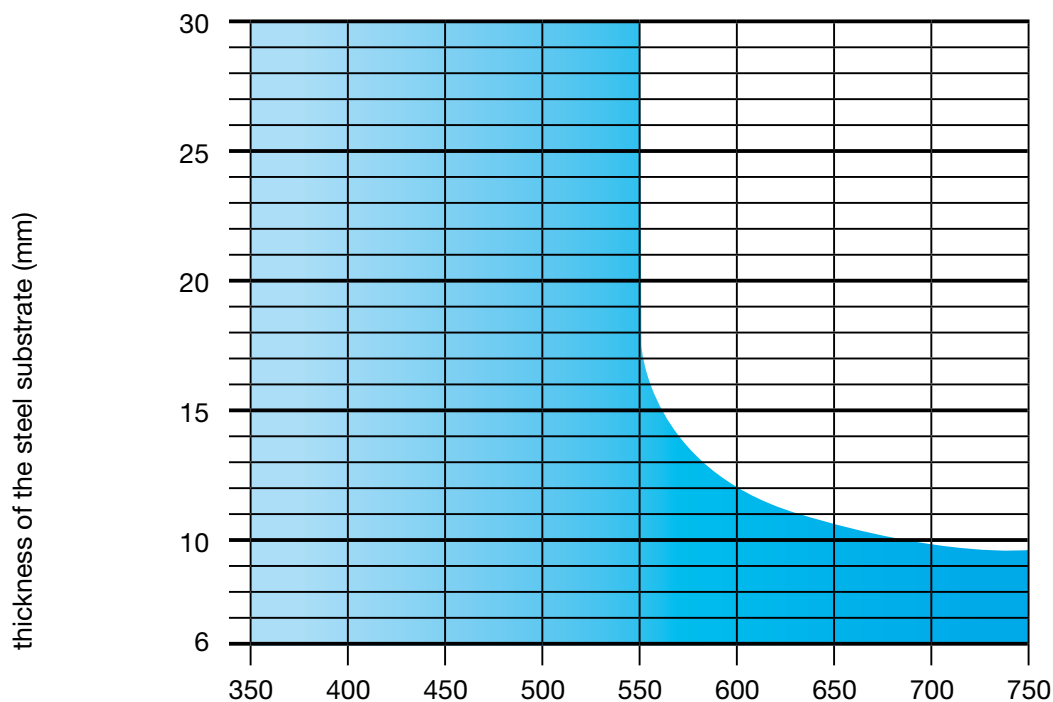


4 steel sheets mounting

thickness of mounted sheet (mm)	acceptable connection type
0,63	A B C D
0,75	A B C D
0,88	A B C D
1,00	A B C D
1,13	A
1,25	A
1,50	A
1,75	A
2,00	A
2,50	A

2. Make sure the nail is appropriate for the selected steel substrate (steel grade/ thickness)

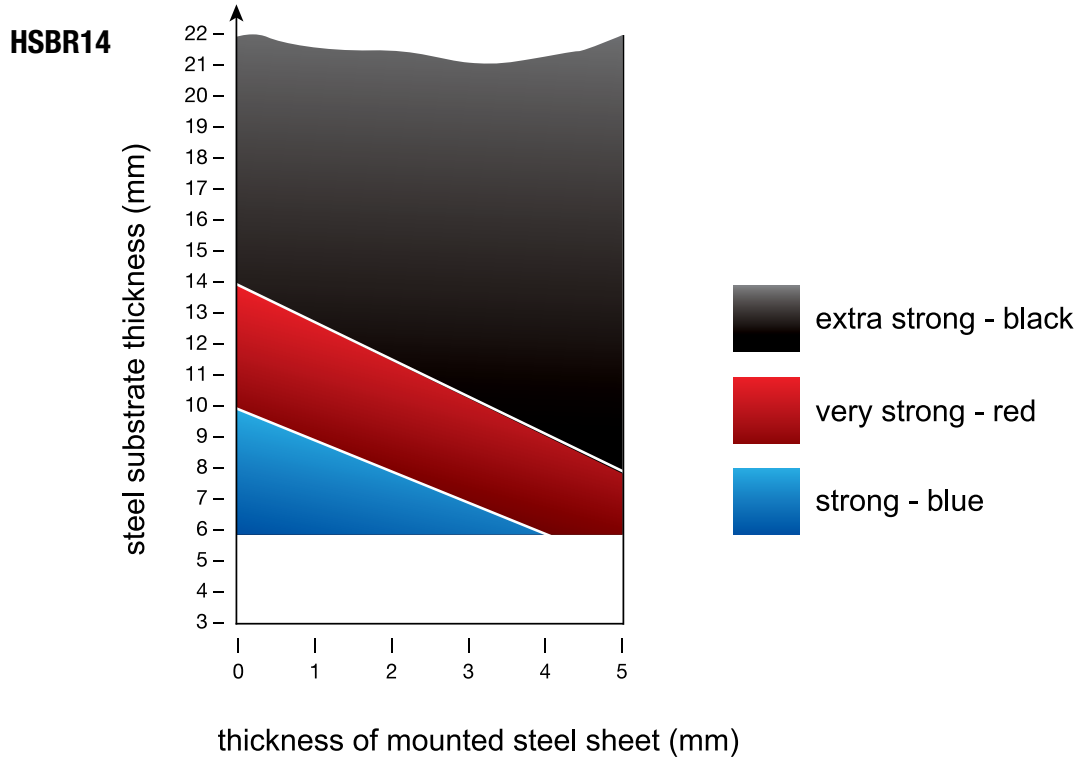
HSBR14



(1)	E24	E28	E360	A60
(2)	ST37	ST44	ST52	ST60
(3)	S235	S275	S355	E335

tensile strength of the base material (N/mm²)

SELECTION OF HSBR-14 NAILS FOR MOUNTING ON STEEL STRUCTURE*



* The quantity of SBR-14/HSBR-14 nails must be selected according to building design requirements and information provided in product technical approvals. Embedding of nails should be checked using a special test card. The nail head must be within a certain distance from the substrate. A correctly embedded nail provides full load bearing capacity.

** If the fastening does not meet the criteria specified in Table 1, the installation can be performed using appropriately selected (according to the construction project) drilling fasteners, self-drilling and self-tapping screws.

GTM-P

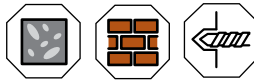
STYRENE FREE POLYESTER RESIN

Styrene free polyester mass is a double component (resin and hardener) chemical anchoring system on the basis of polyester resin.



Designed for mounting heavy and crucial elements (threaded bolts, rebar hooks) to the full substrate and with empty spaces, after prior preparation of a preliminary initial hole. Direct application of an anchoring mass on a full substrate. In case of empty spaces it is needed to apply special meshwork sleeve. Available in two different cartridges, of 310 ml capacity, designed for use with standard injection gun, and off 410 ml capacity, dedicated for use with special injection gun for chemical anchors. Each package of compound is bundled with one mixing device.

Product designation	Resin	Package Separate/Quantity/Collective [pcs]
	Capacity	
	D	
	[ml]	
PGTMP300	300	1/6/6
PGTMP410	410	1/12/12



GTM-V

STYRENE FREE VINYLESTER RESIN

Styrene free polyester mass is a double component (resin and hardener) chemical anchoring system on the basis of vinylester resin.



Designed for mounting heavy and crucial elements (threaded bolts, rebar hooks) to the full substrate after prior preparation of a preliminary initial hole. The resin can also be used in flooded holes. Available in cartridges of 410 ml capacity, designed for use with special injection gun for chemical anchors. Each package of compound is bundled with one mixing device.

Product designation	Resin	Package Separate/Quantity/Collective [pcs]
	Capacity	
	D	
	[ml]	
PGTMV410	410	1/12/12

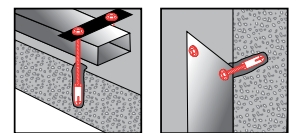
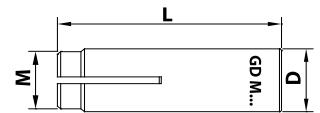


Expansion sleeves made of carbon steel with cone shank, electro-plated min 5 µm, with an internal metric thread.

GD STEEL EXPANSION SLEEVE

Designed for anchorages of statically loaded structural elements in non-cracked and cracked concrete. First, prepare the preliminary hole in the substrate.

Product designation	Sleeve			Package Separate/ Quantity/ Collective [pcs]
	D [mm]	L [mm]	M [mm]	
P160006	8	25	6	100/8/800
P160008	10	30	8	100/8/800
P160010	12	40	10	50/4/200
P160012	15	50	12	50/4/200

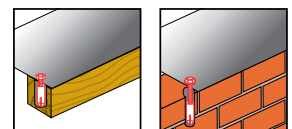
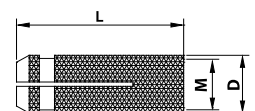


Brass expansion sleeves, grooved, with internal metric thread.

GD-B BRASS EXPANSION SLEEVE

Designed for anchorages of statically loaded constructions in wood and full ceramic brick.

Product designation	Sleeve			Package Separate/ Quantity/ Collective [pcs]
	D [mm]	L [mm]	M [mm]	
P161006	8	23	6	100/8/800
P161008	10	28	8	100/8/800
P161010	12	33	10	100/4/400
P161012	15	38	12	100/4/400



INJECTION GUN

Injection gun for anchoring mass of the capacity of 300 ml and 410 ml.

Dedicated for anchor compounds for fixing holes.



Product designation	Resin	Package Separate/ Quantity/Collective [pcs]
	Capacity	
	D	
	[ml]	
PCMA001	300	1/1/1
PCMA001	410	1/1/1

CLEANING BRUSH

Wire cleaning brush (cleaning rod).

Designed for pre-cleaning holes for the chemical anchor, from the dust formed during the drilling operation. Cleaning action carried out with a brush must be repeated three times, paying attention to thorough cleaning of the walls of the mounting hole.



Brush	Package Separate/ Quantity/Collective [pcs]
Diameter	
D	
[mm]	
10	1/1/1
13	1/1/1
18	1/1/1
28	1/1/1

Blow pump used for blowing out the drilled holes.

PUMP

Used for blowing out the drilled holes (final cleaning) to clean them from the dust and impurities resulting from the drilling process. The cleaning process carried out by means of a pump ought to be repeated three times and performed after prior cleaning of the whole by means of a cleaning brush (wire brush).

Product designation	Package		
	Separate	Quantity	Collective
	[pcs]	[pcs]	[pcs]
PCMA002	1	1	1

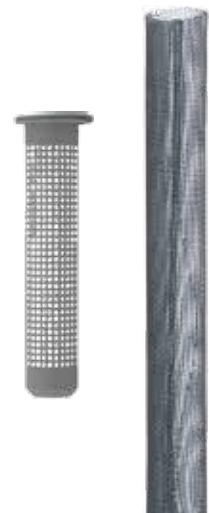


Meshwork sleeve made of steel or nylon.

MESHWORK SLEEVE

Designed for anchorages of statically loaded fixings, in materials with hollow spaces, i.e. hollow brick. Steel mesh sleeve can be cut to correct length, you must remember to properly fix its ending, in a manner that prevents release of the applied anchoring compound. Nylon meshwork expansion sleeve designed for standard fixing of depth up to 135 [mm]

Diameter D [mm]	Sleeve		Material	Package Separate/ Quantity/ Collective [pcs]
	Length L [mm]			
12	1000		Fe	1/1/1
16	1000		Fe	1/1/1
22	1000		Fe	1/1/1
26	1000		Fe	1/1/1
12	50		Nylon	1/1/1
12	80		Nylon	1/1/1
15	85		Nylon	1/1/1
15	135		Nylon	1/1/1
20	85		Nylon	1/1/1



HSBR 14

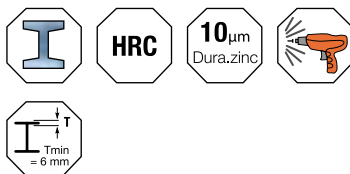
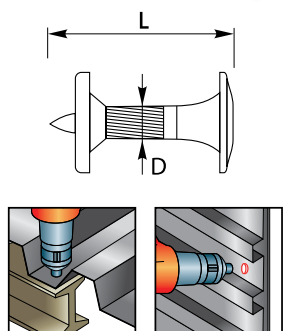
NAILS DEDICATED FOR SHOOTING INTO STEEL WITH WASHER

Powder actuated nails made of hardened carbon steel, electroplated, with a rolled shank, flat head and a wide steel washer. Electroplated nails.

Designed for fixing corrugated structural steel sheets to steel structures using SPIT P230, P560, P525L, P230L, P560L powder actuated tools.



Product designation	Fastener				Package Separate/Quantity/Collective [pcs]
	Diameter	Length	Type	Min. substrate thickness	
	D	L		Tmin	
	[mm]	[mm]		[mm]	
PSP011390	4,5	25	in bulk	6	1000/1/1000
PSP53953	4,5	25	in stripes	6	1000/1/1000



P560

POWDER ACTUATED TOOL (FAÇADE)

Façade powder actuated guns with simple and proven design.

Designed for shooting nails type HSBR 14 into steel structures. Model P560 allows shooting HSBR nails in 14 strips.



Product designation	Gun		
	Model	Torque	Weight
		[J]	[kg]
PSP013891	P560	560	3,7

available ammunition colours:



Roof powder actuated nail gun with nails container to work in a standing position with simple and proven design.

P 525L

POWDER ACTUATED TOOL FOR STEEL (ROOF)

Designed for powder-actuated nails type HSBR 14 to steel structures. Recommended for flat roof works. Nails should be provided in tubes.

Product designation	Gun		
	Model	Torque	Weight
		[J]	[kg]
PSP010301	P525L	520	10,5



available ammunition colours:

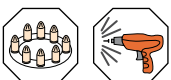


Powder charges in the form of shells mounted on a steel disk. Different colours mean different power of the charge.

POWDER AMMUNITION IN DISKS

For use in SPITP230, P560, P525L, P230L, P560L guns.

Product designation	Ammunition			Package Separate/ Quantity/ Collective [pcs]
	Diameter	Torque	Colour	
	[mm]	[in a scale]		
PSPAM165	6,3		blue	10/10/100
PSPAM166	6,3		red	10/10/100
PSPAM167	6,3		black	10/10/100





CHAPTER 4 - FASTENINGS

- Ⓞ WOOD AND CHIPBOARD SCREW
- Ⓞ TERRACE SCREW
- Ⓞ CARPENTRY JOINTS SCREW
- Ⓞ NORDIC SCREW
- Ⓞ CONSTRUCTION SCREW
- Ⓞ ACCESSORIES



FOR WOOD STRUCTURES

page designation name

WOOD AND CHIPBOARD SCREW

122 **TURBOFIX** Wood and chipboard screw countersunk

TERRACE SCREW

123 **TERRACE SCREW** Wood screw for terrace boards countersunk - TDG

123 **TERRACE SCREW** Wood screw for terrace boards countersunk

CARPENTRY JOINTS SCREW

124 **ANCHOR** Anchor carpentry joints screw

NORDIC SCREW

125 **NORDIC SCREW** Wood screw countersunk - TDG

126 **NORDIC SCREW** Wood screw hexagonal head - TDG

CONSTRUCTION SCREW

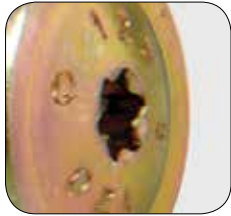
127 **TOP GT W** Wood screw washer head - WCS

128 **TOP GT C** Wood screw countersunk - WCS

ACCESSORIES

129 Torx cut screwdriver bits





TORX SOCKET

- increased depth of the socket improves mounting properties
- assures faster and more reliable screw mounting on wooden substrate



INTEGRATED WASHER HEAD

- increases the screw strength by about 20% for pulling screw head through wood, in accordance with the norm 14592:2008 (as compared to countersunk screw)



MILLING CUT

- drills the hole reducing mounting force, which significantly facilitates installation in wood substrates
- available in all sizes (from 80 to 400 [mm])



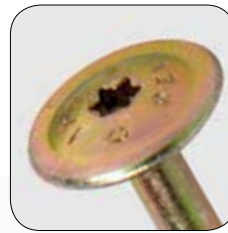
SELF-CUTTING THREAD

- optimally matched to installation in wood substrates
- breaks the wooden shavings formed in the process of screwing
- prevents wood splitting
- coated with a special wax for easy installation in wood



DRILLING TIP

- protective layer of zinc coating does not wear off during drilling
- thread, which is an extension of the tip, facilitates drilling initiation and prevents slipping of the drill
- special milling cut prevents wood from splitting



GUNNEBO FASTENING

- GUNNEBO FASTENING brand stands for more than 250 years of tradition in production of various types of fasteners
- the GUNNEBO FASTENING products can be easily identified through their characteristic marking
- strict production control carried out by the in-house laboratory guarantees high quality products
- each production batch is assigned a unique number, which allows its precise identification
- our products comply with European standard EN 14592: 2008, and confirmation of their quality parameters is labelling our products with the CE mark



MILLING RIBS

- facilitate penetration of the screw head in wood surface



ZINC COATING DURA.ZINC

- the most important basic protection against rust
- minimum 3 µm of zinc provided
- in environment of low aggression level (e.g. indoors) the layer wear amounts below 0,1µm of zinc coating a year
- additionally, chromium passivation (yellow) increases anti-corrosion protection of products



Permanent and stable connection of wooden elements does not always require the use of labour consuming carpentry fastenings. It is perfectly enough to apply proper fasteners for wood for many wooden structures.

Fasteners for wood replace complicated carpentry connections, performed by qualified specialists exclusively. Fasteners enable performing reliable wooden constructions even to a beginner DIY-enthusiast. What is more, they also enable reduction of wood consumption using wooden elements of smaller thickness maintaining the same bearing capacity.

The entire range of components for wood fastening can be classified based on the application type, intended load, or more specific criteria as follows:

- **material of the screw:**
 - carbon steel
 - stainless steel
- **tip type:**
 - full
 - with drilling cut
- **type and thickness of anti-corrosion coating:**
 - electrolytically galvanized-Dura.zinc
 - hot-dip galvanized-Dura.HDG
 - additional protection coatings, for example gRey.coat
- **head type:**
 - washer head
 - countersunk
- **thread type:**
 - full
 - self-cutting
- **type of head cut:**
 - PZ-Pozidriv
 - PH-Phillips
 - TX-Torx
- **thread type:**
 - smooth
 - knurled
 - milling
- **application types:**
 - indoors
 - outdoors

Classification in terms of use

■ Inside the building:



Elements of roof structure



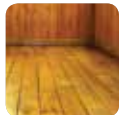
Ceilings



Walls and particle boards



Structural beams



Floors

■ Outside the building:



Façade



Terraces

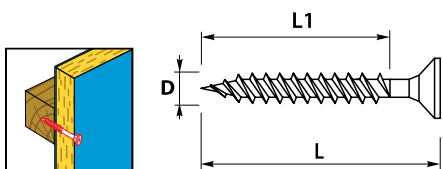
Hardened carbon steel screw with cutpoint, thread for timber, countersunk with PZ cut. Yellow galvanized screws.



Designed for fixing various timber components, timber-like elements, timber constructions or chipboard inside the buildings.

Product designation	Fastener					Package Separate/ Quantity/ Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]	[mm]	
P13130160PL	3	16	10,5	12	PZ1	500/8/4000
P13130200PL	3	20	14,5	12	PZ1	500/8/4000
P13130250PL	3	25	19,5	12	PZ1	500/8/4000
P13130300PL	3	30	24,5	12	PZ1	500/8/4000
P13130350PL	3	35	29,5	12	PZ1	500/8/4000
P13130400PL	3	40	34,5	12	PZ1	500/8/4000
P13135160PL	3,5	16	9,8	14	PZ2	500/8/4000
P13135200PL	3,5	20	13,8	14	PZ2	500/8/4000
P13135250PL	3,5	25	18,8	14	PZ2	500/8/4000
P13135300PL	3,5	30	23,8	14	PZ2	500/8/4000
P13135350PL	3,5	35	28,8	14	PZ2	500/8/4000
P13135400PL	3,5	40	33,8	14	PZ2	500/8/4000
P13135450PL	3,5	45	38,8	14	PZ2	500/8/4000
P13135500PL	3,5	50	43,8	14	PZ2	500/6/4000
P13140160PL	4	16	9,0	16	PZ2	500/8/4000
P13140200PL	4	20	13,0	16	PZ2	500/8/4000
P13140250PL	4	25	18,0	16	PZ2	500/8/4000
P13140300PL	4	30	23,0	16	PZ2	500/8/4000
P13140350PL	4	35	28,0	16	PZ2	500/8/4000
P13140400PL	4	40	33,0	16	PZ2	500/8/4000
P13140450PL	4	45	38,0	16	PZ2	500/8/4000
P13140500PL	4	50	43,0	16	PZ2	400/6/2400
P13140550PL	4	55	48,0	16	PZ2	400/6/2400
P13140600PL	4	60	53,0	16	PZ2	300/6/1800
P13145160PL	4,5	16	8,4	18	PZ2	500/8/4000
P13145200PL	4,5	20	12,4	18	PZ2	500/8/4000
P13145250PL	4,5	25	17,4	18	PZ2	500/8/4000
P13145300PL	4,5	30	22,4	18	PZ2	500/8/4000
P13145350PL	4,5	35	27,4	18	PZ2	400/8/3200

Product designation	Fastener					Package Separate/ Quantity/ Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]	[mm]	
P13145400PL	4,5	40	32,4	18	PZ2	400/8/3200
P13145450PL	4,5	45	37,4	18	PZ2	400/6/2400
P13145500PL	4,5	50	42,4	18	PZ2	400/6/2400
P13145600PL	4,5	60	52,4	18	PZ2	250/6/1500
P13150250PL	5	25	16,6	20	PZ2	500/8/4000
P13150300PL	5	30	21,6	20	PZ2	500/6/3000
P13150350PL	5	35	26,6	20	PZ2	500/8/4000
P13150400PL	5	40	31,6	20	PZ2	250/8/2000
P13150450PL	5	45	36,6	20	PZ2	250/8/2000
P13150500PL	5	50	41,6	20	PZ2	250/8/2000
P13150600PL	5	60	51,6	20	PZ2	200/8/1600
P13150700PL	5	70	61,6	20	PZ2	200/6/1200
P13150800PL	5	80	71,6	20	PZ2	200/6/1200
P13150900PL	5	90	81,6	20	PZ2	150/6/900
P13151000PL	5	100	91,6	20	PZ2	150/4/600
P13160300PL	6	30	20,4	24	PZ3	150/4/600
P13160350PL	6	35	25,4	24	PZ3	250/8/2000
P13160400PL	6	40	30,4	24	PZ3	250/8/2000
P13160500PL	6	50	40,4	24	PZ3	150/8/1200
P13160600PL	6	60	50,4	24	PZ3	150/8/1200
P13160700PL	6	70	60,4	24	PZ3	150/6/900
P13160800PL	6	80	70,4	24	PZ3	150/6/900
P13160900PL	6	90	80,4	24	PZ3	150/6/900
P13161000PL	6	100	92,0	24	PZ3	150/4/600
P13161200PL	6	120	92,0	24	PZ3	150/4/600
P13161300PL	6	130	92,0	24	PZ3	150/4/600
P13161400PL	6	140	92,0	24	PZ3	100/4/400
P13161500PL	6	150	92,0	24	PZ3	150/4/600
P13161600PL	6	160	92,0	24	PZ3	100/4/400



Hardened carbon steel screw with drilling point, thread for timber, ribbed countersunk head with TX cut. Galvanized by means of thermodiffusion.

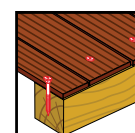
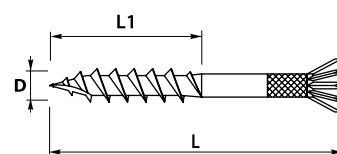
TERRACE SCREW

COUNTERSUNK SCREW FOR TERRACE BOARDS

Designed for fastening terrace boards to wooden substrate. Terrace screw with cutpoint which drives the screw effectively into woodwork and prevents splitting. Thread is equipped with knurled part which prevents movement of the boards and the probability of creaking. Milling ribs facilitate penetration of the screw head into timber structure.



Product designation	Fastener					Package Separate/ Quantity/ Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]		
141010PL	4,8	35	25	20	TX25	200/8/1600
141020PL	4,8	45	25	20	TX25	200/8/1600
141030PL	4,8	55	30	20	TX25	200/8/1600
141040PL	4,8	75	40	20	TX25	150/8/1200



Stainless steel drilling screw with saw thread for timber and countersunk head with TX cut.

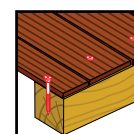
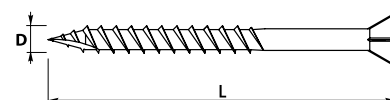
TERRACE SCREW

STAINLESS SCREW COUNTERSUNK FOR TERRACE BOARDS

Designed for fastening terrace boards and outdoor covering to wooden substrate, in marine environment and contaminated industrial atmosphere. Terrace screw with cutpoint which drives the screw effectively into woodwork and prevents splitting. Milling ribs facilitate penetration of the screw head into timber structure. Stainless steel terrace screw does not change the colour around the head, even in precious types of wood such as oak, cedar or larch.



Product designation	Fastener				Package Separate/ Quantity/ Collective [pcs]
	D	L	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]		
28670PL	4,2	45	20	TX20	250/8/2000
28680PL	4,2	55	20	TX20	250/8/2000
28690PL	4,8	75	20	TX20	100/8/800

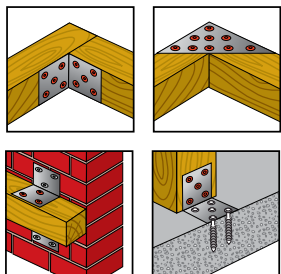
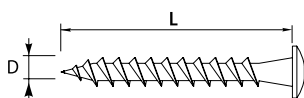




Dedicated for carpentry joints fitting. The design of the head and thread provides the most reliable and secure fixing.

Product designation	Fastener				Package Separate/Quantity/Collective [pcs]
	D	L	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]		
7254	5,0	35	20	TX20	250/8/2000
7255	5,0	40	20	TX20	250/8/2000
7257	5,0	45	20	TX20	250/8/2000

Resistance to pull-out and shear force of steel plate fasteners of 2-5 [mm] thickness on a wooden substrate, performed by anchor-type fasteners (wood with a density of 370 kg/m³, humidity 15 +/- 3%)



ANCHOR fastener	Shear-tension strength		Shear-tension strength	
	characteristic	calculative	characteristic	calculative
D x L [mm]	[kN]	[kN]	[kN]	[kN]
5,0 x 35	1,80	1,05	1,96	1,14
5,0 x 40	2,00	1,27	2,35	1,37
5,0 x 45	2,20	1,31	2,73	1,59



Hardened carbon steel screw with cutpoint, with thread for timber, countersunk head and ribbed cup head with TX cut. Galvanized by means of thermodiffusion.

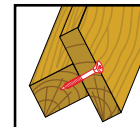
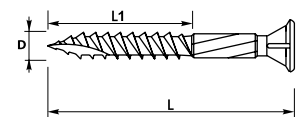
NORDIC SCREW

WOOD SCREWS COUNTERSUNK

Designed for mounting light and heavy wooden constructions to wooden substrate (min. C24) indoors and outdoors. Nordic screw with cutpoint which drives the screw effectively into woodwork and prevents splitting. Screw with saw thread that drills the hole reducing torque, which significantly facilitates installation in wood substrates. Milling ribs enable easy penetration of the screw head into timber structure.



Product designation	Fastener					Package Separate/Quantity/Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]		
141050PL	5,0	55	30	20	TX25	150/8/1200
141060PL	5,0	75	50	20	TX25	150/8/1200
149680PL	5,0	80	40	20	TX25	150/8/1200
141070PL	5,0	90	45	20	TX25	150/6/900
141080PL	5,0	100	50	20	TX25	150/6/900
141090PL	5,0	120	50	20	TX25	150/4/600
141100PL	5,0	140	50	20	TX25	150/4/600
141110PL	6,0	45	30	25	TX30	100/8/800
141120PL	6,0	55	30	25	TX30	100/8/800
141130PL	6,0	75	30	25	TX30	100/8/800
149690PL	6,0	80	40	25	TX30	100/6/600
141140PL	6,0	90	45	25	TX30	100/6/600
149700PL	6,0	100	50	25	TX30	100/4/400
141150PL	6,0	110	50	25	TX30	50/6/300
141160PL	6,0	120	50	25	TX30	50/4/200
141170PL	6,0	140	50	25	TX30	50/4/200



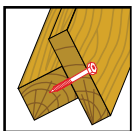
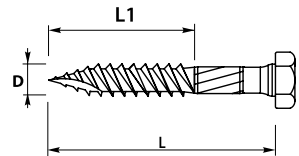
NORDIC SCREW

WOOD SCREW WITH HEXAGONAL HEAD

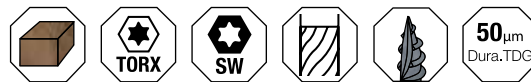
Hardened carbon steel screw with cutpoint, thread for timber and hexagonal head with TX cut. Galvanized by means of thermodiffusion.



Designed for fixing heavy and load-bearing timber structures such as stairs, laminate wood constructions, patio awnings, to the wooden substrate (min. 24) indoors and outdoors. NORDIC screw with cutpoint which drives the screw effectively into woodwork and prevents splitting. Saw thread drills the hole reducing torque, which significantly facilitates installation in wood substrates. Hexagonal head increases downforce of the screw into timber structure.



Product designation	Fastener					Package Separate/Quantity/Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]		
141180PL	6	50	30	25	TX30	100/8/800
141190PL	6	65	30	25	TX30	100/8/800
141200PL	8	35	30	32	TX30	50/8/400
141210PL	8	45	30	32	TX30	50/8/400
141220PL	8	55	30	32	TX30	50/8/400
141230PL	8	75	45	32	TX30	50/6/300
141240PL	8	100	60	32	TX30	50/6/300
141250PL	8	130	70	32	TX30	50/4/200
141260PL	10	40	30	40	TX40	50/8/400
141270PL	10	50	30	40	TX40	50/8/400
141280PL	10	75	45	40	TX40	25/6/150
141290PL	10	90	60	40	TX40	25/6/150
141300PL	10	120	60	40	TX40	25/4/100
141310PL	10	150	60	40	TX40	25/4/100



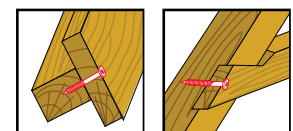
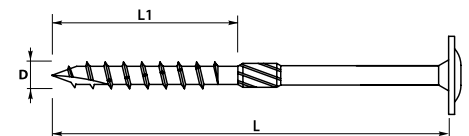
Hardened carbon steel screw with cutpoint, with thread for timber, washer head and TX cut. Yellow galvanized screws.

TOP GT W
WOOD SCREW WITH WASHER HEAD

Designed for mounting light and heavy timber constructions to timber substrate inside the building. TOP GT screws with cutpoint which prevents wood splitting and drives the screw effectively into woodwork. Saw thread drills the hole reducing torque, which significantly facilitates installation in timber substrates. Plate head increases downforce of the screw into the timber, and increases load capacity to drag the screw head through wood.



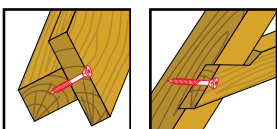
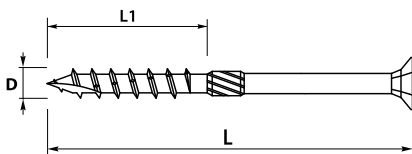
Product designation	Fastener					Package Separate/Quantity/Collective [pcs]	Product designation	Fastener					Package Separate/Quantity/Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type			D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]				[mm]	[mm]	[mm]	[mm]		
P1360600PL	6	60	42	25	TX30	50/4/200	P1312400PL	8	240	80	35	TX40	50/1/50
P1360800PL	6	80	50	25	TX30	50/4/200	P1312600PL	8	260	80	35	TX40	50/1/50
P1361000PL	6	100	50	25	TX30	50/4/200	P1312800PL	8	280	80	35	TX40	50/1/50
P1361200PL	6	120	50	25	TX30	50/4/200	P1313000PL	8	300	80	35	TX40	50/1/50
P1361400PL	6	140	70	25	TX30	50/1/50	P1313200PL	8	320	80	35	TX40	50/1/50
P1361600PL	6	160	70	25	TX30	50/1/50	P1313400PL	8	340	80	35	TX40	50/1/50
P1361800PL	6	180	70	25	TX30	50/1/50	P1313600PL	8	360	80	35	TX40	50/1/50
P1362000PL	6	200	70	25	TX30	50/1/50	P1313800PL	8	380	80	35	TX40	50/1/50
P1362200PL	6	220	70	25	TX30	50/1/50	P1314000PL	8	400	80	35	TX40	50/1/50
P1362400PL	6	240	70	25	TX30	50/1/50	P1341600PL	10	160	80	40	TX40	50/1/50
P1362600PL	6	260	70	25	TX30	50/1/50	P1341800PL	10	180	80	40	TX40	50/1/50
P1362800PL	6	280	70	25	TX30	50/1/50	P1342000PL	10	200	80	40	TX40	50/1/50
P1363000PL	6	300	70	25	TX30	50/1/50	P1342200PL	10	220	80	40	TX40	50/1/50
P1310800PL	8	80	50	35	TX40	50/4/200	P1342400PL	10	240	80	40	TX40	50/1/50
P1311000PL	8	100	50	35	TX40	50/4/200	P1342600PL	10	260	80	40	TX40	50/1/50
P1311200PL	8	120	80	35	TX40	50/4/200	P1342800PL	10	280	80	40	TX40	50/1/50
P1311400PL	8	140	80	35	TX40	50/1/50	P1343000PL	10	300	80	40	TX40	50/1/50
P1311500PL	8	150	80	35	TX40	50/1/50	P1343400PL	10	340	80	40	TX40	50/1/50
P1311600PL	8	160	80	35	TX40	50/1/50	P1343600PL	10	360	80	40	TX40	50/1/50
P1311800PL	8	180	80	35	TX40	50/1/50	P1343800PL	10	380	80	40	TX40	50/1/50
P1312000PL	8	200	80	35	TX40	50/1/50	P1344000PL	10	400	80	40	TX40	50/1/50
P1312200PL	8	220	80	35	TX40	50/1/50							





Designed for mounting light and heavy timber constructions to timber substrate inside the building. TOP GT screws with cutpoint which prevents wood splitting and drives the screw effectively into woodwork. Saw thread drills the hole reducing torque, which significantly facilitates installation in timber substrates. Milling ribs enable easy penetration of the screw head into timber structure.

Product designation	Fastener					Package Separate/Quantity/Collective [pcs]
	D	L	L1	Min. anchoring depth	Head type	
	[mm]	[mm]	[mm]	[mm]		
P1352000PL	6	200	70	25	TX30	50/1/50
P1352200PL	6	220	70	25	TX30	50/1/50
P1352400PL	6	240	70	25	TX30	50/1/50
P1352600PL	6	260	70	25	TX30	50/1/50
P1352800PL	6	280	70	25	TX30	50/1/50
P1353000PL	6	300	70	25	TX30	50/1/50
P1331000PL	8	100	50	35	TX40	50/4/200
P1331200PL	8	120	80	35	TX40	50/4/200
P1331400PL	8	140	80	35	TX40	50/1/50
P1331500PL	8	150	80	35	TX40	50/1/50
P1331600PL	8	160	80	35	TX40	50/1/50
P1331800PL	8	180	80	35	TX40	50/1/50
P1332000PL	8	200	80	35	TX40	50/1/50
P1332200PL	8	220	80	35	TX40	50/1/50
P1332400PL	8	240	80	35	TX40	50/1/50
P1332600PL	8	260	80	35	TX40	50/1/50
P1332800PL	8	280	80	35	TX40	50/1/50
P1333000PL	8	300	80	35	TX40	50/1/50
P1333200PL	8	320	80	35	TX40	50/1/50
P1333400PL	8	340	80	35	TX40	50/1/50
P1333600PL	8	360	80	35	TX40	50/1/50
P1333800PL	8	380	80	35	TX40	50/1/50
P1334000PL	8	400	80	35	TX40	50/1/50
P1321600PL	10	160	80	40	TX40	50/1/50
P1321800PL	10	180	80	40	TX40	50/1/50
P1322000PL	10	200	80	40	TX40	50/1/50
P1322200PL	10	220	80	40	TX40	50/1/50
P1322400PL	10	240	80	40	TX40	50/1/50
P1322600PL	10	260	80	40	TX40	50/1/50
P1322800PL	10	280	80	40	TX40	50/1/50
P1323000PL	10	300	80	40	TX40	50/1/50
P1323400PL	10	340	80	40	TX40	50/1/50
P1323600PL	10	360	80	40	TX40	50/1/50
P1323800PL	10	380	80	40	TX40	50/1/50
P1324000PL	10	400	80	40	TX40	50/1/50

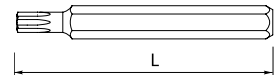


Screwdrivers bits are made of high quality chrome vanadium steel, surface hardened, protected from corrosion.

SCREWDRIVER BITS WITH TORX CUT

Designed for use in screwdrivers. Used for correct screwing fasteners into the structure material.

Product designation	Bit		Package Separate/Quantity/ Collective [pcs]
	L [mm]	Type	
B006224	25	TX20	1/1/1
B006227	25	TX25	1/1/1
B006221	25	TX30	1/1/1
B006222	25	TX40	1/1/1





CHAPTER 5 - FIXINGS

- Ⓞ CONSTRUCTION NAILS
- Ⓞ CLOUT NAILS
- Ⓞ ROOFING NAILS
- Ⓞ CARPENTRY JOINTS NAILS
- Ⓞ HARDENED NAILS



CONSTRUCTION - NAILS

page designation name

CONSTRUCTION NAILS

134 Construction nails, Swedish type
134 Black, round construction nails

CLOUT NAILS

135 Hot-dip galvanized twisted nails for shingles
135 Electroplated twisted nails for shingles
136 Hot-dip galvanized clout nails for shingles

ROOFING NAILS

137 **ONDUFIX** Nails for corrugated sheets
137 Nails for roofing panels
138 Hot dip galvanized roofing nails with EPDM washers

CARPENTRY JOINTS NAILS

138 **ANCHOR** ANCHOR nails for carpentry joints

HARDENED NAILS

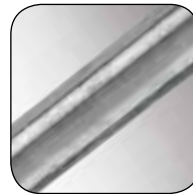
139 Hardened nails, yellow galvanized
139 Hardened construction nails
140 Hardened rolled nails
140 Hardened rolled nails with a washer head

5



GUNNEBO FASTENING

- GUNNEBO FASTENING brand stands for more than 250 years of tradition in manufacturing of various types of fasteners
- the GUNNEBO FASTENING products can be easily identified through their characteristic marking
- strict production control carried out by the in-house laboratory guarantees high quality products
- each production batch is assigned a unique number, which allows its precise identification



THE HIGHEST QUALITY MATERIAL

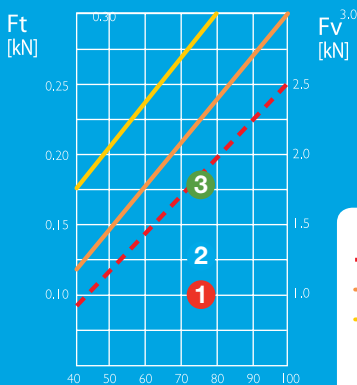
- GUNNEBO FASTENING mark stands both for the highest quality of the Swedish raw material and the extraordinary workmanship of fastener production
- stringent quality control procedures in accordance with ISO procedures
- guarantee of unchanged parameters of connection for at least 35 years

GALVANIC COAT DURA.HDG 50 μm

- superior corrosion protection
- cost-effective solution compared to the more expensive stainless steel nails
- modern technology and strict production control ensures stable quality of coating
- increased value of the pull force

SQUARE SHANK PROFILE

- unique shape drawing from the rich experience of construction in the Nordic countries
- increases resistance of the nail to bending
- improves the basic technical parameters (shear and pull strength)
- ensures 25-30% greater number of nails per one kilogram



INCREASED PULL FORCE (FT)

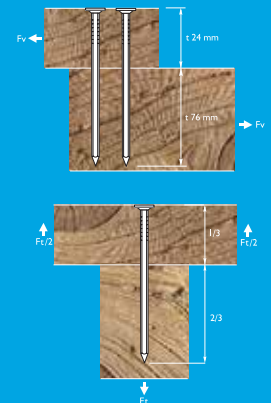
pull force is directly proportional to the anchorage depth (L) and to the square of the nail diameter (Ø)

$$F_t = \varnothing (L - 1,5 \varnothing) \varphi t k [N]$$

Nail type	$\varphi t k$
--- round	0.8
— square (Swedish type)	1.0
— ring shank CO	2.0
— ring-shank CE	3.0
Gunnebo Fastening ANCHOR	8.0

INCREASED SHEAR FORCE (FV)

- 1 traditional round nail 100-3,4 $F_v=1,00$ kN
- 2 profiled nail Swedish type 100-3,4 $F_v=1,20$ kN
- 3 ring-shank nail 100-3,4 $F_v=1,75$ kN



QUALITY CERTIFIED FOR YEARS...

One of the most important tests to determine the corrosion resistance of construction fasteners is the so called Kesternich test which takes place in a humidity chamber. The test is carried out in accordance with the DIN 50018-2,.OS standard. The fasteners are subjected to the action of high temperature and aggressive sulphur dioxide vapours in order to accelerate the corrosion processes. After each cycle of 24 hours, fasteners are assessed for the presence of red rust. If the corrosion is less than 15% of the fastener surface, the cycle is considered as successfully closed.



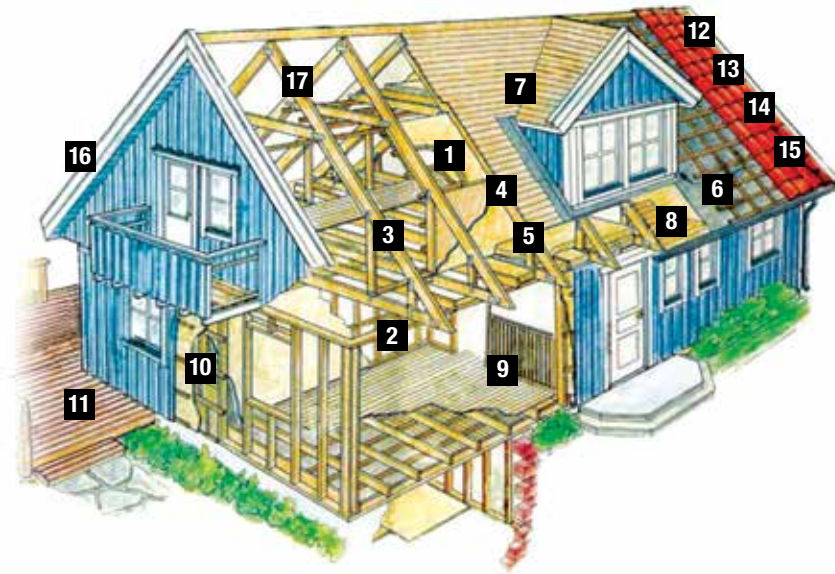
Nail samples after 24 hours (1 cycle) in the humidity chamber



Nail samples after 96 hours (4 cycles) in the humidity chamber



Nail samples after 168 hours (7 cycles) in the humidity chamber



	FASTENED MATERIAL	FASTENER TYPE	SIZE EXAMPLE	RECOMMENDED QUANTITY
1	RAFTERS	Profiled nails, Construction screws	6,0x200	according to design
2	STRUCTURAL BEAMS	Profiled nails, Construction screws	3,1x90	15-20/m ²
3	CEILING BOARDS	Profiled nails	2,8x75	15-20/m ²
4	CEILING CHIPBOARDS	Profiled nails	2,9x65	18/m ²
5	CHIPBOARD SOFFIT	Clout nails	3,1x35	20/m ²
6	BATTENS/COUNTERBATTENS	Profiled nails	3,1x90	6-11/m ²
7	FULL FORMWORK, OSB	Profiled nails	2,8x75	16-19/m ²
8	ROOFING MEMBRANE	Clout nails	3,1x19	30/m ²
9	FLOOR BOARDS	Profiled nails	2,3x60	20/m ²
10	FACADE BOARDS	Profiled nails	2,9x65, 2,9x75	15-20/m ²
11	TARRACE BOARDS	Profiled nails	4,8x55	30/m ²
12	METALLIC TILE	Farmer screws	4,8x35, 4,8x20	6-8/m ²
13	ROOFING FELT SHINGLES	Twisted nails for roof-felt shingles, Clout nails	3,5x25	1kg/7-10m ²
14	BITUMINOUS CORRUGATED SHEETS	Ondufix	3,1x70	13/m ²
15	PANTILE SHEETING WITH CERAMIC FINISH	Panel nails	2,8x50	11-15/m ²
16	FLASHINGS	Flashing nails	3,5x30	according to design
17	CARPENTRY JOINTS	Anchor nails	4,0x50	according to design

CONSTRUCTION NAILS SWEDISH TYPE

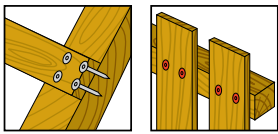
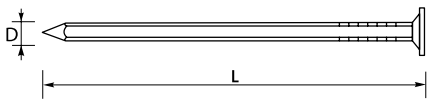
Low-carbon steel nails with specially profiled square shank, hot-dip galvanized



Designed for fixing various wooden parts to timber structures outside buildings. Large size is designed for fixing the responsible components of wooden structures, for example battens.

Product designation	Fastener		Package Separate/Quantity/Collective [kg]
	Diameter	Length	
	D [mm]	L [mm]	
P220603PL	2,3	60	5/1/5
P220753PL	2,8	75	5/1/5
P221003PL	3,4	100	5/1/5

Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	Diameter	Length	
	D [mm]	L [mm]	
Z400607	4,0	125	400/1/400
Z400608	5,1	150	200/1/200
Z341115	5,5	175	150/1/150
Z341157	6,0	200	100/1/100
Z341571	7,0	250	100/1/100
Z341678	8,0	300	100/1/100



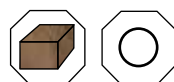
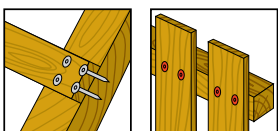
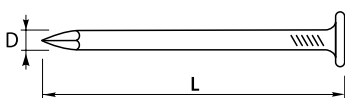
CONSTRUCTION NAILS BLACK ROUND

Round, low-carbon steel nails



Designed for fixing various wooden parts to timber structures and to each other.

Product designation	Fastener		Package Separate/Quantity/Collective [kg]
	Diameter	Length	
	D [mm]	L [mm]	
P405603PL	2,5	60	5/1/5
P402803PL	3,0	80	5/1/5
P4061003PL	4,0	100	5/1/5
P4071253PL	4,2	125	5/1/5

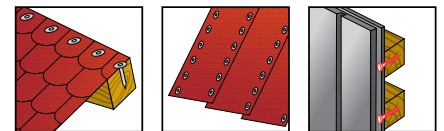
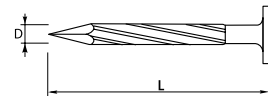


Steel twisted nails with increased pulling force and widened flat head.

TWISTED NAILS
FOR SHINGLES
HOT-DIP GALVANIZED

Designed for permanent fixing of roofing felt shingles and plastic façades to wooden structure.

Product designation	Fastener		Package Separate/Quantity/Collective [kg]
	Diameter	Length	
	D	L	
	[mm]	[mm]	
P30250PL	3,5	25	1/8/8
P30300PL	3,5	30	1/8/8
P30253PL	3,5	25	5/1/5
P30303PL	3,5	30	5/1/5

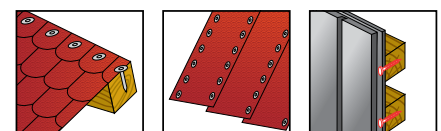
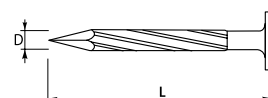


Steel twisted nails with increased pulling force and widened flat head.

TWISTED NAILS
FOR SHINGLES ELECTROLYTICALLY GALVANIZED

Designed for cost-effective fixing of roofing felt shingles and plastic façades to wooden structure.

Product designation	Fastener		Package Separate/Quantity/Collective [kg]
	Diameter	Length	
	D	L	
	[mm]	[mm]	
P035250PL	3,5	25	1/8/8
P035300PL	3,5	30	1/8/8
P035253PL	3,5	25	5/1/5
P035303PL	3,5	30	5/1/5



CLOUT NAILS

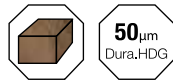
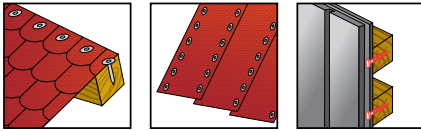
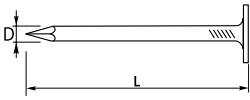
FOR SHINGLES
HOT-DIP GALVANIZED

Round, plain, steel nails with a widened, flat head.

Designed for permanent fixing of roofing felt shingles and plastic facades to wooden structure.



Product designation	Fastener		Package Separate/Quantity/Collective [kg]
	Diameter	Length	
	D	L	
	[mm]	[mm]	
P300250PL	2,5	25	1/8/8
P300350PL	2,5	35	1/8/8
P300400PL	2,5	40	1/8/8
P300310PL	3,0	30	1/8/8
P300253PL	2,5	25	5/1/5
P300353PL	2,5	35	5/1/5
P300313PL	3,0	30	5/1/5

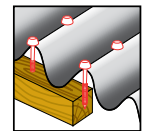
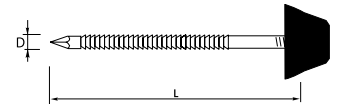


Ring-shanked steel, galvanized nails with a mounted head made of coloured polyethylene with UV stabilizers.

ONDUFIX NAILS FOR CORRUGATED SHEETS

Designed for permanent and waterproof mounting of bituminous corrugated sheeting to the wooden substrate. The nails have a special system of adapting to the profile of the fixed material, which additionally seals the connection. A standard hammer is used for fixing.

Product designation	Fastener			Package Separate/Quantity/Collective [pcs]
	Diameter	Length	Colour	
	D	L	RAL	
	[mm]	[mm]		
P723708PL	3,1	70	3009	200/5/1000
P726708PL	3,1	70	6005	200/5/1000
P725708PL	3,1	70	8004	200/5/1000
P724708PL	3,1	70	8017	200/5/1000
P722708PL	3,1	70	9005	200/5/1000



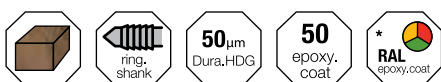
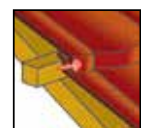
Hot dip galvanized, ring-shank nails with a flat head, lacquered in the colour of roofing cover.

ROOFING PANEL NAILS

Designed for effective fixing of steel roof panels made of steel sheeting with ceramic finish. Available in RAL and NCS colours.

Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	Diameter	Length	
	D	L	
	[mm]	[mm]	
P708500PL	2,8	50	500/6/3000
P702500PL	2,5	50	500/6/3000

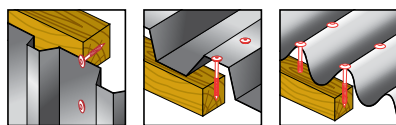
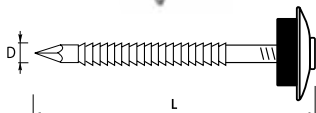
Product designation	Fastener		Package Separate/Quantity/Collective [kg]
	Diameter	Length	
	D	L	
	[mm]	[mm]	
P708503PL	2,8	50	5/1/5



ROOFING NAILS

HOT-DIP GALVANIZED
WITH EPDM WASHER

Steel ring-shank nails with a wide head and EPDM washer, provided with an EPDM sealing gasket.



Designed for leak-proof mounting of profiled steel sheeting and corrugated panels to timber structures on roofs. It is recommended to use a hardened rubber hammer for fixing.

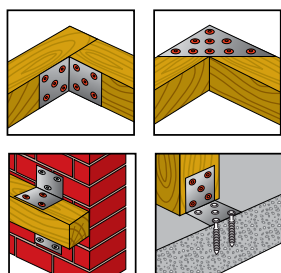
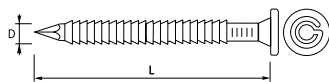
Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	Diameter	Length	
	D [mm]	L [mm]	
P710600PL	3,7	60	100/6/600
P710750PL	3,7	75	100/4/400
P710990PL	3,7	100	100/4/400



ANCHOR

ANCHOR NAILS FOR CARPENTRY JOINTS

Low carbon, ring-shank nails, and a special, widened, conical head. Electroplated nails.



Designed for carpentry joints and roof hooks for timber structures indoor and outdoor. The special shape of the head and ring shank provide increased strength parameters for pulling and tension.

Product designation	Fastener			Package Separate/Quantity/Collective [kg]
	Diameter	Length	Thickness of mounted element	
	D [mm]	L [mm]	Mtmax [mm]	
P503350PL	4,0	35	10	1/8/8
P503400PL	4,0	40	10	1/8/8
P503500PL	4,0	50	10	1/8/8
P503600PL	4,0	60	10	1/8/8
P503750PL	4,0	75	10	1/6/6
P5031000PL	4,0	100	30	1/6/6
P5031250PL	4,0	125	55	1/6/6

Product designation	Total length	Shank length	Shear force Fv [kN]		Pulling force Ft [kN] steel/wood
			Wood/wood	Steel/wood	
P503350PL	35	25	1,69	2,11	0,6
P503400PL	40	30	1,69	2,11	0,77
P503500PL	50	40	1,69	2,11	1,09
P503600PL	60	50	1,69	2,11	1,41
P503750PL	75	65	1,69	2,11	1,89
P5031000PL	100	70	1,69	2,11	2,05
P5031250PL	125	70	1,69	2,11	2,05

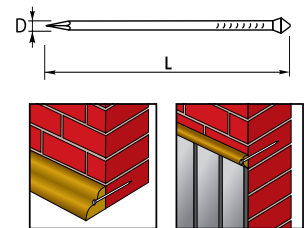
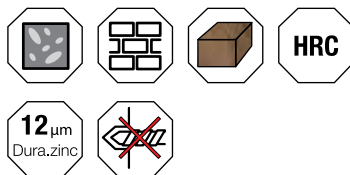


Hardened carbon steel nails, with a round shank and reduced conical head.
Yellow galvanized nails.

HARDENED NAILS YELLOW GALVANIZED

Designed to attach various light trim components (e.g. wooden slats) to concrete, solid brick and hardwood.

Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	Diameter	Length	
	D [mm]	L [mm]	
P438396	1,4	25	1000/8/8000
P438443	1,4	30	1000/8/8000
P438485	1,4	35	1000/8/8000
P438593	1,4	40	1000/8/8000
P438516	1,4	45	1000/8/8000
P438590	1,4	50	1000/8/8000

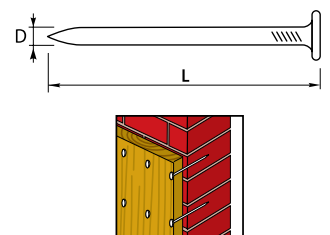
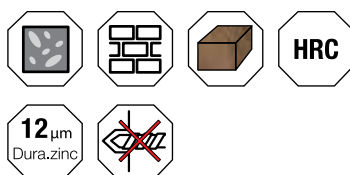


Hardened carbon steel nails, with flat head, electro-galvanized.

HARDENED NAILS CONSTRUCTION

Designed for fixing key construction components (e.g. wooden structures) to concrete, solid brick and hardwood.

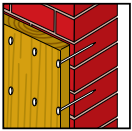
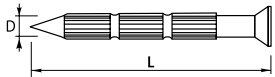
Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	D	L	
	[mm]	[mm]	
P800300PL	3,0	30	100/8/800
P800350PL	3,0	35	100/8/800
P800400PL	3,0	40	100/8/800
P800500PL	3,0	50	100/8/800
P800600PL	3,0	60	100/8/800
P800700PL	3,0	70	100/8/800
P800800PL	3,0	80	100/8/800
P800850PL	3,5	85	100/6/600
P801000PL	3,5	100	100/6/600
P801250PL	4,0	125	100/6/600



HARDENED NAILS ROLLED

Hardened carbon steel nails, with a ribbed shank and conical head.
Electroplated nails.

Designed for fixing key construction components (e.g. wooden structures) to concrete, solid brick and hardwood. Ribbed shank provides better and more durable mounting.



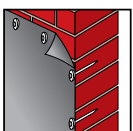
Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	D [mm]	L [mm]	
P820250PL	2,7	25	250/8/2000
P820300PL	2,7	30	250/8/2000
P820350PL	3,5	35	250/8/2000
P820400PL	2,7	40	250/8/2000
P820410PL	3,5	40	250/8/2000
P820500PL	3,5	50	250/8/2000
P820510PL	4,5	50	250/6/1500
P820600PL	3,5	60	250/8/2000
P820610PL	4,5	60	250/6/1500
P820700PL	4,5	70	250/4/1000



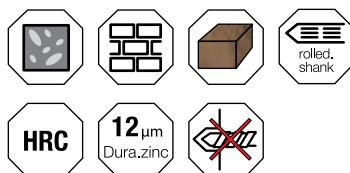
HARDENED ROLLED NAILS WITH WASHER HEAD

Hardened carbon steel nails, with a ribbed shank and very wide washer head.
Electroplated nails.


























































Designed for attaching soft materials (e.g. insulation), and building components to concrete, solid brick and hardwood. Ribbed shank provides better and more durable mounting.



Product designation	Fastener		Package Separate/Quantity/Collective [pcs]
	D [mm]	L [mm]	
P840200PL	3,5	20	250/8/2000
P840250PL	3,5	25	250/8/2000
P840300PL	3,5	30	250/8/2000
P840350PL	3,5	35	250/8/2000
P840400PL	3,5	40	250/6/1500
P840500PL	3,5	50	250/6/1500
P840650PL	3,5	65	250/4/1000
P840700PL	3,5	70	250/4/1000



GLOSSARY

	Structure material: steel sheet		Special anti-corrosion coating corresponding to at least 15 Kesternich cycles		Torque
	Structure material: corrugated structural steel sheet		Product made of aluminium		The recommended screwdriver rpm for screw installation
	Structure material: concrete		Product made of copper		Minimum thickness of the structure and fastened elements
	Structure material: brick		Made of high quality nylon (polyamide)		Method of determining the maximum thickness of the fixture
	Structure material: wood		Made of high quality polypropylene		Method for determining the maximum drilling capacity of the fastener
	Structure material: aerated concrete		The product contains UV stabilizers		Minimum anchorage depth of the fastener
	Thermal insulation		Product made of two materials, aluminium and stainless steel		Minimum thickness of the sheet applied to wooden substrate
	Structure material: cold-rolled steel profile		Product coated with aluminium-zinc corrosion protection		Maximum drilling capacity for two elements: steel sheet to cold-rolled steel profile
	Structure material: Hot rolled steel profile		Bimetallic screw (drill point of hardened steel on stainless steel the body)		Maximum thickness of fastened elements MT
	Cross-cut head type PH		The ring-shank of the nail provides better strength parameters		Maximum drilling capacity of two components: sandwich panel to the steel substrate
	Hex Head		The twisted shank of the nail ensures better strength parameters		Thickness range of used panels
	Head with TORX cut		The rolled nail shank ensures better strength parameters		Maximum drilling capacity for two elements: steel sheet to steel base
	Head with pozidriv PZ cut		The square profile (Swedish shank) ensures better strength parameters		Minimum thickness of steel base
	Head height 1 mm		Truncated head in the shape of the letter D		Ribbed cup head
	Hex head with TORX cut		The thickness of the powder varnish coat		Countersunk head, milling ribs
	Maximum drilling capacity for stitching screws		The thickness of epoxy paint finish		Cutpoint prevents wood splitting
	Maximum drilling capacity		Can be painted with epoxy paint		Milling shank
	Thickness of zinc coating applied thermally		Can be painted with powder paint		Ribbed shank
	Thickness of zinc coating applied electroplating		Powder charge in disks for guns		Round shank profile
	Additional corrosion protection: gRey, coat coating		Nails and shot charges		Structure material: aluminium profile
	Product made of hardened carbon steel		This product requires making a fixing hole with drill diameter of $\varnothing 1,5\text{ mm}$		
	Product made of stainless steel		This product does not require making a fixing hole		

HOW TO READ THE TABLE?

article number in the Gunnebo Fastening designation system

approvals and certificates

Descriptive product name

approximate product image


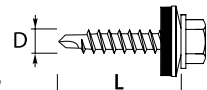
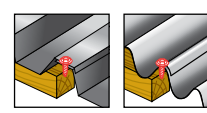
description of fastener features

description of the application of the fastener











GTX F02 S14
BIMETALLIC STAINLESS FARMER SCREWS (STITCH)




Drilling, self-tapping screws made of austenitic steel, with a reduced drilling point, wood thread and hex washer head, provided with a stainless washer with vulcanized EPDM.

Designed for overlap joints of thin corrugated steel sheets (roof tiles) in aggressive environments.

Product designation	Fastener			MTmax	Max drill. thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]			-	[mm]	
P170200PL	4.8	20	8	7	2x1.00	S	14	250/6/1500

pictures for potential applications of fasteners

simplified technical drawing with basic dimensions

article number in Gunnebo Fastening designation system

basic dimensions of the product in millimetres

maximum thickness of the fastened material

icon characterizing the key features parameters of the fasteners (see the key)

number of pieces in an individual package/number of individual packages carton / total number of carton





































Product designation	Fastener			MTmax	Max drill. thick. DC	Washer		Package Separate/Quantity/Collective [pcs]
	D	L	Sw			Mat.	Size	
	[mm]	[mm]	[mm]			-	[mm]	
P170200PL	4.8	20	8	7	2x1.00	S	14	250/6/1500

washer material, size

maximum drilling capacity

EXAMPLES OF COLOURS

SCREWS, RIVETS, ROOFING NAILS

	RAL 1002		RAL 3011		RAL 6005		RAL 8011		RAL 9005
	RAL 1013		RAL 3016		RAL 6020		RAL 8012		RAL 9006
	RAL 1015		RAL 5005		RAL 6029		RAL 8014		RAL 9010
	RAL 1021		RAL 5008		RAL 7011		RAL 8016		RAL 9016
	RAL 3000		RAL 5009		RAL 7024		RAL 8017		
	RAL 3003		RAL 5010		RAL 7032		RAL 8019		
	RAL 3005		RAL 6002		RAL 8003		RAL 9002		
	RAL 3009		RAL 6003		RAL 8004		RAL 9003		



Minimum painted quantity: 6000 pieces (or to be agreed with the Customer Service).
Fasteners can be painted in colours of the NCS and RR systems.

Gbo Fastening Systems Sp. z o.o.

Placing orders:

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MANUFACTURING PLANT

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