

KLIMAS

FASTENER TECHNOLOGIES



FASTENING SYSTEM
FOR LIGHTWEIGHT ROOF
AND WALL CLADDING

Wkręt-met®
KLIMAS

POLISH
PRODUCER



Production plant no. 2 and central warehouse - total area of 30,000 m²
New investment: plants no. 3 and 4 - total area of 30,000 m²



Production plant no. 1 - total area of 20,000 m²



4

PRODUCTION AND
STORAGE FACILITIES
OF TOTAL AREA OF

80 000 m²

Production of Klimas Wkręt-met fastening technologies is held in 4 modern facilities, located in Kuźnica Kiedrzyńska and Wanaty near Częstochowa. The Company has launched production in its third facility in Wanaty which, with use of state-of-the-art technologies and applications, implements the assumptions of the Industry 4.0. programme.



PRODUCTION PROCESS OF STEEL PRODUCTS:

- Top-quality raw-material from European steelworks.
- Various steel grades.
- Own RGD department.
- Extensive machine park.
- Hardening (heat treatment).
- Application of protective coats.
- Possibility of painting heads and washers to RAL colours.
- Quality control at each production stage.
- Polish and European technical assessments.

WE PRODUCE

30 000 000 pcs. of SCREWS DAILY



Production plant no. 1 - total area of 20.000 m²



OWN PRODUCTION OF FASTENER TECHNOLOGIES

PRODUCTS DEVELOPED BY R&D
WIDE RANGE OF SIZES
TOP QUALITY

MORE THAN

400

MODERN MACHINES



- Highest quality production materials.
- Appropriate flexibility is guaranteed by conditioning of polyamide products.
- Own production using the highest quality hybrid injection moulding machines with robots.
- Automatic packing process: from carton/blister to pallet wrapping.

WE PRODUCE

9 000 000

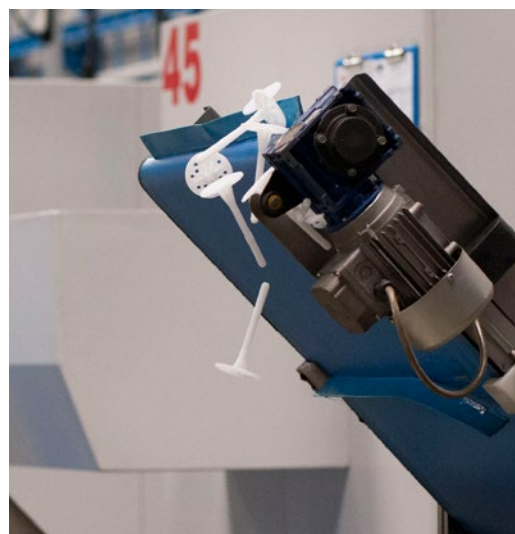
pcs. of PLASTIC FASTENERS DAILY



Production plant no. 2 and central warehouse - total area of 30,000 m²



Fully-automated process of production of plastic fasteners



OWN PRODUCTION OF FASTENER TECHNOLOGIES

PRODUCTS DEVELOPED BY R&D
WIDE RANGE OF SIZES
TOP QUALITY

MORE THAN

120

STATE-OF-THE-ART INJECTION MOULDERS



PROCESS OF SCREW HARDENING:

- Advanced machine park including 7 hardening furnaces.
- 2 modern furnaces for hardening of screws over 200 mm long while keeping high quality of parameters – no curvature.
- Automated hardening line – high capacity.

WE HARDEN

21 000 000 pcs. of SCREWS
DAILY





CUSTOM COATING



White Zinc

Zinc coating guarantee of quality and high level of anti-corrosion protection.



Yellow Zinc

Zinc coating guarantee of quality and high level of anti-corrosion protection.



SQ Ceramic

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

Advanced machine park: **ZN yellow without CR6+**.

Advanced processing line for SQ Ceramic coating.

Automatic passivation and top coat line.

State-of-the-art robots and baths for sealing of coating.



ADVANCED PROCESSING LINE – HARDENING PLANT AND GALVANIZING LINE DEPARTMENT

PRECISION
HIGH QUALITY
HIGH PRODUCTION CAPACITY

HARDENING FURNACES

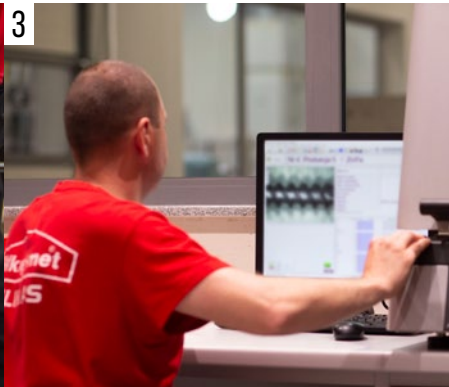


1

1. Hardness and micro Vickers hardness testing. | 2. Assembly and load-resistance tests for all substrate categories according to ETAG. | 3. Testing thickness of corrosion protection plating using X-ray fluorescence spectroscopy tester - Fischeroscope X-RAY XDL. Analysis of chemical composition of alloy steels. | 4. Preparation of metallographic micro-sections – metallographic tests. | 5. Preparation of metallographic micro-sections – metallographic tests. | 6. Torque value testing | 7. Determination of tensile strength for wire and finished goods. | 8. Metallographic tests – control of thermal and chemical treatment process, hardness, structure. | 9. Testing of corrosion resistance in salt spray/cyclic chamber. | 10. Accelerated ageing of paint coats in UV chamber. | 11. Testing of loading resistance of fasteners – characteristic pull-out strength.



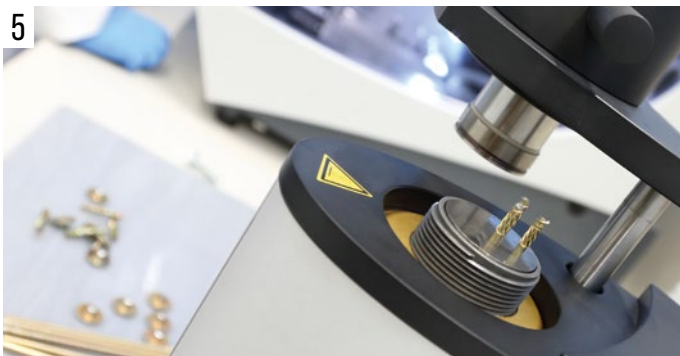
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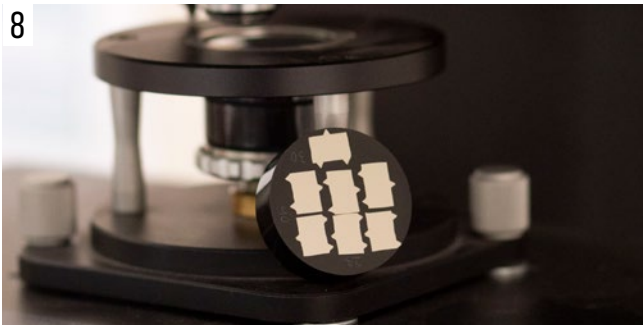
4



5



6



APPROVALS
CERTIFICATES
AWARDS



20

EUROPEAN APPROVALS



- Automated picking and packing processes.
- Most popular packaging: unit packages, bags, blisters.
- High performance

HIGH STORAGE WAREHOUSE

24 000 PALLET PLACE



OUR ASSETS KLIMAS WKREĆ-MET - WHY IT IS WORTH?

KLIMAS

FASTENER TECHNOLOGIES



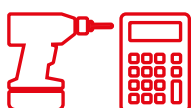
BRAND MOST FREQUENTLY CHOSEN BY CONTRACTORS IN POLAND*

*according to annual research of ASM
- Centre for Market Research and Analysis (2020)



Certified products - 21 European Technical Approvals and 21 Polish Technical Approvals

Our products regularly receive Polish and European technical approvals what proves their reliability. Due to these documents Polish and foreign Clients obtain a guarantee of the highest quality of Klimas Wkręt-met brand products.



Technical advisory

Caring about the Client's comfort, we ensure the assistance of technical advisors in the selection of our products. Persons interested in our offer may always count on the professional support in the selection of fastening systems adequate to the needs of the Client and requirements of the specific construction.



Partnership

Our company is set on continuous improvement of its production control processes at each stage of manufacture. We wish to provide our customers with services of the highest possible standard.



Our company offers products that find application in many different industries

Specialised sections of products reach many selected groups of customers who value and appreciate their reliability. Klimas Wkręt-met undertakes cooperation with companies from various industries using products marked with our brand. Thus, for example, thanks to cooperation with window producers we deliver them high quality products used by them in the production process – and in return we receive the knowledge necessary for enhancing our products and developing brand new innovative products by Klimas Wkręt-met that perfectly fit the needs of a given industry or field.



Integrated Management System

Quality Management System according to PN-EN ISO 9001.
OH&S Management System according to PN-EN ISO 45001.
Energy Management System according to PN-EN ISO 50001.



Construction Brand of the Year 2021

For the 9th time, Klimas Wkręt-met won the most prestigious title on the market of building materials in Poland.

Forbes Diamond Award 2021

Klimas Wkręt-met has been awarded with Forbes Diamond 2021. According to the ranking compiled by Forbes Magazine and Bisnode Polska, the producer of fastening techniques dynamically increased its sales value in the last three years.

Statuettes of the Polish Windows and Doors Association

The Polish Windows and Doors Association awarded Klimas Wkręt-met for its achievements in the woodwork industry. The Association also awarded the prestigious title of Honorary Member to the founder and President of the company - Wojciech Klimas.

Construction Company of the Year

The editors and the Program Council of the "Builder" magazine once more awarded Klimas Wkręt-met the title of Construction Company of the Year. The distinction is awarded to companies characterized by dynamic development and strong market position. This title aims at selecting the most outstanding companies in the country, their promotion and popularization of good business practices.

Creator of Construction 2020

For 9 years now, the Polish Chamber of Civil Engineers has been distinguishing individuals and companies that shape the construction market with their activities, introduce new technologies and innovative solutions, as well as take care of the quality of products and services offered and can be proud of their CSR activities. The title of the Creator of Construction 2019 went to President Wojciech Klimas, as well as to the entire Klimas Wkręt-met company.





DAFA
 STOWARZYSZENIE WYKONAWCÓW
 DACHÓW PŁASKICH I FASAD
www.dafa.com.pl

DAFA - Flat Roof and Fasade Contractors Association

The organization undertakes activities aimed at unification of executive standards and commercial conditions, creation of partnership relations, initiation of activities influencing the development of the industry and integration of environments that operate in the area of design and construction of flat roofs and facades.



**Związek Polskie
 Okna i Drzwi**
 FIRMA REKOMENDOWANA

PoId - Polish Windows and Doors Association

The organization unites domestic manufacturers, suppliers and distributors related to woodwork. The Association aims to combat all forms of unfair competition, set professional standards and carry out technical analyses, among other things.



**POLSKIE
 STOWARZYSZENIE
 DEKARZY**

PSD - Polish Roofers' Association

The Polish Roofers' Association unites professionals from the roofing industry: contractors, experts, designers, suppliers and manufacturers of construction materials for roofing.



**STOWARZYSZENIE
 ENERGOOSZCZĘDNE
 DOMY GOTOWE**

EDG - Energy Efficient Finished Houses Association

The EDG Association is an organization associating manufacturers of prefabricated buildings and producers of materials dedicated to this type of construction in Poland. The organization places great emphasis on increasing awareness and taking care of the quality and reliability of services.



**STOWARZYSZENIE
 NA RZECZ
 SYSTEMÓW OCIEPLEŃ**

SSO - Association for External Thermal Insulation Composite Systems - ETICS

Membership in the Association for Thermal Insulation composite systems allows us to actively contribute to the development of energy efficient and sustainable construction industry. The Association unites the leading manufacturers of thermal insulation composite systems in Poland.



**STOWARZYSZENIE
 DOM
 DREWNIANY**

SDD - Wooden House Association

One of product categories carried by Klimas Wkręt-met are fasteners for wooden constructions that work great in the wooden construction industry. That is why, since 2014, the company has been a member of the Wooden House Association which promotes wood as an environmentally friendly material and gathers all stakeholders interested in the subject of wooden houses. A significant goal of the organization is to take up activities aimed at improving the quality of houses made of wood.



**Business Centre
 Club**

BCC - Business Centre Club

The Klimas Wkręt-met company has been awarded the European Medal. The award was granted by the largest organization of individual employers in the country - Business Center Club. Awards were granted by the Business Center Club on June 12th this year at Warsaw headquarter placed in the Lubomirski Palace. It was the final of the 30th edition of the event. Among the guests were European Medal winners, honorary winners, Chancellors of the BCC Regional Lodge and the representatives of the European Economic and Social Committee.

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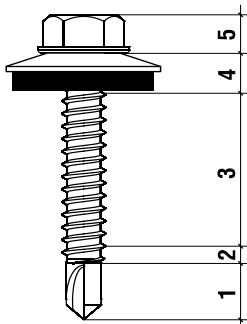
ACCESSORIES		
PEPDM	EPDM washers	108
WSW-KAP	Fastener cover cap	108
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WM	Socked wrench	109
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All technical information in this catalogue contain data from approvals, including safety factors, selection rules and correct installation, which comply with product technical data sheets and instructions. Correct use and application of the data given in actual conditions is a responsibility of designer, contractor and user of the facility, in accordance with relevant provisions of building codes. The catalogue includes collection of self-drilling and self-tapping fasteners designed for fastening of lightweight cladding, roofing and walls.

I. Technical conditions for self-drilling and self-tapping fasteners.

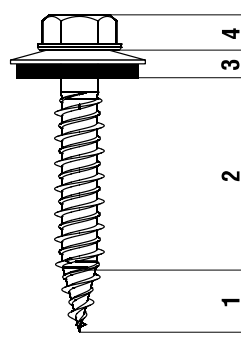
1. Elements of fastener – construction of fastener:

self-drilling fastener



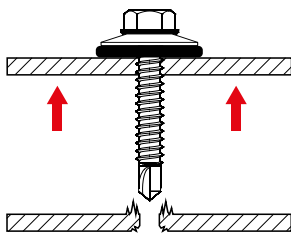
- Elements of fastener:
1. Drill
 2. Threading part - non-working
 3. Threading part
 4. Washer
 5. Head

self-tapping fastener

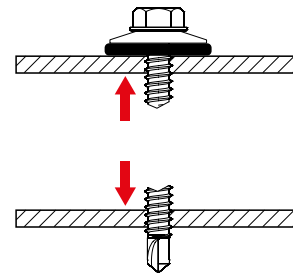


- Elements of fastener:
1. Conical part - non-working
 2. Threading part
 3. Washer with EPDM
 4. Head

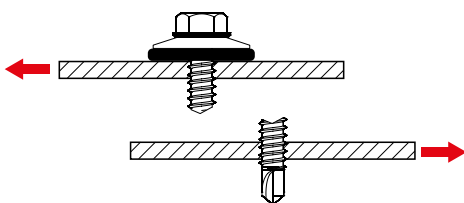
2. Fastener load – forces applied on fastener:



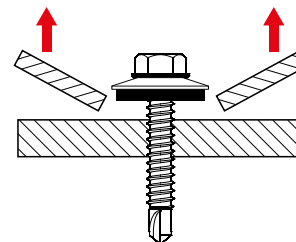
- axial load, pull-out fastener out from substrates



- tensile load acting axially on fastener's



- shear load acting cross-wise on fastener



- pull-through load (pulling fixed member through fastener's head or head and washer)

- resultant load (sum of axial loads and cross-wise loads – shear loads acting on fastener)

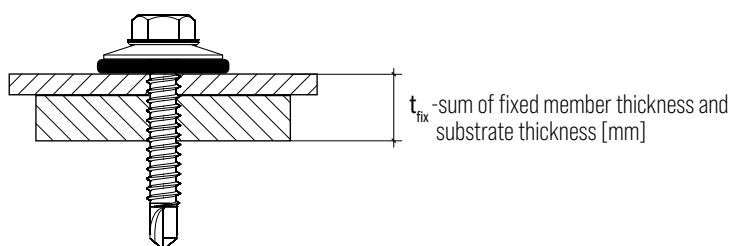
II. Correct selection of type and length of fastener

1. Proper selection of fastener for a specific application should be preceded by obtaining necessary data and information:

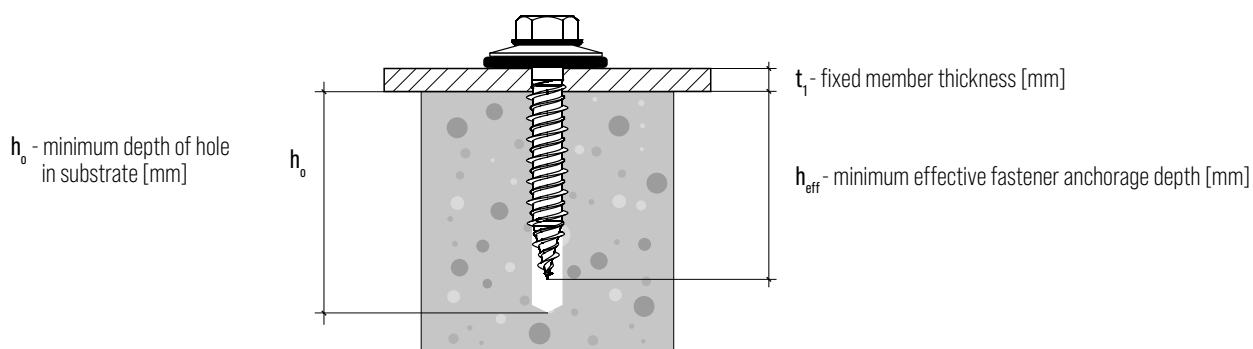
- intended use of a fastener (use, external or internal application); or other requirements
- type and thickness of substrate, where a fastener should be used (steel, concrete or wooden substrate);
- type and thickness of fixed member;
- max. capability of fastener to drill through fixed members is a sum of steel substrate thickness + fixed member thickness – for self-drilling fasteners, while for self-tapping fasteners used for concrete and wooden substrates, thickness of fixed member + min. effective fastener anchorage depth and drill diameter, as well as depth of hole in the substrate.

2. Selection of adequate fastener length:

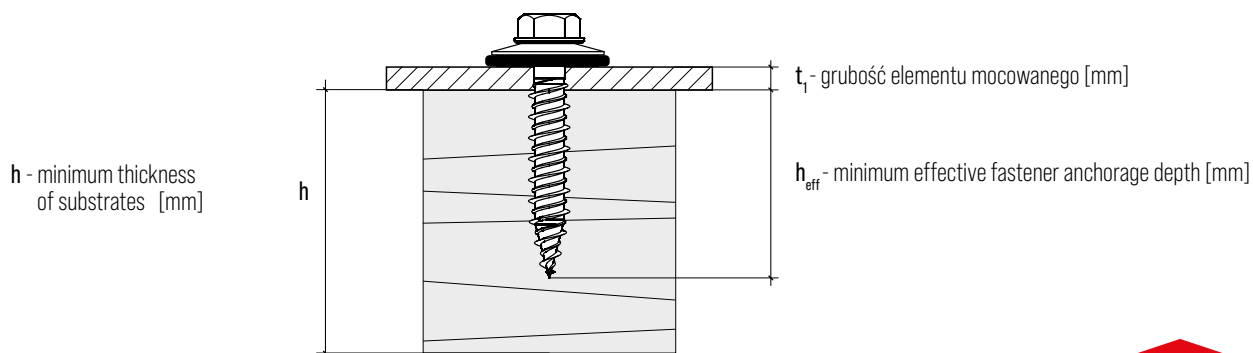
- **for steel structure - substrate thickness + fixed member thickness (fastener length always should be greater than sum of these thicknesses)**



- **for concrete substrates - sum of fixed member thickness + min. effective fastener anchorage depth in this substrate;**

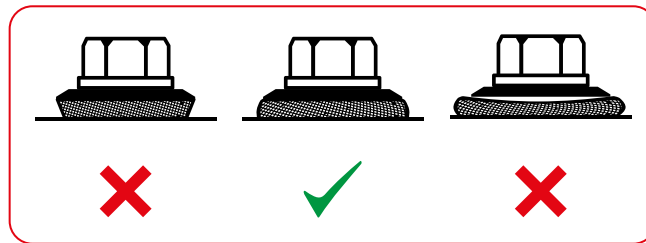


- **for wooden substrates - sum of fixed member thickness + min. effective fastener anchorage depth in this substrate;**



III. Correct installation of fastener:

- make sure to always install a fastener at right angle (90°) to substrates;
- steel substrate: if length of fastener is selected correctly, its threading should pass through the whole substrate thickness so at least 3-4 complete threads protrude beyond the substrate. **It is forbidden to cut fasteners – their protruding part.**
- for concrete and wooden substrate it is essential to ensure minimum effective anchorage depth of the fastener;
- when installing self-drilling fastener keep a recommended rotary speed at 1200 – 1800 rpm;
- for installation use tools recommended by the manufacturer of fasteners
- correct pressure – with adequate force applied – EPDM washers to fixed member so that maximum and proper connection tightness is achieved.

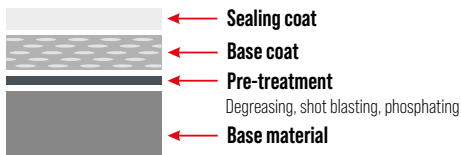


If washer is pressed using either too low or too high pressure, leakages are likely

IV. Selection of fastener according to environment corrosivity category.

Any installed fastener is exposed to aggressive environmental conditions and subject to atmospheric corrosion, as well as galvanic corrosion, occurring at a contact of two metals with different potentials, in combination with moisture in the atmosphere. Therefore it is necessary to provide a proper protection of fastener surface against this action so it meets requirements and expectations in this regard. Protective coatings on fasteners are made with zinc coating with thickness of min. 5 to 20µm. The other method to extend life of fastener with higher environment corrosivity category is a method of application of lamellar coatings

– SQ Ceramic coating. Also fasteners are made of stainless steels – A2.



SQ CERAMIC

10_x HIGHER CORROSION RESISTANCE

Technology of SQ Ceramic lamellar coating application is a modern method of corrosion protection used mainly in the automotive and aerospace industries. The coating comprises a mixture of zinc and aluminium flakes and binding resins.

Lamellar coating is characterized by an exceptionally effective protection from corrosion, despite a relatively thin film. It provides a 10-fold higher corrosion protection compared to zinc coating and a 2-fold higher protection compared to hot-dip galvanizing (HDG).

The coating also has a high resistance to chemicals and UV-radiation, yet, contains no heavy metals, including hexavalent chromium, Cr(VI).

TABLE - Environment corrosivity category according to standard EN ISO 12944-2:

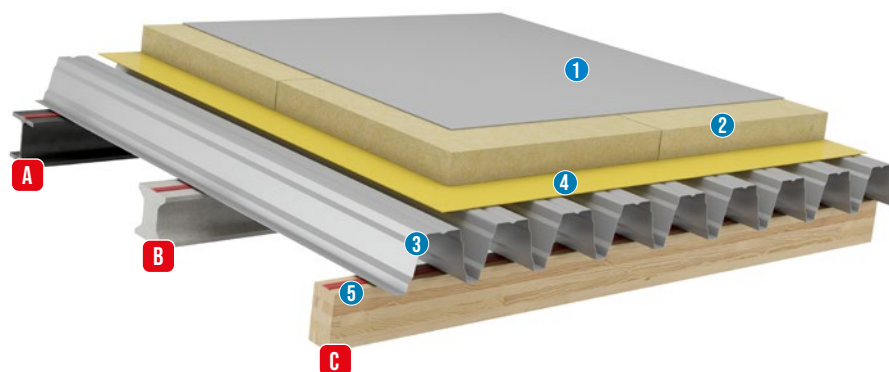
Selection of fastener according to corrosivity category also should take into account the selection of its proper coating.

Corrosivity category	Examples of environments typical for moderate climate (for reference only)		Thickness decrement after first year of use Max. ubytek grub. cynku (µm)	Thickness decrement after first year of use			Recommended materials / protective coatings
	External	Internal		5 µm	12 µm	20 µm	
C1 very low	-	Heated rooms with clean atmosphere (offices, stores, residential buildings, schools)	≤0,1	50	120	200	Galvanized coating 5 / 12 / 20 µm
C2 low	Rural areas	Unheated building, with a chance of condensation (sports halls, warehouses)	≤0,7	7	17	28	Galvanized coating 12 / 20 µm
C3 moderate	Urban and industrial areas, moderate sulphur oxide pollution, low salinity	Unheated building, with a chance of condensation (sports halls, warehouses)	≤2,1	2	5	9	Special coatings, stainless steel A2
C4 high	Industrial areas and coastal areas with moderate salinity	Chemical plants, swimming pools, coastal ship and boatyards, paint shops	≤4,2	1	2	4	Special coatings Stainless steel A2 Acid resistant steel A4
C5-I very high (industrial)	Industrial areas with high humidity and an aggressive atmosphere, with high salinity	Industrial areas with permanent condensation and high pollution	≤8,4	<1	<2	<3	Acid resistant steel A4
C5-M very high (marine)			>8,4	According to environment corrosion aggressiveness			

ROOFS

Examples of facades - flat roofs, walls

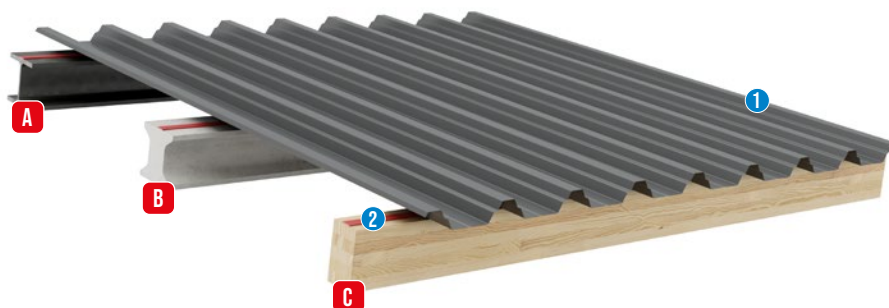
1. Cross-section of insulated flat roof



A - Steel construction
B - Concrete construction
C - Wooden construction

- 1 Waterproofing membrane
- 2 Thermal insulation
- 3 Steel sheet profile
- 4 Vapor barrier
- 5 Self-adhesive gasket

2. Cross-section flat roof without insulation



A - Steel construction
B - Concrete construction
C - Wooden construction

- 1 Steel sheet profile
- 2 Self-adhesive gasket

3. Cross-section of the roof layers with sandwich panel



A - Steel construction
B - Concrete construction
C - Wooden construction

- 1 Roof sandwich panels
- 2 Self-adhesive gasket

WALLS

Examples of facades - flat roofs, walls

4. Cross-section of the wall with sandwich panels



- A - Steel construction
- B - Concrete construction
- C - Wooden construction

- 1 Sandwich panel
- 2 Self-adhesive gasket

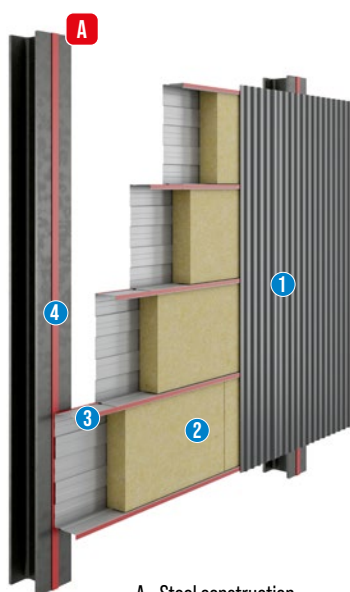
5. Cross-section of the wall with steel sheet profile



- A - Steel construction
- B - Concrete construction
- C - Wooden construction

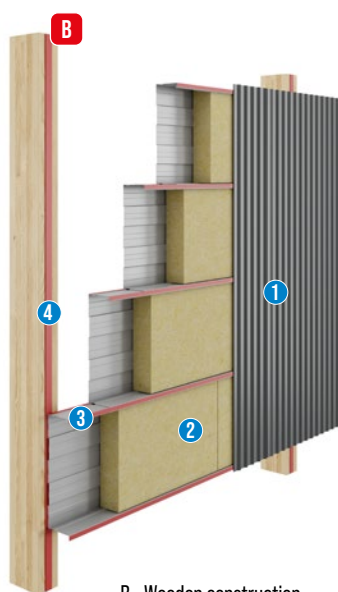
- 1 Steel sheet profile
- 2 Self-adhesive gasket

6. Cross-section of the wall with the steel cassette and steel sheet profile



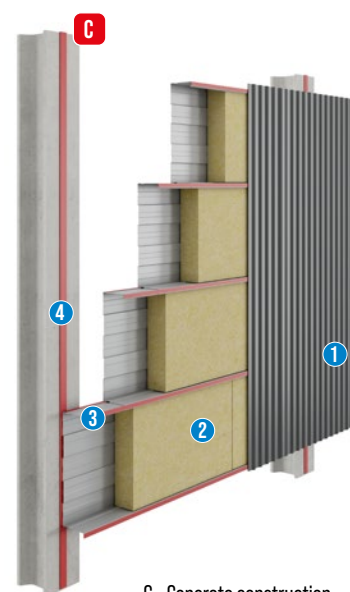
A - Steel construction

- 1 Steel sheet profile
- 2 Thermal insulation
- 3 Steel cassette lock
- 4 Self-adhesive gasket



B - Wooden construction

- 1 Steel sheet profile
- 2 Thermal insulation
- 3 Steel cassette lock
- 4 Self-adhesive gasket



C - Concrete construction

- 1 Steel sheet profile
- 2 Thermal insulation
- 3 Steel cassette lock
- 4 Self-adhesive gasket

Use of fasteners in example application

Fig. 1 - Flat roof with thermal insulation

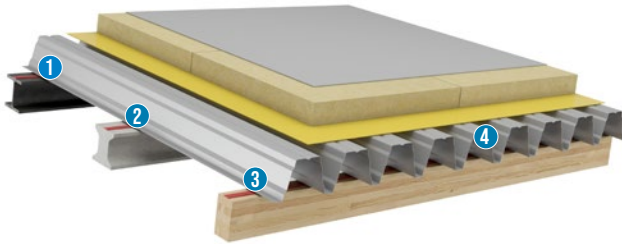


Fig. 2 - Flat roof without thermal insulation



Fig. 1 i 2. Roof - assembly of steel sheet profile - selection self-drilling and self-tapping fastener

	Type of substrate	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher - surface mount
1	Mounting steel sheet profile to the steel construction	max ≤ 5	self-drilling	WS-55025 or WFOC-55025	WFOC-55025
		max ≤ 7	self-drilling	WS-63025 or WFOC-63025	WFOC-63025
		max ≤ 12	self-drilling	X	WSS-55032
2	Mounting steel sheet profile do the concrete construction	X	self-tapping	X	WB6P-63045
3	Mounting steel sheet profile to the wooden construction - C 24 class	X	self-tapping	X	WB6P-63045
4	Longitudinal fastening of steel sheet profile - sewing	max 2 x 1,25	self-drilling	WSB-48019 or WSBP-48019	WSBP-48019

Rys. 3 - Sandwich panel roof

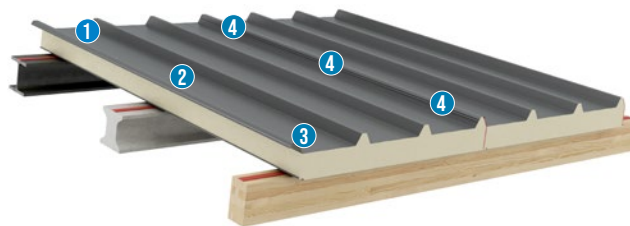


Fig. 3. Roof - assembly of roof sandwich panel - selection self-drilling and self-tapping fastener

	Type of substrate	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher - surface mount
1	Mounting roof sandwich panel to the steel construction	max ≤ 6	self-drilling	X	WSW-6-55.... A19*
		max ≤ 12	self-drilling	X	WSW-12-55.... A19*
2	Mounting roof sandwich panel do the concrete construction	min. 80**	self-tapping	X	WB6P-D-63.... A19*
3	Mounting roof sandwich panel to the wooden construction - C 24 class	min. 50**	self-tapping	X	WB6P-D-63.... A19*
4	Longitudinal fastening of steel sheet profile - sewing	max 2 x 1,25	self-drilling	WSB-48019	WSBP-48019
		max 2 x 1,00	self-drilling	WSPC-42019	X

* Aluminium wascher with EPDM - diameter 19 mm

** Min. substrate thickness

Use of fasteners in example application

Fig. 4 - Sandwich panel wall



Place sandwich joint - steel metal flashing

Fig. 4. Wall - mounting wall sandwich panel - selection self-drilling, self tapping fastener

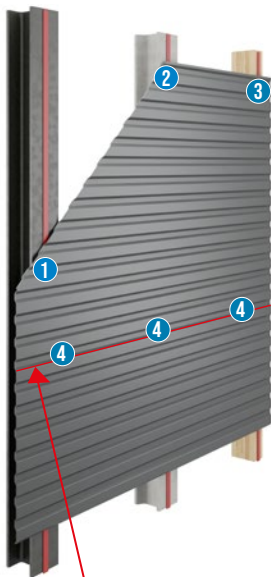
	Type of substrate	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher - surface mount
1	Mounting wall sandwich panel to steel construction (surface and immersed in sandwich lock)	max ≤ 6	self-drilling	X	WSW-6-55.... A19**
		max ≤ 12	self-drilling	X	WSW-12-55.... A19**
2	Mounting wall sandwich panel to concrete substrate (surface and immersed in sandwich lock)	min. 80***	self-tapping	X	WB6P-D-63.... A19**
3	Mounting sandwich panel to timber construction (surface and immersed in sandwich lock)	min. 50***	self-tapping	X	WB6P-D-63.... A19**
4	Longitudinal fastening of sheet metal flashing (protection place sandwich joint)	max 2 x 1,25	self-drilling	WSB-48019	WSBP-48019
		max 2 x 1,00	self-drilling	WSPC-42019	X

* Screw length should be selected depending on the application

** Aluminium wascher with EPDM- diameter 19 mm

*** Min. thickness for concrete and wooden substrates

Fig. 5 - Wall with steel sheet profile

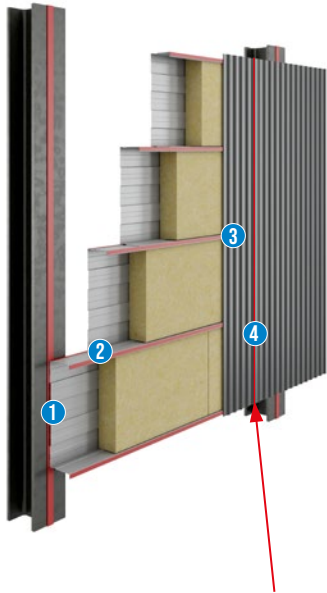


Longitudinal fastening of steel sheet profile

Fig. 5. Wall - mounting wall steel sheet profile - selection self-drilling, self tapping fastener

	Type of substrate	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher - surface mount
1	Mounting wall steel sheet profile for steel construction	max ≤ 5	self-drilling	WS-55025	WFOC-55025
		max ≤ 7	self-drilling	WS-63025	WFOC-63025
		max ≤ 12	self-drilling	X	WSS-55032
2	Mounting steel sheet profile to concrete substrate	X	self-tapping	X	WB6P-63045
3	Mounting steel sheet profile to timber construction	X	self-tapping	X	WB6P-63045
4	Longitudinal fastening of steel sheet profile	max 2 x 1,25	self-drilling	WSB-48019	WSBP-48019

Fig. 6 - Steel cassette wall

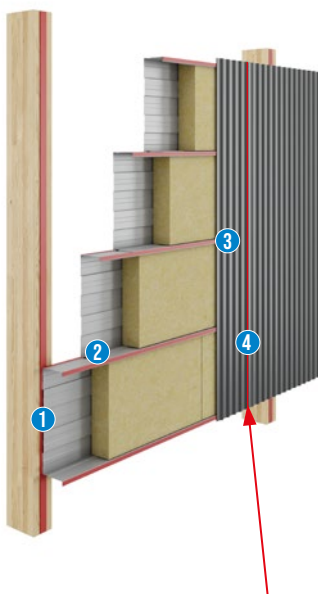


Steel sheet profile overlap- vertically

Fig. 6. Wall - mounting cassette steel and steel sheet profile to steel construction - selection self-drilling, self-tapping fasteners

	Type of substrate	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher -surface mount
1	Mounting steel cassette for steel construction	max ≤ 5	self-drilling	WS-55025 or WFOC-55025	X
		max ≤ 7	self-drilling	WS-63025; or WFOC-63025	X
		max ≤ 12	self-drilling	WSS-55032	X
2	Longitudinal fastening of steel cassette (in steel cassette lock)	max 2 x 1,25	self-drilling	WSB-48019 or WSBP-48019	X
3	Mounting steel sheet profile to steel cassette lock	max 3 x 1,25	self-drilling	X	WFOC-55025
4	Longitudinal fastening of steel sheet profile (to steel cassette lock)	max 2 x 1,25	self-drilling	WSB-48019	WSBP-48019

Fig. 7 - Wall steel cassette

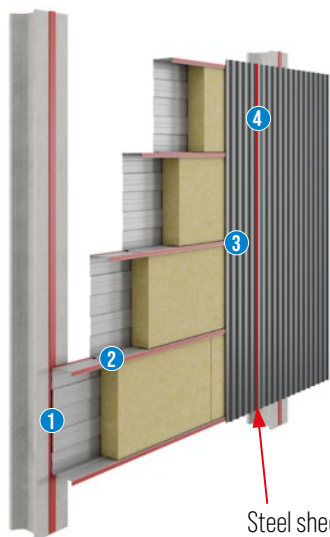


Steel sheet profile overlap- vertically

Fig. 7. Wall - mounting steel cassette and steel sheet profile to timber construction - selection self-drilling, self-tapping fasteners

	Type substrates	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher -surface mount
1	Mounting steel cassette to timber construction	X	self-tapping	WB6-63045 or WB6P-63045	X
2	Longitudinal fastening of steel cassette (in steel cassette lock)	max 2 x 1,25	self-drilling	WSB-48019 or WSBP-48019	X
3	Mounting steel sheet profile to steel cassette lock	max 3 x 1,25	self-drilling	X	WFOC-55025
4	Longitudinal fastening of steel sheet profile	max 2 x 1,25	self-drilling	X	WSBP-48019

Fig. 8 - Wall steel cassette



Steel sheet profile overlap- vertically

Fig. 8. Wall - mounting steel cassette and steel sheet profile to concrete construction - selection self-drilling, self-tapping fasteners

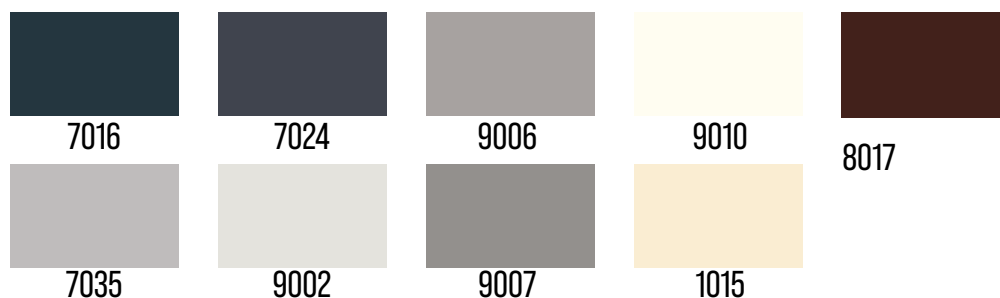
	Type substrates	Thickness of fastened elements [mm]	Type	Fastener without EPDM wascher - immersed mount	Fastener with EPDM wascher - surface mount
1	Mounting steel cassette to concrete construction	X	self-tapping	WB6-63045 or WB6P-63045	X
2	Longitudinal fastening of steel cassette (in steel cassette lock)	max 2 x 1,25	self-drilling	WSB-48019 or WSBP-48019	X
3	Mounting steel sheet profile to steel cassette lock	max 3 x 1,25	self-drilling	X	WFOC-55025
4	Longitudinal fastening of steel sheet profile	max 2 x 1,25	self-drilling	X	WSBP-48019

List of technical approval

Lp.	No approval	Type of fastener	Product code	Substrate types	Type of fastened elements
1.	ETA-16/0443	self-drilling/self-tapping	WSB; WSBP; WS; WF; WSS; WB6; WB6P	steel, wooden substrate	steel sheet
2.	ETA-16/0444	self-drilling/self-tapping	WSW-6; WSW-12; WB6P	steel, wooden substrate	sandwich panel
3.	KOT-2019/0915	self-tapping	WB6P	concrete	sandwich panel
4.	KOT-2020/1057	self-tapping	WB6; WB6P	concrete	steel sheet
5.	KOT-2020/1057	self-tapping	WSDSK; WSDST	steel	wooden











Standard color table acc. RAL palette. Fasteners WSW; WB6P











Note: the colors shown in the catalog are illustrative only, they may differ from the real ones.
Other colors according to the RAL palette on request and on order.

Fastener selection table

							Self-drilling fasteners for steel construction – drilling capacity to 3 mm															
																						
Information	Fastener name						Self-drilling fastener for fixing steel sheets in steel construction		Self-drilling fastener for making lap joints in steel sheets		Self-drilling fastener with EPDM washer for making lap joints in steel sheets		Self-drilling fastener for fixing steel sheets in steel construction									
	Code						WS	WS-D	WSB	WSB-D	WSBP	WSBP-D	WS	WS-D	WS	WS-D						
	Fastener diameter [mm]						Ø 4,2		Ø 4,8		Ø 4,8		Ø 4,8									
Page							34	34	37	37	40	40	44	44								
Documents	ETA						ETA-16/0443		ETA-16/0443		ETA-16/0443		ETA-16/0443									
	EAD						330046-01-0602		330046-01-0602		330046-01-0602		330046-01-0602									
	AT/KOT																					
	Norm, standard																					
SUBSTRATES	Grade / class						CE	CE	CE	CE	CE	CE	CE	CE	CE	CE						
	Min. construction thickness [mm]	Min. Fastener anchorage depth [mm]	Max. drilling capacity [mm]	Range thickness fastened elements [mm]																		
Steel	≥ S280GD	0,50	-	2,00	0,50 - 1,00	●	●															
	≥ S280GD	0,50	-	2,50	0,50 - 1,25			●	●	●	●											
	≥ S280GD	0,75	-	3,00	0,50 - 1,50							●	●									
	≥ S280GD	0,75	-	3,00	14,00 - 32,00																	
	≥ S280GD	0,75	-	5,00	13,00 - 25,00																	
	≥ S280GD	1,00	-	5,00	0,50 - 2,00																	
	≥ S280GD	1,00	-	6,00	21,00 - 41,00																	
	≥ S235JR	2,00	-	6,00	20 - 255																	
	≥ S280GD	3,00	-	7,00	0,50 - 2,00																	
Timber	≥ S280GD	4,00	-	12,00	0,50 - 2,00																	
	≥ S235JR	4,00	-	12,00	50 - 255																	
Timber	C24	50	30	-	40 - 220																	
Timber	C24	50	30	-	0,50 - 2,00																	
Concrete	C20/25 - C50/60	80	30	-	0,40 - 1,00																	
Concrete	C20/25 - C50/60	80	30	-	40 - 220																	
Fastener material							Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel							
Anti-corrosion coating	Zinc coated						●		●		●		●		●							
	Protective coating SQ CERAMIC							●		●		●		●		●						
Paint coating RAL palette											●	●										
Environmental corrosivity category acc. standard PN-EN-ISO 12500							C1	C4	C1	C4	C1	C4	C1	C4	C1	C4						

Self-drilling fasteners for steel construction - drilling capacity from 3 to 6 mm		Self-drilling fasteners for steel construction - drilling capacity from 6 to 12 mm						Self-drilling/self-tapping fastener for fixing sandwich panels in steel construction wooden and concrete substrate				Self-tapping fastener for fixing steel sheets to concrete and timber								Other fastener										
Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction		Self-drilling fastener for fixing steel sheets in steel construction		Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction		Self-drilling fastener for fixing steel sheets in steel construction		Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction		Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction		Self-drilling fastener with EPDM washer for fixing sandwich panels in steel construction		Self-tapping fastener with EPDM washer for fixing sandwich panels to concrete and timber		Self-tapping fastener with EPDM washer for fixing sandwich panels to concrete and timber		Self-tapping fastener for fixing steel sheets to timber		Self-tapping fastener for fixing steel sheets to concrete		Self-tapping fastener with EPDM washer for fixing steel sheets to timber		Self-tapping fastener with EPDM washer for fixing steel sheets to concrete		Flange head self-drilling screw	Flange head self-tapping screw	Self-drilling fastener for fixing timber in steel construction		
WFOC/WF	WF-D	WS	WS-D	WFOC/WF	WF-D	WS	WS-D	WFOC/WF	WF-D	WSS	WSS-D	WSW-6	WSW-12	WB6P-D	WB6P-D	WB6	WB6-D	WB6	WB6-D	WB6P	WB6P-D	WB6P	WB6P-D	WSPC	WPC	WSDSK	WSDSK	WSDST		
Ø 4,8		Ø 5,5		Ø 5,5		Ø 6,3		Ø 6,3		Ø 5,5		Ø 5,5	Ø 5,5	Ø 6,3	Ø 6,3	Ø 6,3		Ø 6,3		Ø 6,3		Ø 6,3		Ø 4,2		Ø 4,8	Ø 5,5	Ø 6,3		
48	48	52	52	56	56	60	60	64	64	68	68	72	76	80	80	84	84	84	84	88	88	88	88	92	96	98	98	101		
ETA-16/0443		ETA-16/0443		ETA-16/0443		ETA-16/0443		ETA-16/0443		ETA-16/0443		ETA-16/0444	ETA-16/0444	ETA-16/0444		ETA-16/0443		ETA-16/0443		ETA-16/0443										
330046-01-0602		330046-01-0602		330046-01-0602		330046-01-0602		330046-01-0602		330046-01-0602		330047-01-0602	330047-01-0602	330047-01-0602		330046-01-0602		330046-01-0602		330046-01-0602										
														ITB-KOT-2019/0915			ITB-KOT-2020/1057		ITB-KOT-2020/1057		ITB-KOT-2020/1057		PN-EN 14566				ITB-KOT-2020/1057			
CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	CE	
Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	Carbon steel	
C1	C4	C1	C4	C1	C4	C1	C4	C1	C4	C1	C4	C4	C4	C4	C4	C1	C4	C1	C4	C1	C4	C1	C4	C1	C1	C1	C1	C1	C1	

Table of selection accessories for self-drilling, self-tapping fasteners

				Self-drilling fasteners for steel construction – drilling capacity to 3 mm					Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm	
				WS-4,2 WS-D-4,2	WSB-4,8 WSB-D-4,8	WSBP-4,8 WSBP-D-4,8	WS-4,8 WS-D-4,8	WF-4,8 WF-D-4,8	WS-5,5 WS-D-5,5	WF-5,5 WF-D-5,5
	Code	Type	Diameter [mm]							
EPDM Washer										
	PEPDM-Z14	steel ∅ 14	14			●		●		
	PEPDM-Z16	steel ∅ 16	16							●
	PEPDM-Z19	steel ∅ 19	19							
	PEPDM-A14	aluminium ∅ 14	14			●		●		
	PEPDM-A16	aluminium ∅ 16	16							●
	PEPDM-A19	aluminium ∅ 19	19							
Fastener cover cap										
	WSW-KAP	white	-		●	●	●	●	●	●
Drill for concrete SDS Plus										
	SD4-05110	SDS	5,0							
Drill for concrete SDS										
	H-A 782404	SDS	5,0							
Socket wrench										
	WM-08050	SW-8	-		●	●	●	●	●	●
	WM-10050	SW-10	-							
Screwdriver bit										
	PH2-S2-02025	PH-2	-							
Bit - Type PH										
	PH-S2-02025	PH-2	-							
	PH-S2-03025	PH-3	-							
Bit - Type TX										
	TX-30S2	TX-30	-							



SQ CERAMIC

10_x improved resistance
to corrosion*

*] compared to galvanising 5 µm

WHAT IS SQ CERAMIC?



SQ Ceramic lamellar coating application technology is the modern way of protection against corrosion. Lamellar coating application technology properties are also used in the automotive and aerospace industries. The coating consists of a mix of zinc and aluminium flakes, and binding resins. The lamellar coating is characterised by exceptionally effective protection against corrosion despite a relatively thin layer. This ensures 10-time higher protection against corrosion in relation to zinc plating and 2-time higher protection in relation to hot-dip galvanizing (HDG). The lamellar coating maintains resistance to red corrosion even up to 1000 hours in the salted atmosphere chamber while hot-dip galvanizing only 500 hours. The coating has also high resistance to chemicals and UV radiation but does not contain heavy metals, including hexavalent chromium (VI).

FASTENING SYSTEM FOR LIGHTWEIGHT ROOF AND WALL CLADDING PRODUCTION PROGRAMME





Zinc coated
WS
Length range: 16-25 mm
ø 4,2



SQ Ceramic
WS-D
Length range: 16-25 mm
ø 4,2

Self-drilling fastener for fixing steel sheets in steel construction

WS

ø 4,2



SUBSTRATES



Steel profiles with thickness ≤ 2 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL	<ul style="list-style-type: none"> · For mounting profile sheets to a steel structure · For mounting flashings · For joining sheets with an overlap

* product on request and on order

HEX HEAD SW-7
Hex head allows the use of the wrench and increases the pressure to the substrates.
WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.

SELF-DRILLING TIP
Ability of drilling plates of thickness up to 3 mm, short time of fixing.

ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WS)
Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.

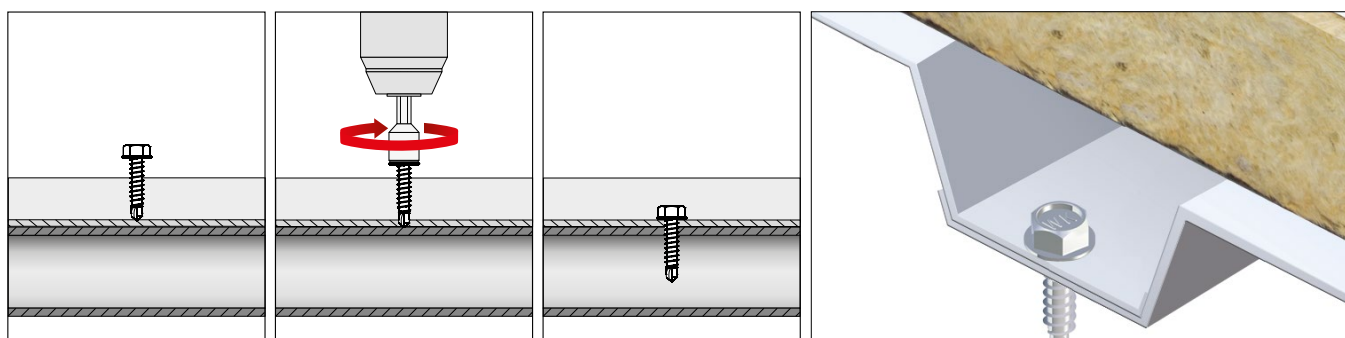
ANTI-CORROSION COATING - SQ CERAMIC (WS-D)
Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

SAMPLE APLICATION



Self-drilling fasteners for steel construction - drilling capacity to 3 mm

MOUNTING METHOD

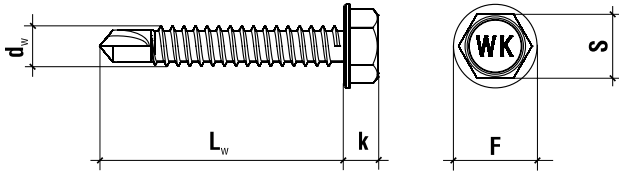


ACCESSORIES

SEE PAGE 110-111

Self-drilling fastener for fixing steel sheets in steel construction

WS



How to read the code, e.g. WS-D-42016?			
WS	-D	42	016
Type	Coating type: SQ Ceramic	Fastener diameter: 4,2 mm	Fastener length: 16 mm

ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WS - Zinc coated				
ø4,2	WS-42016	4,2x16	1	500
	WS-42019	4,2x19	7	500
	WS-42025	4,2x25	14	500
WS-D - SQ Ceramic*				
ø4,2	WS-D-42016*	4,2x16	1	500
	WS-D-42019*	4,2x19	7	500
	WS-D-42025*	4,2x25	14	500

* on order

Type		WS	WS-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	4,2	
Drilling capacity	$\sum t$ [mm]	≤ 2	
Socketed wrench	S [mm]	SW-7	
Head height	k [mm]	4,5	
Head diameter	F [mm]	8,6	
Drill length	[mm]	7,0	
Washer EPDM	D [mm]	-	

Type		WS	WS-D
Substrate material	-	steel ≥ S280GD	
Fastener material	-	carbon steel	
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	0,50	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]				
	0,50	0,63	0,75	0,88	1,00
0,50	0,43/0,92	0,43/0,92	0,43/0,92	0,43/0,92	0,43/0,92
0,63	0,43/0,92	0,57/1,11	0,57/1,11	0,57/1,11	0,57/1,11
0,75	0,43/0,92	0,57/1,11	0,69/1,66	0,69/1,66	0,69/1,66
0,88	0,43/0,92	0,57/1,11	0,69/1,66	0,73/1,84	0,73/1,84
1,00	0,43/0,92	0,57/1,11	0,69/1,66	0,73/1,84	0,78/1,88

Partial safety factor of 1.33 recommended

Self-drilling fastener for making lap joints in steel sheets

WSB

Ø 4,8



ETA-16/0443



SUBSTRATES



Steel sheet in thickness ≤ 2,5 mm

Zinc coated	
Ø 4,8	WSB Length range: 16-25 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> • Zinc coated • SQ Ceramic*
APPLICATION: INTERNAL	<ul style="list-style-type: none"> • For joining sheets with an overlap • For mounting flashings

* product on request and on order



SQ Ceramic	
Ø 4,8	WSB-D Length range: 16-25 mm



HEX HEAD SW-8

Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 2,5 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WSB)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



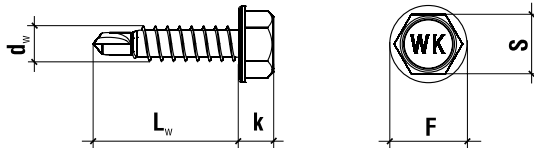
ANTI-CORROSION COATING - SQ CERAMIC (WSB-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

Self-drilling fasteners for steel construction - drilling capacity to 3 mm

Self-drilling fastener for making lap joints in steel sheets

WSB



How to read the code, e.g. WSB-D-48016?			
WSB	-D	48	016
Type	Coating type: SQ Ceramic	Fastener diameter: 4,8 mm	Fastener length 16 mm

ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WSB - Zinc coated				
ø4,8	WSB-48016	4,8x16	1,5	500
	WSB-48019	4,8x19	2,5	500
	WSB-48025	4,8x25	2,5	500
WSB-D - SQ Ceramic*				
ø4,8	WSB-D-48016*	4,8x16	1,5	500
	WSB-D-48019*	4,8x19	2,5	500
	WSB-D-48025*	4,8x25	2,5	500

* on order

TECHNICAL PARAMETERS

Type		WSB	WSB-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	4,8	
Drilling capacity	Σt [mm]	≤ 2,5	
Socketed wrench	S [mm]	SW-8	
Head height	k [mm]	4,5	
Head diameter	F [mm]	10,0	
Drill length	[mm]	5,0	
Fastener material	-	carbon steel	

Type		WSB	WSB-D
Substrate material	-	steel ≥ S280GD	
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	0,50	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,50	0,63	0,75	0,88	1,00	1,25
0,50	0,55/1,10	0,55/1,10	0,55/1,10	0,55/1,10	0,55/1,10	0,55/1,10
0,63	0,55/1,10	0,82/1,50	0,82/1,50	0,82/1,50	0,82/1,50	0,82/1,50
0,75	0,55/1,10	0,82/1,50	0,96/1,74	0,96/1,74	0,96/1,74	0,96/1,74
0,88	0,55/1,10	0,82/1,50	0,96/1,74	0,98/1,74	0,98/1,74	0,98/1,74
1,00	0,55/1,10	0,82/1,50	0,96/1,74	0,98/1,74	0,98/1,74	0,98/1,74
1,25	0,55/1,10	0,82/1,50	0,96/1,74	0,98/1,74	0,98/1,74	0,98/1,74

Partial safety factor of 1.33 recommended

SAMPLE APPLICATION



Longitudinal fastening steel sheet profile

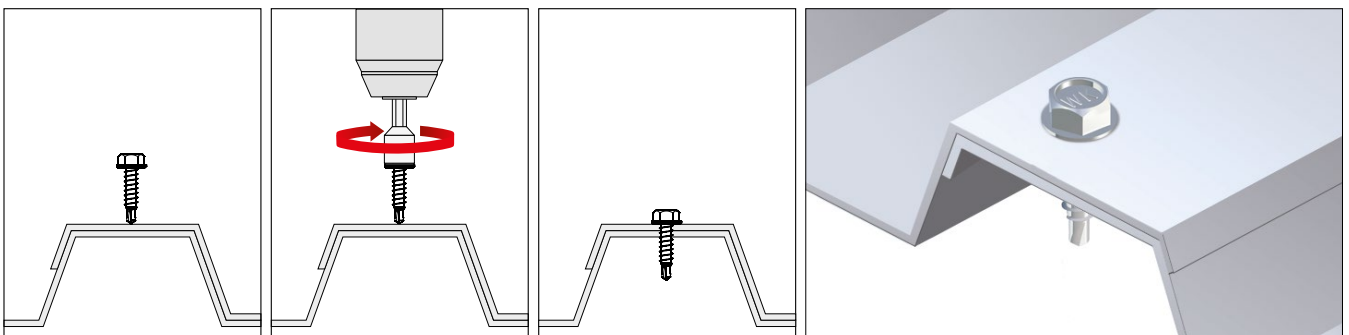


Longitudinal fastening steel sheet profile



Sample application

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111



	Zinc coated	Zinc coated + RAL
Ø 4,8	WSBP Length range: 19-25 mm	WSBP-RAL Length range: 19-25 mm



	SQ Ceramic	SQ Ceramic + RAL
Ø 4,8	WSBP-D Length range: 19-25 mm	WSBP-D-RAL Length range: 19-25 mm

Self-drilling fastener with EPDM washer for making lap joints in steel sheets

WSBP

Ø 4,8



SUBSTRATES



Steel sheet in thickness ≤ 2,5 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> • Zinc coated • SQ Ceramic*
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> • For joining sheets with an overlap • For joining sheets with an overlap (a staple) • For mounting flashings

* product on request and on order

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 2,5 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WSBP)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WSBP-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

It seals and secures the connection from corrosion.

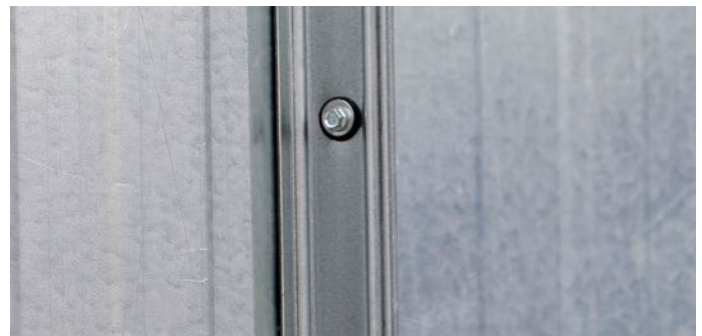
SAMPLE APPLICATION



Sample application

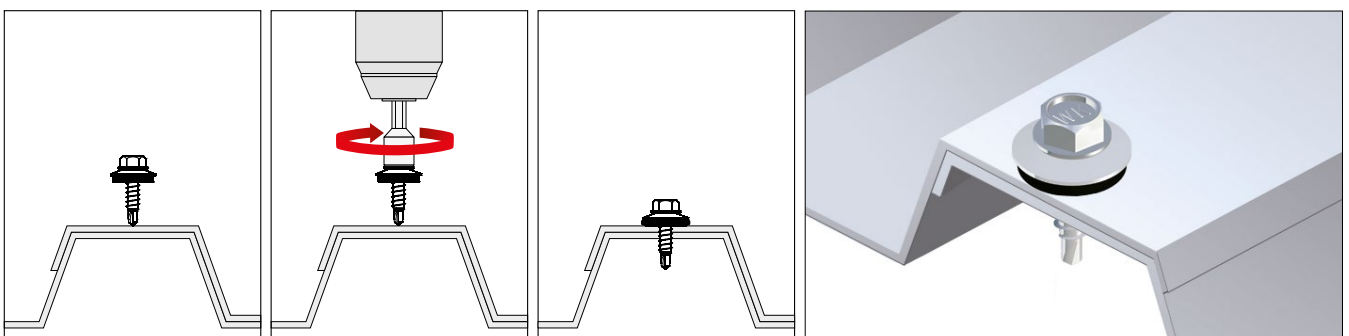


Sample application



Sample application

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

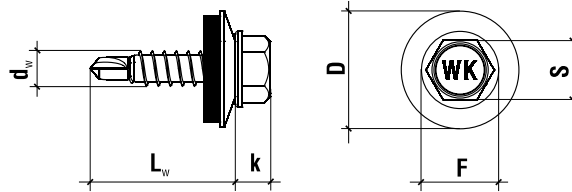
Self-drilling fastener with EPDM washer for making lap joints in steel sheets

WSBP



How to read the code, e.g. WSBP-D-48019?

WSBP	-D	48	019
Type	Coating type: SQ Ceramic	Fastener diameter: 4,8 mm	Fastener length 19 mm



ORDER TABLE

Code		Diameter and fastener length	Max. effective length	Quantity per unit box		
WSBP - Zinc coated						
ø4,8	Zinc coated	Zinc coated + RAL	$d_w \times L_w$ [mm]	t_{fx} [mm]	[pcs]	
	Code	Product code with washer				Code
	WSBP-48019	WSBP-48019-Z14	WSBP-48019-RAL...	WSBP-48019-Z14-RAL...	4,8x19	1,5
WSBP-48025	WSBP-48025-Z14	WSBP-48025-RAL...	WSBP-48025-Z14-RAL...	4,8x25	2,5	250
WSBP-D - SQ Ceramic*						
ø4,8	SQ Ceramic	SQ Ceramic + RAL	$d_w \times L_w$ [mm]	t_{fx} [mm]	[pcs]	
	Code	Product code with washer				Code
	WSBP-D-48019*	WSBP-D-48019-A14*	WSBP-D-48019-RAL...*	WSBP-D-48019-A14-RAL...*	4,8x19	1,5
WSBP-D-48025*	WSBP-D-48025-A14*	WSBP-D-48025-RAL...*	WSBP-D-48025-A14-RAL...*	4,8x25	2,5	250

Colors outside the basic palette RAL for enquiry and order

* on order

TECHNICAL PARAMETERS

Type		WSBP	WSBP-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	4,8	
Drilling capacity	Σt [mm]	≤ 2,5	
Socked wrench	S [mm]	SW-8	
Head height	k [mm]	4,5	
Head diameter	F [mm]	10,0	
Drill length	[mm]	5,0	
Washer EPDM	D [mm]	steel Z14	aluminium A14
Fastener material	-	carbon steel	

Type		WSBP	WSBP-D
Substrate material	-	steel ≥ S280GD	
Paint coating RAL	-	min. 60 µm	min. 60 µm
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	0,50	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,50	0,63	0,75	0,88	1,00	1,25
0,50	0,64/1,10	0,64/1,10	0,64/1,10	0,64/1,10	0,64/1,10	0,64/1,10
0,63	0,64/1,10	0,82/1,50	0,82/1,50	0,82/1,50	0,82/1,50	0,82/1,50
0,75	0,64/1,10	0,82/1,50	0,96/1,74	0,96/1,74	0,96/1,74	0,96/1,74
0,88	0,64/1,10	0,82/1,50	0,96/1,74	1,28/1,74	1,28/1,74	1,28/1,74
1,00	0,64/1,10	0,82/1,50	0,96/1,74	1,28/1,74	1,55/1,74	1,55/1,74
1,25	0,64/1,10	0,82/1,50	0,96/1,74	1,28/1,74	1,55/1,74	2,21/1,74

Partial safety factor of 1.33 recommended



Standard RAL colour chart for fastener WSW, WB6P

7016	7024	9006	9010	9003	3011	8017
3005	9005	3009	6005	6020	8004	8019

Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.
Colors outside the basic palette RAL require min. order in quantity on request and order.

Self-drilling fasteners for steel construction - drilling capacity to 3 mm



Zinc coated

Ø 4,8

WS
Length range: 16-32 mm



SQ Ceramic

Ø 4,8

WS-D
Length range: 16-32 mm

Self-drilling fastener for fixing steel sheets in steel construction

WS
Ø 4,8



SUBSTRATES



Steel profiles with thickness ≤ 3 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL	<ul style="list-style-type: none"> · For mounting profile sheets to a steel structure · For mounting flashings · For joining sheets with an overlap

* product on request and on order

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 3 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WS)

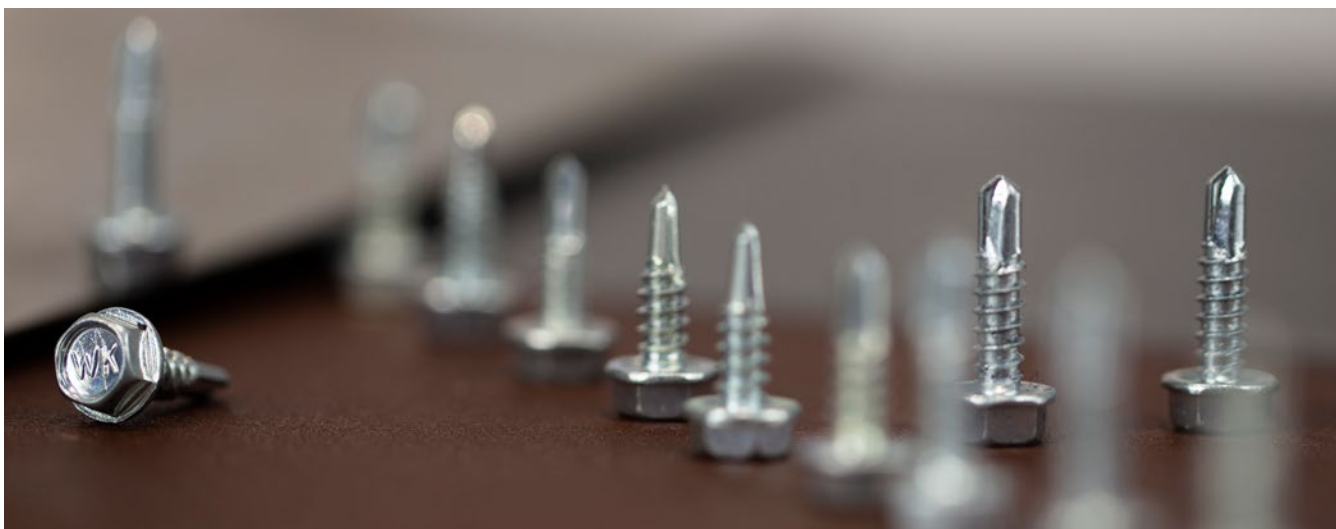
Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WS-D)

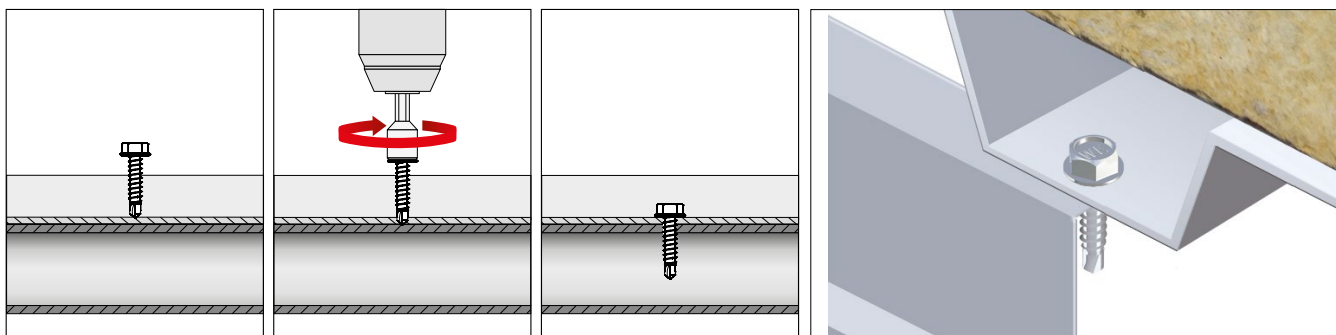
Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

SAMPLE APLICATION



Self-drilling fasteners for steel construction - drilling capacity to 3 mm

MOUNTING METHOD



ACCESSORIES

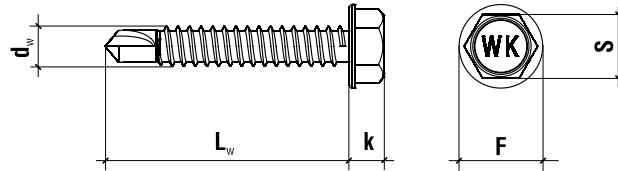
SEE PAGE 110-111

Self-drilling fastener for fixing steel sheets in steel construction

WS



How to read the code, e.g. WS-D-48016?			
WS	-D	48	016
Type	Coating type: SQ Ceramic	Fastener diameter: 4,8 mm	Fastener length 16 mm



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{tr} [mm]	[pcs]
WS - Zinc coated				
ø4,8	WS-48016	4,8x16	5	500
	WS-48019	4,8x19	9	500
	WS-48025	4,8x25	14	500
	WS-48032	4,8x32	21	500
WS-D - SQ Ceramic*				
ø4,8	WS-D-48016*	4,8x16	5	500
	WS-D-48019*	4,8x19	9	500
	WS-D-48025*	4,8x25	14	500
	WS-D-48032*	4,8x32	21	500

* on order

TECHNICAL PARAMETERS

Type	WS	WS-D
European Technical Assessment	ETA-16/0443	
Fastener diameter	d_w [mm]	4,8
Drilling capacity	Σt [mm]	≤ 3
Socketed wrench	S [mm]	SW-8
Head height	k [mm]	4,5
Head diameter	F [mm]	10,0
Drill length	[mm]	8,0
Washer EPDM	D [mm]	-

Type	WS	WS-D
Substrate material	steel ≥ S280GD	
Fastener material	carbon steel	
Protective coating	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation
Min. substrate thickness	h_{min} [mm]	0,75
Min. spacing	S_{min} [mm]	50
Min. edge distance	C_{min} [mm]	25

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]						
	0,50	0,63	0,75	0,88	1,00	1,25	1,50
0,75	0,63/1,32	0,78/1,59	0,78/2,38	0,78/2,38	0,78/2,38	0,78/2,38	0,78/2,38
0,88	0,63/1,32	0,89/1,59	0,97/2,38	0,97/3,02	0,97/3,02	0,97/3,02	0,97/3,02
1,00	0,63/1,32	0,89/1,59	1,01/2,38	1,07/3,02	1,16/3,03	1,16/3,03	1,16/3,03
1,25	0,63/1,32	0,89/1,59	1,01/2,38	1,07/3,02	1,16/3,03	1,16/3,10	1,16/3,10
1,50	0,63/1,32	0,89/1,59	1,01/2,38	1,07/3,02	1,16/3,03	1,16/3,10	1,16/3,15

Partial safety factor of 1.33 recommended



SQ CERAMIC



10_x improved resistance to corrosion*

*] compared to galvanising 5 µm

MAIN CHARACTERISTICS

- Very high protection against corrosion up to 1000 hours in the salted atmosphere chamber.
- Non - hexavalent chromium [Cr-VI].
- Thermal resistance up to 260 °C.
- Resistant to UV.
- Good adhesion of paint coatings.

Self-drilling fasteners for steel construction - drilling capacity to 3 mm



Zinc coated
WFOC, WF
Length range: 16-35 mm
Ø 4,8



SQ Ceramic
WF-D
Length range: 16-35 mm
Ø 4,8

Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WFOC, WF

Ø 4,8



SUBSTRATES



Steel profiles with thickness ≤ 3 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> • Zinc coated • SQ Ceramic*
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> • For mounting profile sheets to a steel structure • For mounting flashings • For joining sheets with an overlap

* product on request and on order



HEX HEAD SW-8

Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 3 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WFOC/WF)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WF-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

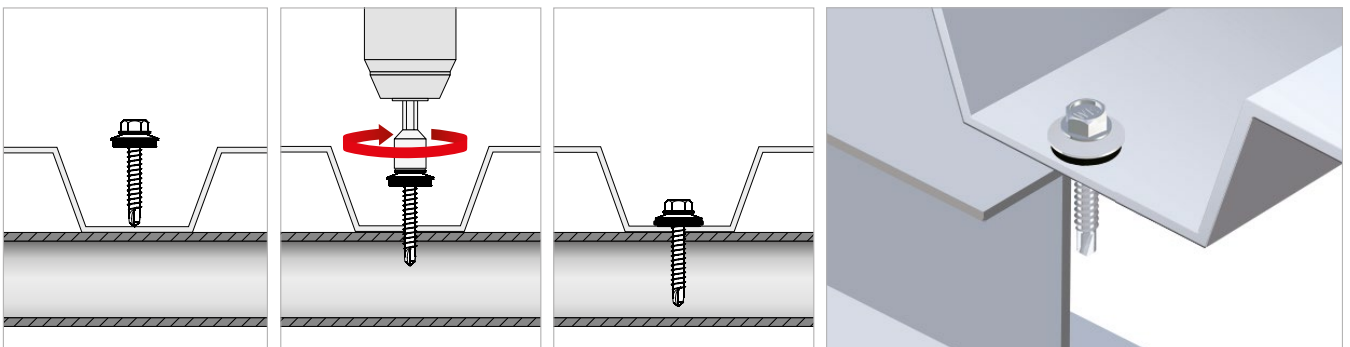
It seals and secures the connection from corrosion.

SAMPLE APLICATION



Fastening two layers of steel sheet profile

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

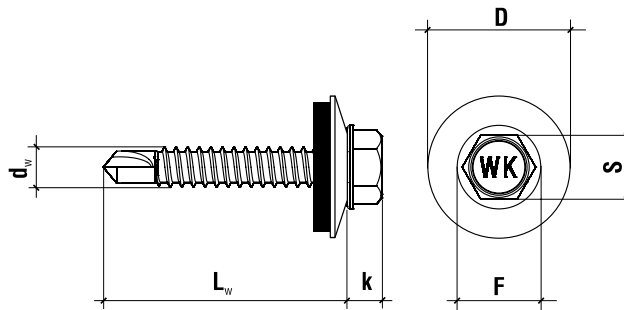
Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WFOC, WF



How to read the code, e.g. WF-D-48025?

WF	-D	48	025
Type	Coating type: SQ Ceramic	Fastener diameter: 4,8 mm	Fastener length 25 mm



ORDER TABLE

Code				Diameter and fastener length	Max. effective length	Quantity per unit box	
WFOC / WF - Zinc coated							
ø4,8	Zinc coated		Zinc coated + RAL*		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
	Code	Product code with washer	Code	Product code with washer			
	WFOC-48016	WFOC-48016-Z14	-	-	4,8x16	1	250
	WFOC-48019	WFOC-48019-Z14	WF-48019-RAL...	WF-48019-Z14-RAL...	4,8x19	4	250
	WFOC-48025	WFOC-48025-Z14	WF-48025-RAL...	WF-48025-Z14-RAL...	4,8x25	10	250
WFOC-48035	WFOC-48035-Z14	WF-48035-RAL...	WF-48035-Z14-RAL...	4,8x35	17	250	
WF-D - SQ Ceramic*							
ø4,8	SQ Ceramic		SQ Ceramic + RAL		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
	Code	Product code with washer	Code	Product code with washer			
	WF-D-48016*	WF-D-48016-A14*	-	-	4,8x16	1	250
	WF-D-48019*	WF-D-48019-A14*	WF-D-48019-RAL...*	WF-D-48019-A14-RAL...*	4,8x19	4	250
	WF-D-48025*	WF-D-48025-A14*	WF-D-48025-RAL...*	WF-D-48025-A14-RAL...*	4,8x25	10	250
WF-D-48035*	WF-D-48035-A14*	WF-D-48035-RAL...*	WF-D-48035-A14-RAL...*	4,8x35	17	250	

Colors outside the basic palette RAL for enquiry and order

* on order

TECHNICAL PARAMETERS

Type		WFOC/WF	WF-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	4,8	
Drilling capacity	Σt [mm]	≤ 3	
Socketed wrench	S [mm]	SW-8	
Head height	k [mm]	4,5	
Head diameter	F [mm]	10,0	
Drill length	[mm]	8,0	
Washer EPDM	D [mm]	steel Z14	aluminium A14
Fastener material	-	carbon steel	

Type		WFOC/WF	WF-D
Substrate material	-	steel ≥ S280GD	
Paint coating RAL	-	min. 60 µm	min. 60 µm
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	0,75	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

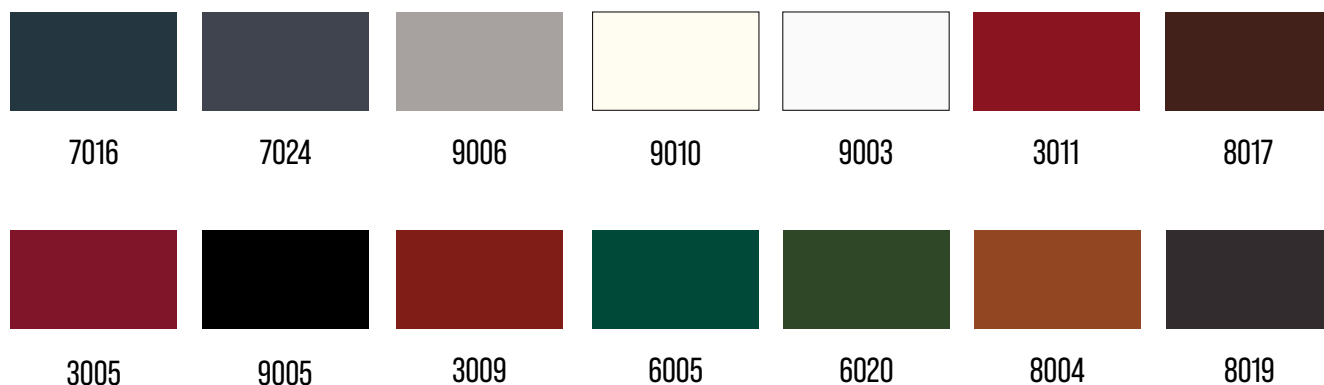
CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]						
	0,50	0,63	0,75	0,88	1,00	1,25	1,50
0,75	0,78/1,32	0,78/1,59	0,78/2,38	0,78/2,38	0,78/2,38	0,78/2,38	0,78/2,38
0,88	0,97/1,32	0,97/1,59	0,97/2,38	0,97/3,02	0,97/3,02	0,97/3,02	0,97/3,02
1,00	1,18/1,32	1,18/1,59	1,18/2,38	1,18/3,02	1,18/3,03	1,18/3,03	1,18/3,03
1,25	1,69/1,32	1,69/1,59	1,69/2,38	1,69/3,02	1,69/3,03	1,69/3,10	1,69/3,10
1,50	2,04/1,32	2,04/1,59	2,04/2,38	2,04/3,02	2,04/3,03	2,04/3,10	2,04/3,15

Partial safety factor of 1.33 recommended



Standard RAL colour chart for fastener WSW, WB6P



Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

Self-drilling fasteners for steel construction - drilling capacity to 3 mm

Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm



Zinc coated
WS
Length range: 19-120 mm
Ø 5,5



SQ Ceramic
WS-D
Length range: 19-120 mm
Ø 5,5

Self-drilling fastener for fixing steel sheets in steel construction

WS
Ø 5,5



SUBSTRATES



Steel profiles with thickness ≤ 5 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL	<ul style="list-style-type: none"> · For mounting steel sheets to a steel structure · For mounting profile steel sheet to a steel structure · For mounting steel wall cassetts to a steel structure

* product on request and on order

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 5 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WS)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WS-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

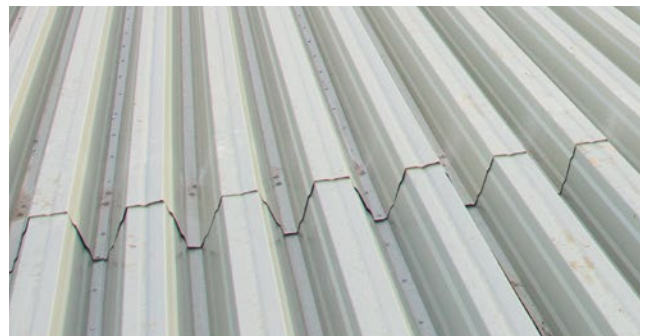
SAMPLE APPLICATION



Sample application

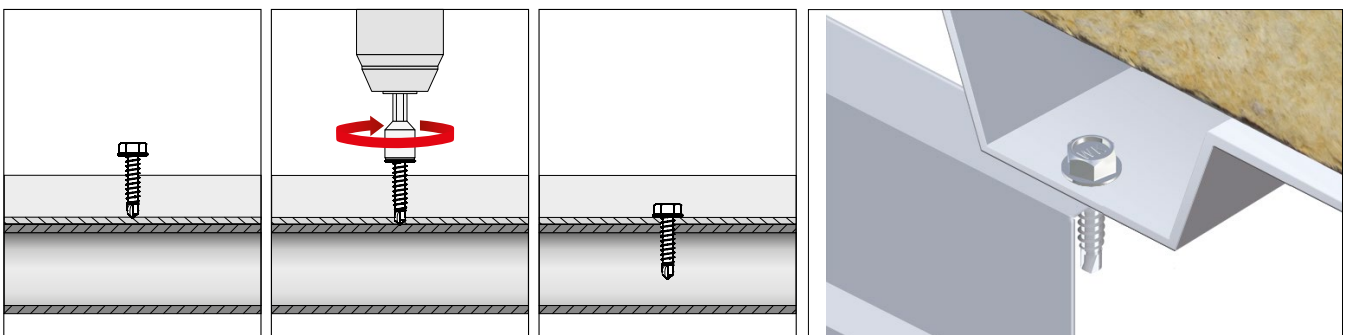


Sample application



Sample application

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

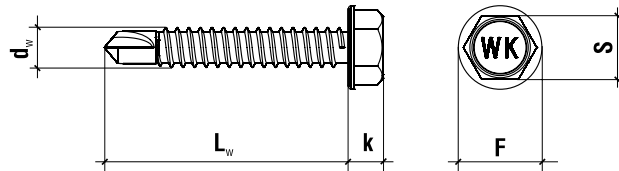
Self-drilling fastener for fixing steel sheets in steel construction

WS



How to read the code, e.g. WS-D-55032?

WS	-D	55	032
Type	Coating type: SQ Ceramic	Fastener diameter: 5,5 mm	Fastener length 32 mm



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WS - Zinc coated				
ø5,5	WS-55019	5,5x19	4	500
	WS-55025	5,5x25	10	500
	WS-55032	5,5x32	17	500
	WS-55038	5,5x38	23	250
	WS-55045	5,5x45	30	250
	WS-55050	5,5x50	35	250
	WS-55060	5,5x60	45	250
	WS-55075	5,5x75	60	200
	WS-55090	5,5x90	75	100
	WS-55120	5,5x120	105	100
WS-D - SQ Ceramic*				
ø5,5	WS-D-55019*	5,5x19	4	500
	WS-D-55025*	5,5x25	10	500
	WS-D-55032*	5,5x32	17	500
	WS-D-55038*	5,5x38	23	250
	WS-D-55045*	5,5x45	30	250
	WS-D-55050*	5,5x50	35	250
	WS-D-55060*	5,5x60	45	250
	WS-D-55075*	5,5x75	60	200
	WS-D-55090*	5,5x90	75	100
	WS-D-55120*	5,5x120	105	100

* on order

Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm

TECHNICAL PARAMETERS

Type		WS	WS-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	5,5	
Drilling capacity	Σt [mm]	≤ 5	
Socked wrench	S [mm]	SW-8	
Head height	k [mm]	4,9	
Head diameter	F [mm]	10,5	
Drill length	[mm]	9,0	
Washer EPDM	D [mm]	-	

Type		WS	WS-D
Substrate material	-	steel ≥ S280GD	
Fastener material	-	carbon steel	
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	1,0	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,50	0,63	0,75	0,88	1,00	1,25 ÷ 2,00
1,00	0,63/1,53	0,89/1,88	1,01/2,52	1,07/2,87	1,10/2,90	1,10/4,09
1,25 ÷ 3,00	0,63/1,53	0,89/1,88	1,01/2,52	1,07/2,87	1,16/2,90	1,16/4,09

Partial safety factor of 1.33 recommended

Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm

Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm



Zinc coated
WFOC, WF
Length range: 19-75 mm
Ø 5,5



SQ Ceramic
WF-D
Length range: 19-75 mm
Ø 5,5

Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WFOC, WF

Ø 5,5



SUBSTRATES



Steel profiles with thickness ≤ 5 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> · For mounting steel sheets to a steel structure · For mounting profile steel sheet to a steel structure

* product on request and on order



HEX HEAD SW-8

Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 5 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WFOC / WF)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WF-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



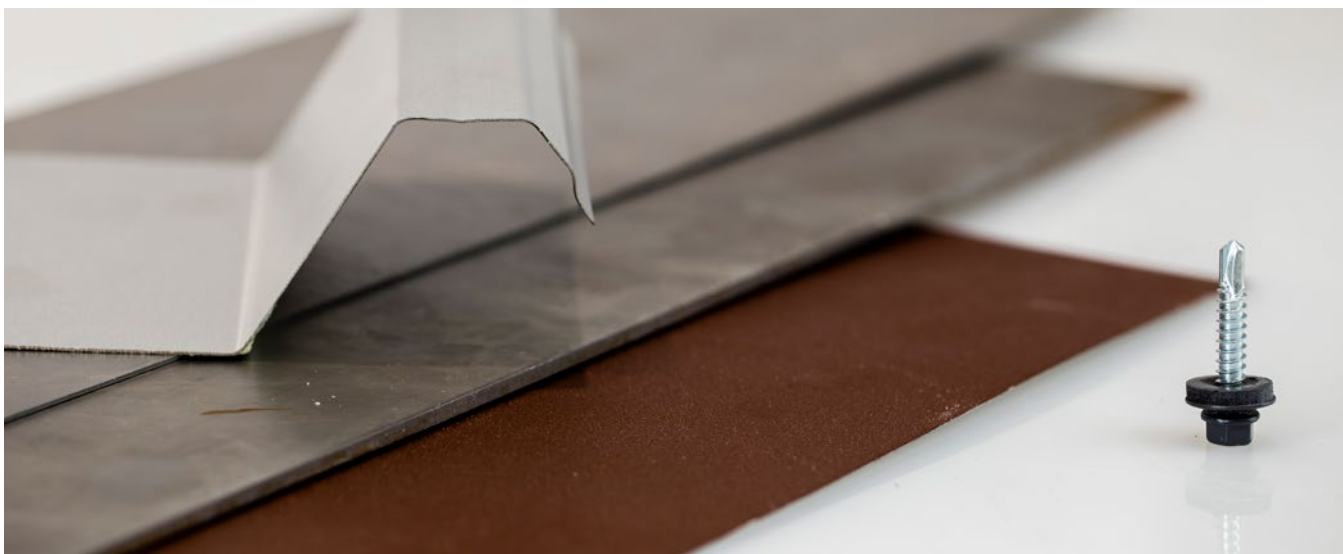
POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.

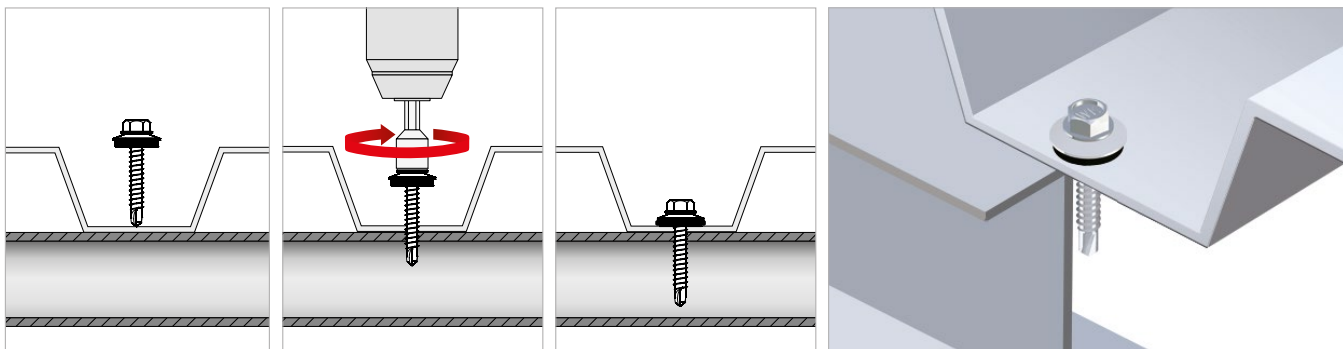


EPDM WASHER

It seals and secures the connection from corrosion.



MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

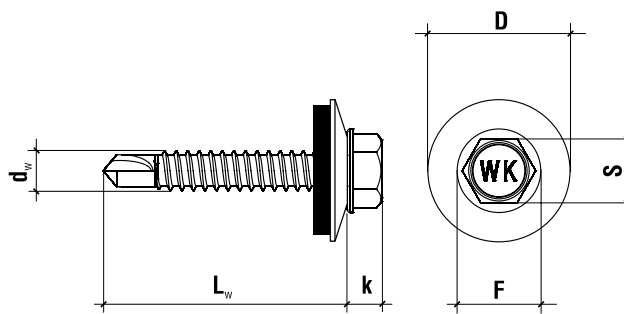
Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WFOC, WF



How to read the code, e.g. WF-D-55032?

WF	-D	55	032
Type	Coating type: SQ Ceramic	Fastener diameter: 5,5 mm	Fastener length 32 mm



ORDER TABLE

Code		Diameter and fastener length		Max. effective length	Quantity per unit box		
WFOC / WF - Zinc coated							
ø 5,5	Zinc coated		Zinc coated + RAL*		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
	Code	Product code with washer	Code	Product code with washer			
	WFOC-55019	WFOC-55019-Z16	WF-55019-RAL	WF-55019-Z16-RAL	5,5x19	1	250
	WFOC-55025	WFOC-55025-Z16	WF-55025-RAL	WF-55025-Z16-RAL	5,5x25	7	250
	WFOC-55032	WFOC-55032-Z16	WF-55032-RAL	WF-55032-Z16-RAL	5,5x32	14	250
	WFOC-55038	WFOC-55038-Z16	WF-55038-RAL	WF-55038-Z16-RAL	5,5x38	20	250
	WFOC-55045	WFOC-55045-Z16	WF-55045-RAL	WF-55045-Z16-RAL	5,5x45	27	250
	WFOC-55050	WFOC-55050-Z16	WF-55050-RAL	WF-55050-Z16-RAL	5,5x50	32	100
	WFOC-55060	WFOC-55060-Z16	WF-55060-RAL	WF-55060-Z16-RAL	5,5x60	42	100
	WFOC-55075	WFOC-55075-Z16	WF-55075-RAL	WF-55075-Z16-RAL	5,5x75	57	100
WF-D - SQ Ceramic*							
ø 5,5	SQ Ceramic		SQ Ceramic + RAL		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
	Code	Product code with washer	Code	Product code with washer			
	WF-D-55019*	WF-D-55019-A16*	WF-D-55019-RAL*	WF-D-55019-A16-RAL*	5,5x19	1	250
	WF-D-55025*	WF-D-55025-A16*	WF-D-55025-RAL*	WF-D-55025-A16-RAL*	5,5x25	7	250
	WF-D-55032*	WF-D-55032-A16*	WF-D-55032-RAL*	WF-D-55032-A16-RAL*	5,5x32	14	250
	WF-D-55038*	WF-D-55038-A16*	WF-D-55038-RAL*	WF-D-55038-A16-RAL*	5,5x38	20	250
	WF-D-55045*	WF-D-55045-A16*	WF-D-55045-RAL*	WF-D-55045-A16-RAL*	5,5x45	27	250
	WF-D-55050*	WF-D-55050-A16*	WF-D-55050-RAL*	WF-D-55050-A16-RAL*	5,5x50	32	100
	WF-D-55060*	WF-D-55060-A16*	WF-D-55060-RAL*	WF-D-55060-A16-RAL*	5,5x60	42	100
	WF-D-55075*	WF-D-55075-A16*	WF-D-55075-RAL*	WF-D-55075-A16-RAL*	5,5x75	57	100

* on order

Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm

TECHNICAL PARAMETERS

Type		WFOC/WF	WF-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	5,5	
Drilling capacity	Σ_{\varnothing} [mm]	≤ 5	
Socked wrench	S [mm]	SW-8	
Head height	k [mm]	4,9	
Head diameter	F [mm]	10,5	
Drill length	[mm]	9,0	
Washer EPDM	D [mm]	steel Z16	aluminium A16
Fastener material	-	carbon steel	

Type		WFOC/WF	WF-D
Substrate material	-	steel ≥ S280GD	
Paint coating RAL	-	min. 60 µm	min. 60 µm
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	1,0	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

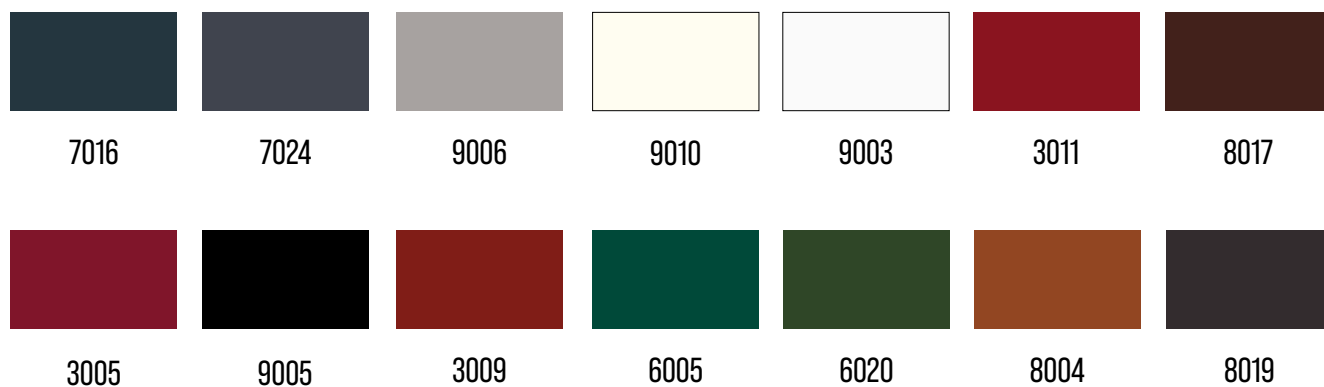
Characteristic pull-out / shear strength [kN]

Substrate thickness [mm]	Construction thickness [mm]					
	0,50	0,63	0,75	0,88	1,00	1,25 ÷ 2,00
1,00	1,10/1,53	1,10/1,88	1,10/2,52	1,10/2,87	1,10/2,90	1,10/4,09
1,25	1,86/1,53	1,86/1,88	1,86/2,52	1,86/2,87	1,86/2,90	1,86/4,09
1,50	1,97/1,53	1,97/1,88	1,97/2,52	1,97/2,87	1,97/2,90	1,97/4,09
2,00 ÷ 3,00	2,99/1,53	2,99/1,88	2,99/2,52	2,99/2,87	2,99/2,90	2,99/4,09

Partial safety factor of 1.33 recommended



Standard RAL colour chart for fasteners WSW, WB6P



Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

Self-drilling fasteners for steel construction – drilling capacity from 3 to 6 mm



Zinc coated	
Ø 6,3	WS Length range: 19-100 mm



SQ Ceramic	
Ø 6,3	WS-D Length range: 19-100 mm

Self-drilling fastener for fixing steel sheets in steel construction

WS
Ø 6,3



SUBSTRATES



Steel profiles with thickness ≤ 7 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL	<ul style="list-style-type: none"> · For mounting steel sheets to a steel structure · For mounting profile steel sheet to a steel structure. · For mounting steel wall casets to a steel structure.

* product on request and on order



HEX HEAD SW-10

Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 7 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WS)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WS-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

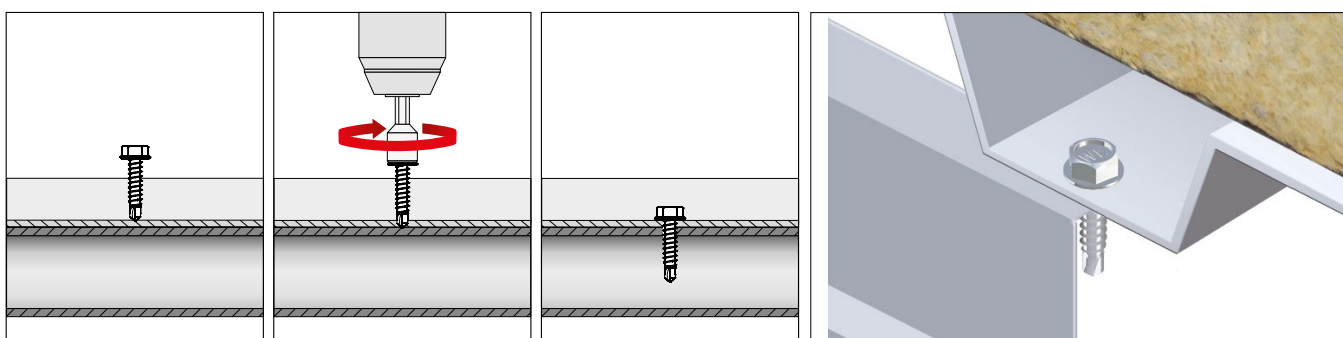
SAMPLE APPLICATION



Sample application



MOUNTING METHOD

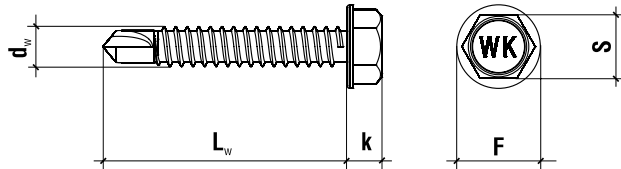


ACCESSORIES

SEE PAGE 110-111

Self-drilling fastener for fixing steel sheets in steel construction

WS



How to read the code, e.g. WS-D-63032?

WS	-D	63	032
Type	Coating type: SQ Ceramic	Fastener diameter: 6,3 mm	Fastener length: 32 mm

ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WS - Zinc coated				
ø 6,3	WS-63019	6,3x19	4	250
	WS-63025	6,3x25	10	250
	WS-63032	6,3x32	17	250
	WS-63038	6,3x38	23	200
	WS-63100	6,3x100	85	100
WS-D - SQ Ceramic*				
ø 6,3	WS-D-63019*	6,3x19	4	250
	WS-D-63025*	6,3x25	10	250
	WS-D-63032*	6,3x32	17	250
	WS-D-63038*	6,3x38	23	200
	WS-D-63100*	6,3x100	85	100

* on order

TECHNICAL PARAMETERS

Type		WS	WS-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	6,3	
Drilling capacity	$\sum t$ [mm]	≤ 7	
Socked wrench	S [mm]	SW-10	
Head height	k [mm]	5,4	
Head diameter	F [mm]	12,5	
Drill length	[mm]	11,0	
Washer EPDM	D [mm]	-	

Type		WS	WS-D
Substrate material	-	steel ≥ S280GD	
Fastener material	-	carbon steel	
Protective coating	-	galvanized zinc coating min. 12µm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through insteellation	
Min. substrate thickness	h_{min} [mm]	3,0	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,50	0,63	0,75	0,88	1,00	1,25 ÷ 2,00
3,0 ÷ 5,0	0,63/1,75	0,89/2,48	1,01/3,04	1,07/3,59	1,16/3,62	1,16/4,57

Partial safety factor of 1.33 recommended

Sample product display



Self-drilling fasteners for steel construction - drilling capacity from 6 to 12 mm





Zinc coated
WFOC, WF
Length range: 19-38 mm
Ø 6,3



SQ Ceramic
WF-D
Length range: 19-38 mm
Ø 6,3

Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WFOC, WF

Ø 6,3



SUBSTRATES



Steel profiles with thickness ≤ 7 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> · For mounting steel sheets to a steel structure · For mounting profile steel sheet to a steel structure

* product on request and on order

HEX HEAD SW-10



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 7 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WFOC / WF)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WF-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

It seals and secures the connection from corrosion.

SAMPLE APPLICATION



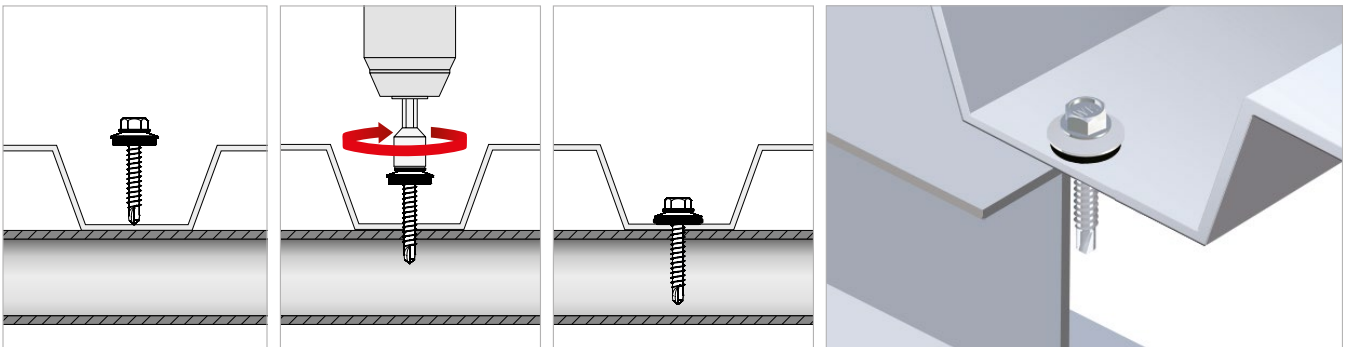
Sample application



Sample application



MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

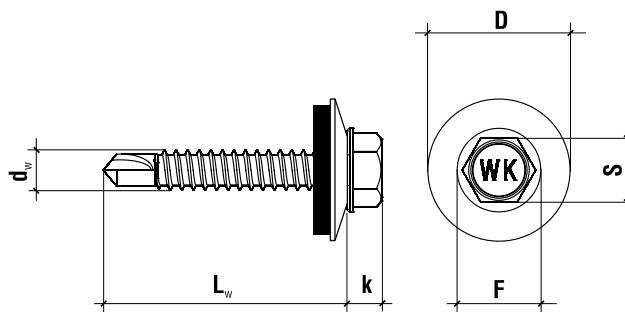
Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WFOC, WF



How to read the code, e.g. WF-D-63032?

WF	-D	63	032
Type	Coating type: SQ Ceramic	Fastener diameter: 6,3 mm	Fastener length 32 mm



ORDER TABLE

Code				Diameter and fastener length	Max. effective length	Quantity per unit box	
WFOC / WF - Zinc coated							
ø 6,3	Zinc coated		Zinc coated + RAL*		d _w x L _w [mm]	t _{fix} [mm]	[pcs]
	Code	Product code with washer	Code	Product code with washer			
	WFOC-63019	WFOC-63019-Z19	WF-63019-RAL...	WF-63019-Z19-RAL...	6,3x19	1	200
	WFOC-63025	WFOC-63025-Z19	WF-63025-RAL...	WF-63025-Z19-RAL...	6,3x25	7	200
	WFOC-63032	WFOC-63032-Z19	WF-63032-RAL...	WF-63032-Z19-RAL...	6,3x32	14	200
WFOC-63038	WFOC-63038-Z19	WF-63038-RAL...	WF-63038-Z19-RAL...	6,3x38	20	200	
WF-D - SQ Ceramic*							
ø 6,3	SQ Ceramic		SQ Ceramic + RAL		d _w x L _w [mm]	t _{fix} [mm]	[pcs]
	Code	Product code with washer	Code	Product code with washer			
	WF-D-63019*	WF-D-63019-A19*	WF-D-63019-RAL...*	WF-D-63019-A19-RAL...*	6,3x19	1	200
	WF-D-63025*	WF-D-63025-A19*	WF-D-63025-RAL...*	WF-D-63025-A19-RAL...*	6,3x25	7	200
	WF-D-63032*	WF-D-63032-A19*	WF-D-63032-RAL...*	WF-D-63032-A19-RAL...*	6,3x32	14	200
WF-D-63038*	WF-D-63038-A19*	WF-D-63038-RAL...*	WF-D-63038-A19-RAL...*	6,3x38	20	200	

Colors outside the basic palette RAL for enquiry and order

* on order

TECHNICAL PARAMETERS

Type		WFOC/WF	WF-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	6,3	
Drilling capacity	$\sum t$ [mm]	≤ 7	
Socked wrench	S [mm]	SW-10	
Head height	k [mm]	5,4	
Head diameter	F [mm]	12,5	
Drill length	[mm]	11,0	
Washer EPDM	D [mm]	steel Z19	aluminium A19
Fastener material	-	carbon steel	

Type		WFOC/WF	WF-D
Substrate material	-	steel \geq S280GD	
Paint coating RAL	-	min. 60 μ m	min. 60 μ m
Protective coating	-	galvanized zinc coating min. 12 μ m	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	3,0	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

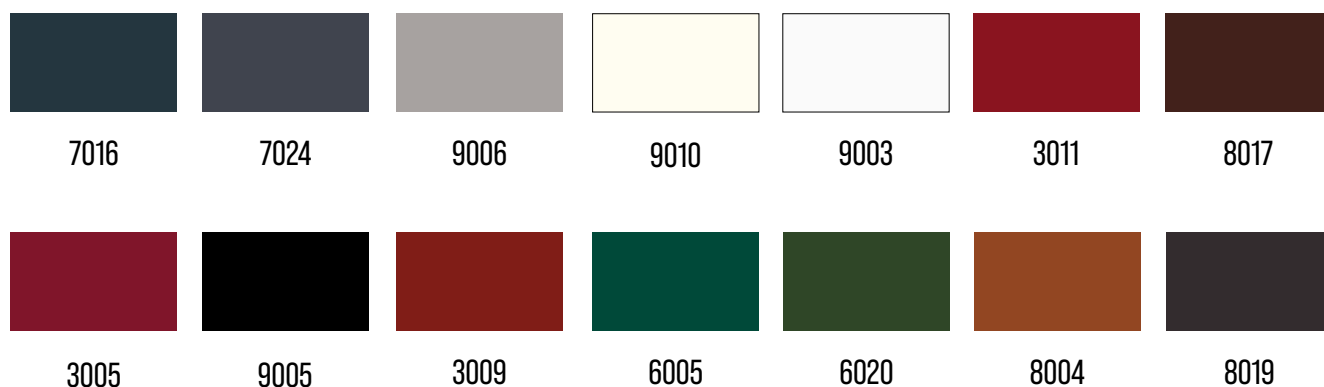
CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,50	0,63	0,75	0,88	1,00	1,25 \div 2,00
3,00 \div 5,00	3,93/1,75	4,69/2,48	6,87/3,04	7,23/3,59	7,23/3,62	7,23/4,57

Partial safety factor of 1.33 recommended



Standard RAL colour chart for fasteners WSW, WB6P



Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

Self-drilling fasteners for steel construction - drilling capacity from 6 to 12 mm



Zinc coated
WSS
Length range: 32-50 mm
Ø 5,5



SQ Ceramic
WSS-D
Length range: 32-50 mm
Ø 5,5

Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WSS
Ø 5,5



SUBSTRATES



Steel profiles with thickness ≤ 12 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic*
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> · For mounting steel sheets to a steel structure · For mounting steel sheet profile to steel construction

* product on request and on order



HEX HEAD SW-8

Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 12 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WSS)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WSS-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

It seals and secures the connection from corrosion.

SAMPLE APLICATION



Mounting sample

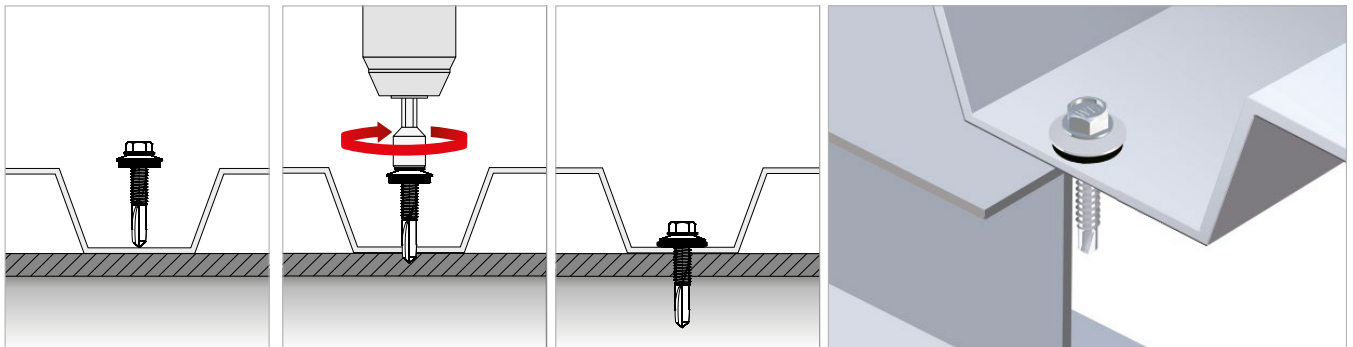


Mounting sample



Mounting sample

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

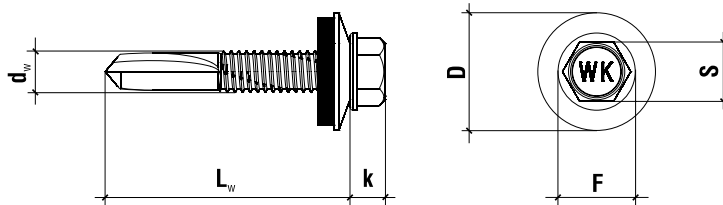
Self-drilling fastener with EPDM washer for fixing steel sheets in steel construction

WSS



How to read the code, e.g. WSS-D-55032?

WSS	-D	55	032
Type	Coating type: SQ Ceramic	Fastener diameter: 5,5 mm	Fastener length 32 mm



ORDER TABLE

Code				Diameter and fastener length	Max. effective length	Quantity per unit box	
WSS - Zinc coated							
ø 5,5	Zinc coated	Zinc coated + RAL*		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]	
	Code	Product code with washer	Code				Product code with washer
	WSS-55032	WSS-55032-Z16	WSS-55032-RAL...				WSS-55032-Z16-RAL...
	WSS-55038	WSS-55038-Z16	WSS-55038-RAL...				WSS-55038-Z16-RAL...
WSS-55050	WSS-55050-Z16	WSS-55050-RAL...	WSS-55050-Z16-RAL...	5,5x50	17	250	
WSS-D - SQ Ceramic*							
ø 5,5	SQ Ceramic	SQ Ceramic + RAL		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]	
	Code	Product code with washer	Code				Product code with washer
	WSS-D-55032*	WSS-D-55032-A16*	WSS-D-55032-RAL...*				WSS-D-55032-A16-RAL...*
	WSS-D-55038*	WSS-D-55038-A16*	WSS-D-55038-RAL...*				WSS-D-55038-A16-RAL...*
WSS-D-55050*	WSS-D-55050-A16*	WSS-D-55050-RAL...*	WSS-D-55050-A16-RAL...*	5,5x50	17	250	

Colors outside the basic palette RAL for enquiry and order

* on order

TECHNICAL PARAMETERS

Type		WSS	WSS-D
European Technical Assessment	-	ETA-16/0443	
Fastener diameter	d_w [mm]	5,5	
Drilling capacity	$\sum t$ [mm]	≤ 12	
Socketed wrench	S [mm]	SW-8	
Head height	k [mm]	4,9	
Head diameter	F [mm]	10,5	
Drill length	[mm]	15,0	
Washer EPDM	D [mm]	steel Z16	aluminium A16
Fastener material	-	carbon steel	

Type		WSS	WSS-D
Substrate material	-	steel ≥ S280GD	
Paint coating RAL	-	min. 60 μm	min. 60 μm
Protective coating	-	galvanized zinc coating min. 12μm	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	4,0	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]							
	0,50	0,63	0,75	0,88	1,00	1,25	1,50	2,00
4,00	3,81/1,53	3,81/1,88	3,81/2,50	3,81/2,87	3,81/2,89	3,81/2,89	3,81/2,89	3,81/2,89
5,00	3,81/1,53	3,81/1,88	3,81/2,50	3,81/2,87	3,81/2,89	3,81/2,89	3,81/2,89	3,81/2,89
6,00	3,81/1,53	3,81/1,88	3,81/2,50	3,81/2,87	3,81/2,89	3,81/2,89	3,81/2,89	3,81/2,89
8,00	3,81/1,53	3,81/1,88	3,81/2,50	3,81/2,87	3,81/2,89	3,81/2,89	3,81/2,89	3,81/2,89
10,00	3,81/1,53	3,81/1,88	3,81/2,50	3,81/2,87	3,81/2,89	3,81/2,89	3,81/2,89	3,81/2,89

Partial safety factor of 1.33 recommended



Standard RAL colour chart for fasteners WSW, WB6P

7016	7024	9006	9010	9003	3011	8017
3005	9005	3009	6005	6020	8004	8019

Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

Self-drilling fasteners for steel construction - drilling capacity from 6 to 12 mm

Self-drilling fastener for fixing sandwich panels in steel construction – drilling capacity ≤ 6



Self-drilling fastener with EPDM washer for fixing sandwich panels in steel construction

WSW-6

Ø 5,5



SUBSTRATES



Steel profiles with thickness ≤ 6 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	· SQ Ceramic
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> · For fixing sandwich panels to a steel substrate · For fixing wall sandwich panels in vertical and horizontal layout · For fixing roof sandwich panels · For surface assembly · For immersed assembly (in sandwich panel lock)

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 6 mm, short time of fixing.



ANTI-CORROSION COATING - SQ CERAMIC (WSW)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

It seals and secures the connection from corrosion.

SQ Ceramic	
Ø 5,5	WSW-6 Length range: 65-275 mm

SAMPLE APPLICATION



Mounting sample

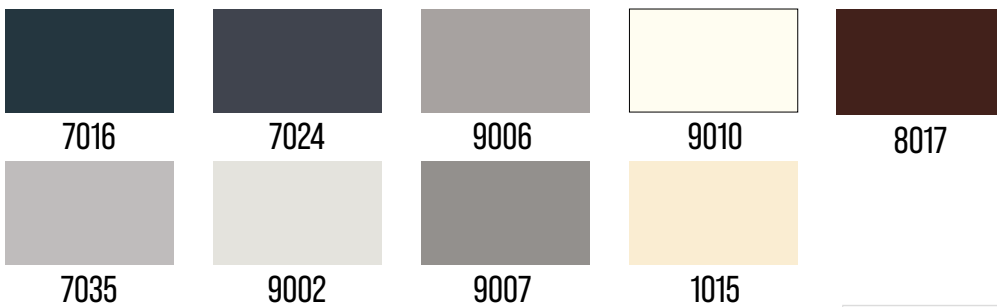


Mounting sample

Self-drilling fastener for fixing sandwich panels in steel construction – drilling capacity ≈ 6



Standard RAL colour chart for fasteners WSW, WB6P



Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

ACCESSORIES

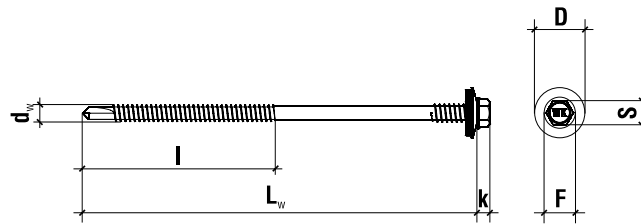
SEE PAGE 110-111

Self-drilling fastener with EPDM washer for fixing sandwich panels in steel construction

WSW-6



How to read the code, e.g. WSW-6-55085-A19?			
WSW-6	55	085	-A19
Type	Fastener diameter: 5,5 mm	fastener length 85 mm	Washer type



ORDER TABLE

	Code	Diameter and fastener length	Sandwich panel thickness range	thread lenght with drill	Quantity per unit box		
WSW - 6 - SQ Ceramic							
ø 5,5	SQ Ceramic	SQ Ceramic + RAL*	$d_w \times L_w$ [mm]	[mm]	l [mm]	[pcs]	
	Code	Code					
		WSW-6-55065-A19	WSW-6-55065-A19-RAL...	5,5x65	20-45	50	100
		WSW-6-55085-A19	WSW-6-55085-A19-RAL...	5,5x85	40-65	50	100
		WSW-6-55105-A19	WSW-6-55105-A19-RAL...	5,5x105	60-85	50	100
		WSW-6-55125-A19	WSW-6-55125-A19-RAL...	5,5x125	60-105	70	100
		WSW-6-55150-A19	WSW-6-55150-A19-RAL...	5,5x150	85-130	70	100
		WSW-6-55175-A19	WSW-6-55175-A19-RAL...	5,5x175	110-155	70	100
		WSW-6-55200-A19	WSW-6-55200-A19-RAL...	5,5x200	135-180	70	100
		WSW-6-55225-A19	WSW-6-55225-A19-RAL...	5,5x225	160-205	70	100
	WSW-6-55275-A19	WSW-6-55275-A19-RAL...	5,5x275	210-255	70	100	

Colors outside the basic palette RAL for enquiry and order
* on order

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,40	0,50	0,63	0,75	0,88	1,00
2,00	1,83/0,83	2,37/1,31	2,37/1,63	2,37/1,93	2,37/1,93	2,37/1,93
2,50	1,83/0,83	2,37/1,31	2,37/1,63	2,37/1,93	2,37/1,93	2,37/1,93
3,00	1,83/0,83	2,37/1,31	2,37/1,63	2,37/1,93	2,37/1,93	2,37/1,93
4,00	1,83/0,83	3,17/1,31	4,04/1,63	4,64/1,93	4,64/1,93	4,64/1,93
5,00	1,83/0,83	3,17/1,31	4,04/1,63	4,64/1,93	4,64/1,93	4,64/1,93

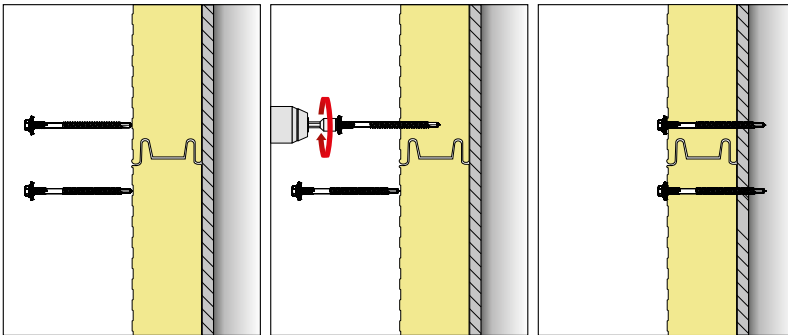
Partial safety factor of 1.33 recommended

TECHNICAL PARAMETERS

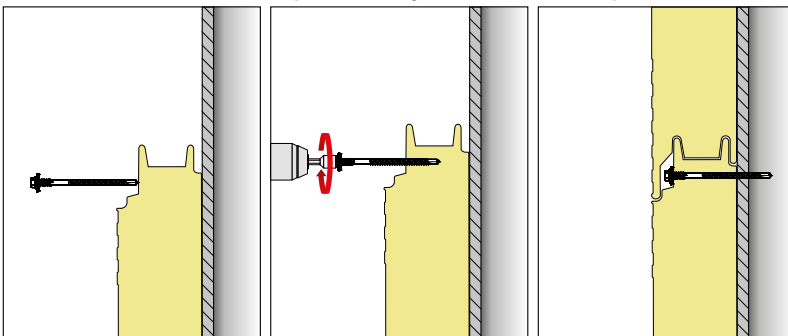
Type	WSW-6	
European Technical Assessment	-	ETA-16/0444
Fastener diameter	d_w [mm]	5,5
Drilling capacity	Σt [mm]	≤ 6
Socked wrench	S [mm]	SW-8
Head height	k [mm]	5,4
Head diameter	F [mm]	10,5
Drill length	[mm]	10,0
Washer EPDM	D [mm]	aluminium A19
Fastener material	-	carbon steel

Type	WSW-6	
Substrate material	-	steel ≥ S235JR
Paint coating RAL	-	min. 60 µm
Protective coating	-	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation
Min. substrate thickness	h_{min} [mm]	2,0
Min. spacing	S_{min} [mm]	50
Min. edge distance	C_{min} [mm]	25

MOUNTING METHOD - wall sandwich panel - surface mount

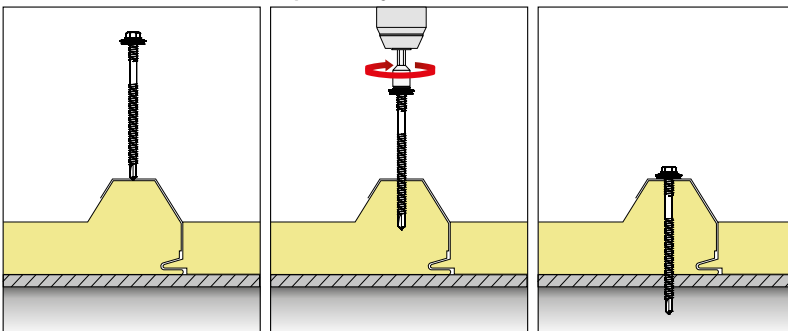


MOUNTING METHOD - wall sandwich panel - immersed mount (in sandwich panel lock)



The length of the fastener should be matched to the thickness of the sandwich panel lock

MOUNTING METHOD - roof sandwich panel - only surface mount



Fastener length should additionally take into account the height of the upper wave of the sandwich panel



Self-drilling fastener with EPDM washer for fixing sandwich panels in steel construction

WSW-12

∅ 5,5



ETA-16/0444



SW-8



SUBSTRATES



Steel profiles with thickness ≤ 12 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	· SQ Ceramic
APPLICATION: INTERNAL I ZEWNĘTRZNE	<ul style="list-style-type: none"> · For fixing sandwich panels to a steel substrate · For fixing wall sandwich panels in vertical and horizontal layout · For fixing roof sandwich panels · For surface assembly · For immersed assembly (in sandwich panel lock)

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 12 mm, short time of fixing.



ANTI-CORROSION COATING - SQ CERAMIC (WSW)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

It seals and secures the connection from corrosion.

SQ Ceramic

∅ 5,5

WSW-12
Length range: 95-285 mm

SAMPLE APLICATION



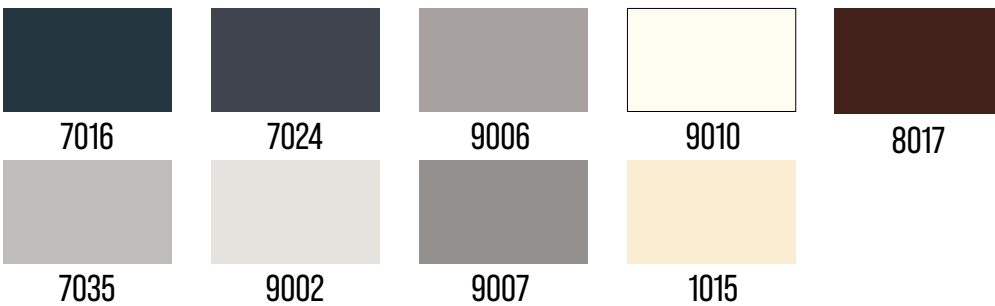
Mounting sample



Mounting sample



Standard RAL colour chart for fasteners WSW, WB6P



Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

ACCESSORIES

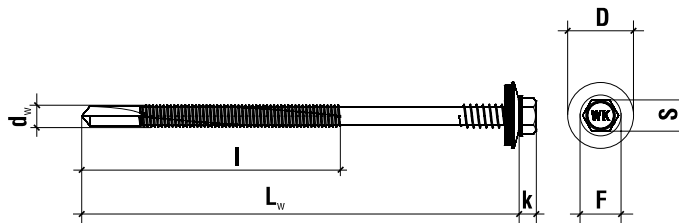
SEE PAGE 110-111

Self-drilling fastener with EPDM washer for fixing sandwich panels in steel construction

WSW-12



How to read the code, e.g. WSW-12-55095-A19?			
WSW-12	55	095	-A19
Type	Fastener diameter: 5,5 mm	Fastener length 95 mm	Washer type



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Thread length with drill	Quantity per unit box		
WSW - 12 - SQ Ceramic							
ø 5,5	SQ Ceramic	SQ Ceramic + RAL*	$d_w \times L_w$ [mm]	[mm]	l [mm]	[pcs]	
	Code	Code					
		WSW-12-55095-A19	WSW-12-55095-A19-RAL...	5,5x95	50-65	50	100
		WSW-12-55115-A19	WSW-12-55115-A19-RAL...	5,5x115	70-85	50	100
		WSW-12-55135-A19	WSW-12-55135-A19-RAL...	5,5x135	70-105	70	100
		WSW-12-55155-A19	WSW-12-55155-A19-RAL...	5,5x155	90-125	70	100
		WSW-12-55175-A19	WSW-12-55175-A19-RAL...	5,5x175	110-145	70	100
		WSW-12-55195-A19	WSW-12-55195-A19-RAL...	5,5x195	130-165	70	100
		WSW-12-55235-A19	WSW-12-55235-A19-RAL...	5,5x235	170-205	70	100
		WSW-12-55285-A19	WSW-12-55285-A19-RAL...	5,5x285	220-255	70	100

Colors outside the basic palette RAL for enquiry and order
* on order

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Steel sheet thickness [mm]	Construction thickness [mm]					
	0,40	0,50	0,63	0,75	0,88	1,00
4,00	1,83/0,83	3,17/1,33	4,04/1,62	4,64/1,91	4,64/1,91	4,64/1,91
5,00	1,83/0,83	3,17/1,33	4,04/1,62	4,64/1,91	4,64/1,91	4,64/1,91
6,00	1,83/0,83	3,17/1,33	4,04/1,62	4,64/1,91	4,64/1,91	4,64/1,91
8,00	1,83/0,83	3,17/1,33	4,04/1,62	4,64/1,91	4,64/1,91	4,64/1,91
10,00	1,83/0,83	3,17/1,33	4,04/1,62	4,64/1,91	4,64/1,91	4,64/1,91
11,00	1,83/0,83	3,17/1,33	4,04/1,62	4,64/1,91	4,64/1,91	4,64/1,91

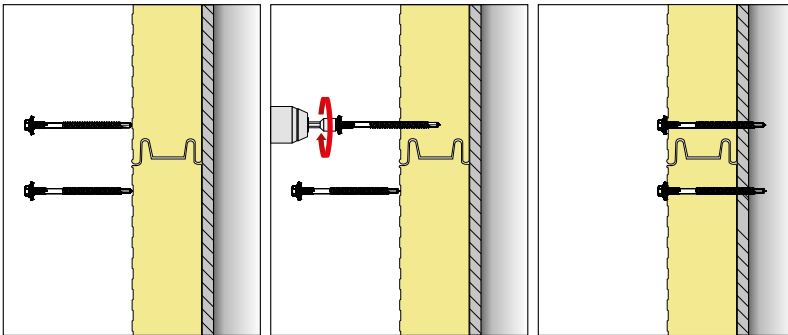
Partial safety factor of 1.33 recommended

TECHNICAL PARAMETERS

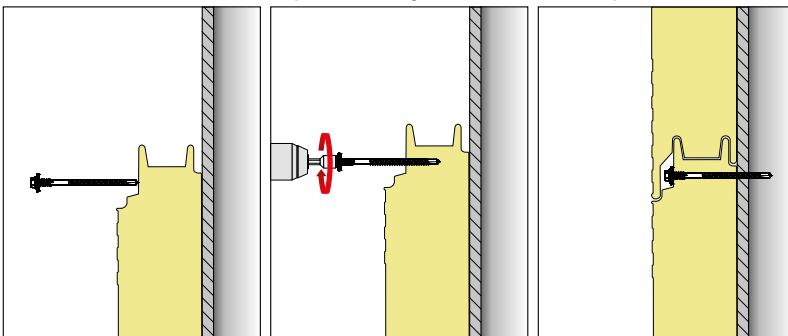
Type	WSW-12	
European Technical Assessment	-	ETA-16/0444
Fastener diameter	d_w [mm]	5,5
Drilling capacity	Σt [mm]	≤ 12
Socked wrench	S [mm]	SW-8
Head height	k [mm]	5,4
Head diameter	F [mm]	10,5
Drill length	[mm]	19,0
Washer EPDM	D [mm]	aluminium A19
Fastener material	-	carbon steel

Type	WSW-12	
Substrate material	-	steel ≥ S235JR
Paint coating RAL	-	min. 60 µm
Protective coating	-	ceramic coating SQ Ceramic
Fastener anchorage depth	h_{eff} [mm]	push-through installation
Min. substrate thickness	h_{min} [mm]	4,0
Min. spacing	S_{min} [mm]	50
Min. edge distance	C_{min} [mm]	25

MOUNTING METHOD - wall sandwich panel - surface mount

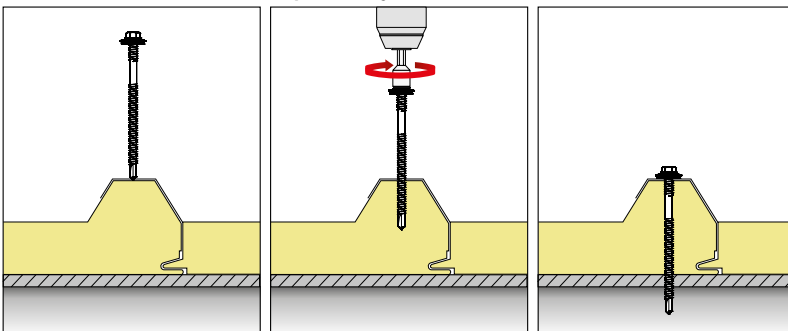


MOUNTING METHOD - wall sandwich panel - immersed mount (in sandwich panel lock)



The length of the fastener should be matched to the thickness of the sandwich panel lock

MOUNTING METHOD - roof sandwich panel - only surface mount



Fastener length should additionally take into account the height of the upper wave of the sandwich panel

Self-drilling fastener for fixing sandwich panels in steel construction - drilling capacity ≤ 12



Self-tapping fastener with EPDM washer for fixing sandwich panels to concrete and timber

WB6P

Ø 6,3



ETA-16/0444



ITB-KOT-2019/0915



SUBSTRATES



Concrete min. C20/25



Timber class min. C24

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	· SQ Ceramic
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> · For fixing sandwich panels in wooden and concrete substrates · For fixing roof sandwich panels · for fixing wall sandwich panels in horizontal layout · For surface assembly · For immersed assembly (in sandwich panel lock)

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



ANTI-CORROSION COATING - SQ CERAMIC (WB6P)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER

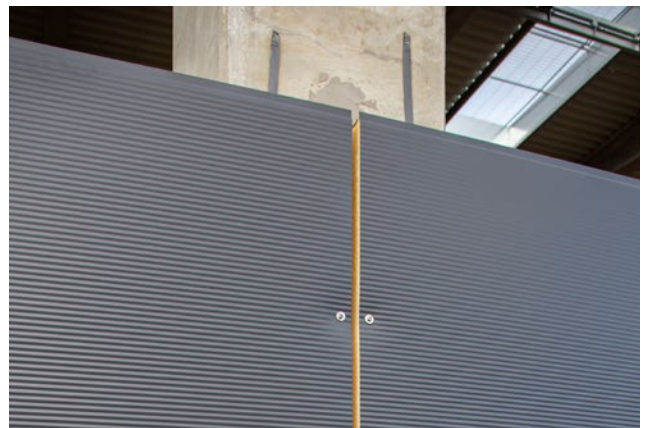
It seals and secures the connection from corrosion.

SQ Ceramic

Ø 6,3

WB6P-D
Length range: 85-255 mm







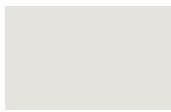

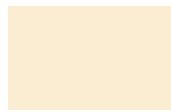
SAMPLE APLICATION



Self-tapping fastener for fixing steel sheets to concrete and timber



Standard RAL colour chart for fasteners WSW, WB6P

				
7016	7024	9006	9010	8017
				
7035	9002	9007	1015	

Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

ACCESSORIES

SEE PAGE 110-111

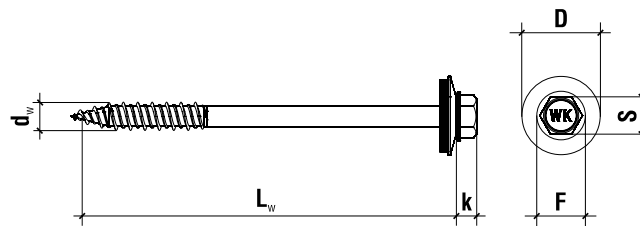
Self-tapping fastener with EPDM washer for fixing sandwich panels to concrete and timber

WB6P



How to read the code, e.g. WB6P-D-63085-A19?

WB6P-D	63	085	-A19
Type	Fastener diameter: 6,3 mm	Fastener length 85 mm	Washer type



ORDER TABLE

Code	Diameter and fastener length	Max. effective length	Quantity per unit box
WB6P - SQ Ceramic			
SQ Ceramic	SQ Ceramic + RAL*		
Code	Code	$d_w \times L_w$ [mm]	[mm] [pcs]
WB6P-D-63085-A19	WB6P-D-63085-A19-RAL...*	6,3x85	40-50 100
WB6P-D-63095-A19	WB6P-D-63095-A19-RAL...*	6,3x95	50-60 100
WB6P-D-63115-A19	WB6P-D-63115-A19-RAL...*	6,3x115	70-80 100
WB6P-D-63135-A19	WB6P-D-63135-A19-RAL...*	6,3x135	90-100 100
WB6P-D-63155-A19	WB6P-D-63155-A19-RAL...*	6,3x155	110-120 100
WB6P-D-63185-A19	WB6P-D-63185-A19-RAL...*	6,3x185	140-150 100
WB6P-D-63205-A19	WB6P-D-63205-A19-RAL...*	6,3x205	150-170 100
WB6P-D-63235-A19	WB6P-D-63235-A19-RAL...*	6,3x235	180-200 100
WB6P-D-63255-A19	WB6P-D-63255-A19-RAL...*	6,3x255	200-220 100

Colors outside the basic palette RAL for enquiry and order

* on order

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Anchorage depth in substrate [mm]	Document	Construction thickness [mm]					
		0,40	0,50	0,63	0,75	0,88	1,00
Timber class C24 \geq 30 mm	ETA-16/0444	1,83/0,87	3,13/1,35	3,13/1,70	3,13/2,10	3,13/2,10	3,13/2,10
Non-cracked concrete C20/25 \div C50/60 \geq 30 mm	ITB-KOT-2019/0915	-	3,05**/1,35*	3,05**/1,70*	3,05**/2,10**	3,05**/2,10**	3,05**/2,10**
Cracked concrete C20/25 \div C50/60 \geq 30 mm	ITB-KOT-2019/0915	-	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**

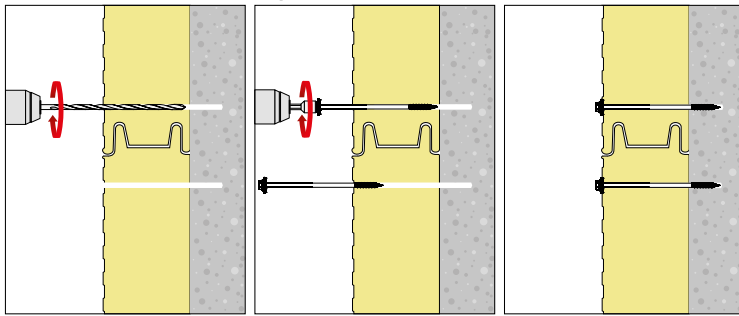
A partial safety factor is recommended: Wooden substrate - 1,33 ; concrete substrate - 1,33* ; concrete substrate - 2,52 **

TECHNICAL PARAMETERS

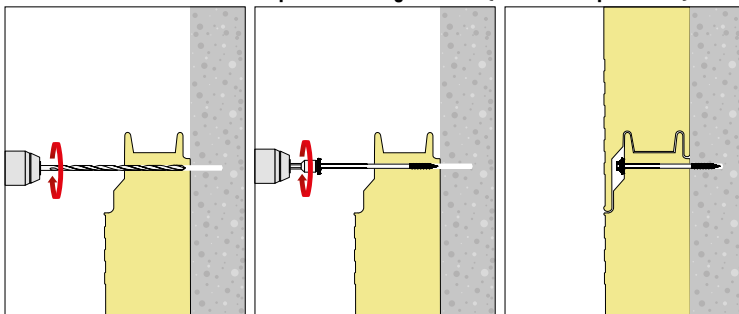
Type	WB6P	
Technical approval	-	ETA-16/0444 ITB-K0T-2019/0915
Fastener diameter	d_w [mm]	6,3
Socketed wrench	S [mm]	SW-8
Head height	k [mm]	5,4
Head diameter	F [mm]	10,5
Washer EPDM	D [mm]	aluminium A19
Fastener material	-	carbon steel
Protective coating	-	ceramic coating SQ Ceramic

Type	WB6P	
Substrate material	-	Wood \geq C24 Concrete \geq C20/25
Paint coating RAL	-	min. 60 μ m
Fastener anchorage depth	h_{eff} [mm]	\geq 30 \geq 30
Min. pre-drilled hole depth	h_o [mm]	- 40
Pre-drilled hole diameter	d_o [mm]	- 5,0
Min. substrate thickness	h_{min} [mm]	50 80
Min. spacing	S_{min} [mm]	90 90
Min. edge distance	C_{min} [mm]	45 45

MOUNTING METHOD - wall sandwich panel - surface mount

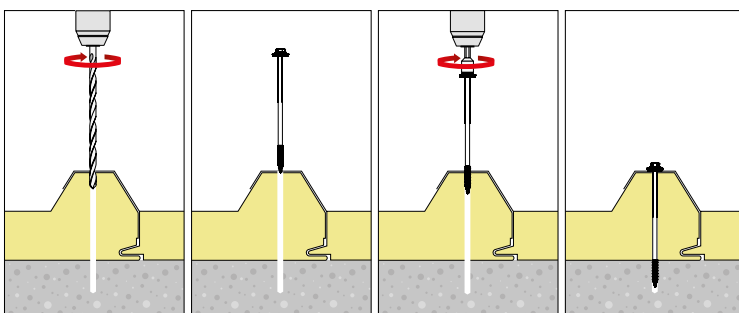


MOUNTING METHOD - wall sandwich panel - immersed mount (in sandwich panel lock)



The length of the fastener should be matched to the thickness of the sandwich panel lock

MOUNTING METHOD - roof sandwich panel - only surface mount



Fastener length should additionally take into account the height of the upper wave of the sandwich panel



Zinc coated

Ø 6,3
WB6
Length range: 35-65 mm



SQ Ceramic

Ø 6,3
WB6-D
Length range: 35-65 mm

Self-tapping fastener for fixing steel sheets to concrete and timber

WB6

Ø 6,3



ETA-16/0443



ITB-KOT-2020/1057



SUBSTRATES



Concrete min. C20/25



Wooden min. C24

SCREW MATERIAL	Carbon steel.
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic
APPLICATION: INTERNAL	<ul style="list-style-type: none"> · For fixing steel sheet to wood construction · For fixing steel sheet to concrete substrate · For assembly of slings to concrete substrate



HEX HEAD SW-8

Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WB6)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WB6-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).

SAMPLE APLICATION



Self-tapping fastener for fixing steel sheets to concrete and timber

ACCESSORIES

SEE PAGE 110-111

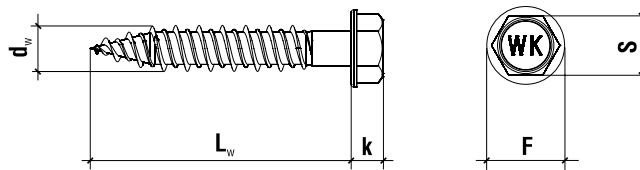
Self-tapping fastener for fixing steel sheets to concrete and timber

WB6



How to read the code, e.g. WB6-D-63045

WB6-D	63	045
Type	Fastener diameter: 6,3 mm	Fastener length 45 mm



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WB6 - Zinc coated				
ø 6,3	WB6-63035	6,3x35	5	250
	WB6-63045	6,3x45	15	250
	WB6-63055*	6,3x55	25	250
	WB6-63065*	6,3x65	35	250
WB6-D - SQ Ceramic*				
ø 6,3	WB6-D-63035*	6,3x35	5	250
	WB6-D-63045*	6,3x45	15	250
	WB6-D-63055*	6,3x55	25	250
	WB6-D-63065*	6,3x65	35	250

* on order

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Anchorage depth in substrate [mm]	Document	Construction thickness [mm]									
		0,40	0,50	0,63	0,75	0,88	1,00	1,25	1,50	2,00	
Timber class C24 ≥ 30 mm	ETA-16/0443	-	3,13/1,35	3,13/1,70	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10
Non-cracked concrete C20/25 ÷ C50/60 ≥ 30 mm	ITB-KOT-2020/1057	1,03**/1,03*	1,03**/1,03*	1,27**/1,27*	1,31**/1,31*	1,67**/1,67*	1,83**/1,83**	-	-	-	-
Cracked concrete C20/25 ÷ C50/60 ≥ 30 mm	ITB-KOT-2020/1057	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	-	-	-	-

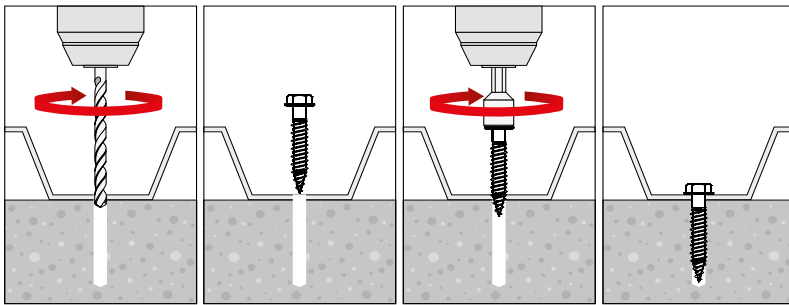
A partial safety factor is recommended: Wooden substrate - 1,33 ; concrete substrate - 1,33* ; concrete substrate - 2,52 **

TECHNICAL PARAMETERS

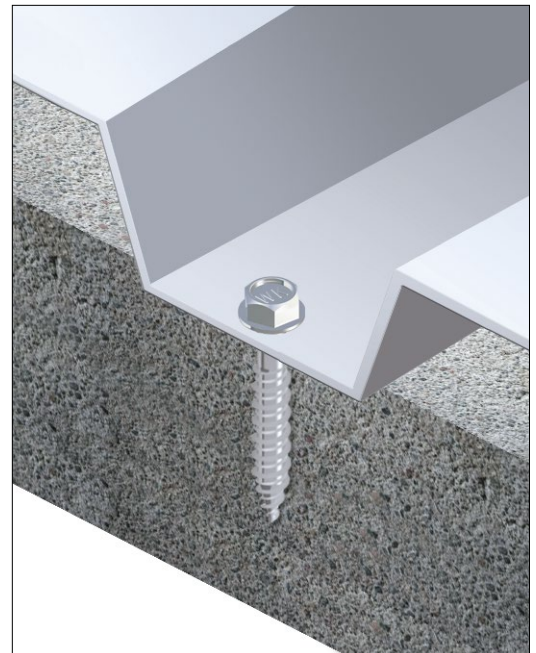
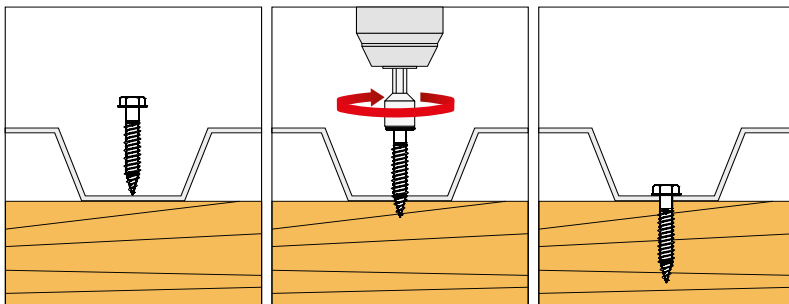
Type		WB6	WB6-D	WB6	WB6-D
Technical approval	-	ETA-16/0443		ITB-KOT-2020/1057	
Fastener diameter	d_w [mm]	6,3			
Socketed wrench	S [mm]	SW-8			
Head height	k [mm]	5,3			
Head diameter	F [mm]	10,5			
fastener material	-	carbon steel			
Protective coating	-	galvanized zinc coating 12 µm	ceramic coating SQ Ceramic	galvanized zinc coating 12 µm	ceramic coating SQ Ceramic

Type		WB6	WB6-D	WB6	WB6-D
Substrate material	-	timber \geq C24		concrete \geq C20/25	
Paint coating RAL	-	-			
Fastener anchorage depth	h_{eff} [mm]	\geq 30		\geq 30	
Min. pre-drilled hole depth	h_o [mm]	-		40	
Pre-drilled hole diameter	d_o [mm]	-		5,0	
Min. substrate thickness	h_{min} [mm]	50		80	
Min. spacing	S_{min} [mm]	90		90	
Min. edge distance	C_{min} [mm]	45		45	

MOUNTING METHOD - concrete substrate



MOUNTING METHOD - wooden substrates



Self-tapping fastener for fixing steel sheets to concrete and timber



Zinc coated

Ø 6,3

WB6P
Length - 45 mm



SQ Ceramic

Ø 6,3

WB6P-D
Length - 45 mm

Self-tapping fastener with EPDM washer for fixing steel sheets to concrete and timber

WB6P

Ø 6,3



ETA-16/0443



ITB-K0T-2020/1057



SUBSTRATES



Concrete min. C20/25



Wood min. C24

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	<ul style="list-style-type: none"> · Zinc coated · SQ Ceramic
APPLICATION: INTERNAL /EXTERNAL	<ul style="list-style-type: none"> · For fixing steel sheet to wood construction · For fixing steel sheet to concrete substrate

HEX HEAD SW-8



Hex head allows the use of the wrench and increases the pressure to the substrates.

WK feature at head of the screw facilitates the identification of our company as the producer and easy recognition of the product.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED (WB6P)

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



ANTI-CORROSION COATING - SQ CERAMIC (WB6P-D)

Very high level of anti-corrosion protection (several times higher than the traditional galvanization).



POSSIBILITY OF PAINTING ACCORDING TO RAL PALETTE

Permanent colour adjusted to roof covering, resistant to UV radiation and atmospheric conditions.



EPDM WASHER







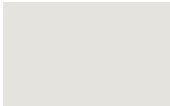

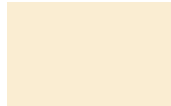
It seals and secures the connection from corrosion.



Self-tapping fastener for fixing steel sheets to concrete and timber



Standard RAL colour chart for fasteners WSW, WB6P

				
7016	7024	9006	9010	8017
				
7035	9002	9007	1015	

Note: The colours in the catalogue are for reference only and may slightly differ from the original RAL colours.

ACCESSORIES

SEE PAGE 110-111

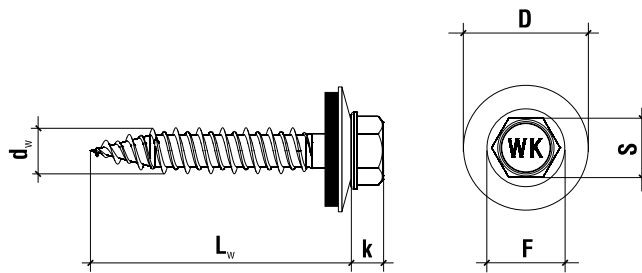
Self-tapping fastener with EPDM washer for fixing steel sheets to concrete and timber

WB6P



How to read the code, e.g. WB6P-D-63045-A19?

WB6P-D	63	045	-A19
Type	Fastener diameter: 6.3 mm	Fastener length 45 mm	Washer type



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
WB6P - Zinc coated				
ø 6,3	Zinc coated	Zinc coated + RAL*	$d_w \times L_w$ [mm]	t_{fix} [mm]
	Product code with zinc coated washer	Product code with zinc coated washer		
	WB6P-63045-Z19	WB6P-63045-Z19-RAL...	6,3x45	15
WB6P-D - SQ Ceramic*				
ø 6,3	SQ Ceramic	SQ Ceramic + RAL	$d_w \times L_w$ [mm]	t_{fix} [mm]
	Product code with SQ Ceramic washer	Product code with SQ Ceramic washer		
	WB6P-D-63045-A19*	WB6P-D-63045-A19-RAL...*	6,3x45	15

Colors outside the basic palette RAL for enquiry and order
* on order

CHARACTERISTIC PULL-OUT / SHEAR STRENGTH [kN]

Anchorage depth in substrate [mm]	Document	Construction thickness [mm]								
		0,40	0,50	0,63	0,75	0,88	1,00	1,25	1,50	2,00
Timber class C24 ≥ 30 mm	ETA-16/0443	-	3,13/1,35	3,13/1,70	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10	3,13/2,10
Non-cracked concrete C20/25 ÷ C50/60 ≥ 30 mm	ITB-KOT-2020/1057	1,83*/0,87*	3,05**/1,35*	3,05**/1,70*	3,05**/2,10**	3,05**/2,10**	3,05**/2,10**	-	-	-
Cracked concrete C20/25 ÷ C50/60 ≥ 30 mm	ITB-KOT-2020/1057	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	0,75**/0,75**	-	-	-

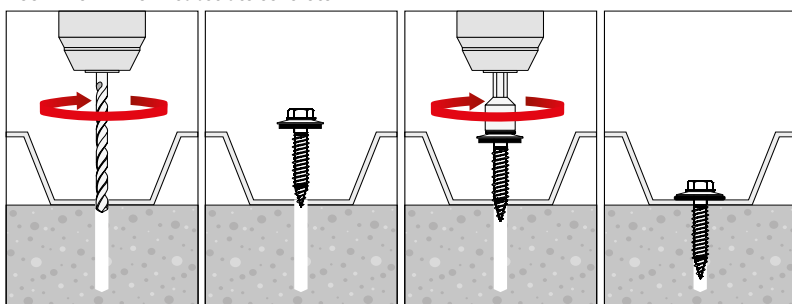
A partial safety factor is recommended: Wooden substrate - 1,33 ; concrete substrate - 1,33* ; concrete substrate - 2,52 **

TECHNICAL PARAMETERS

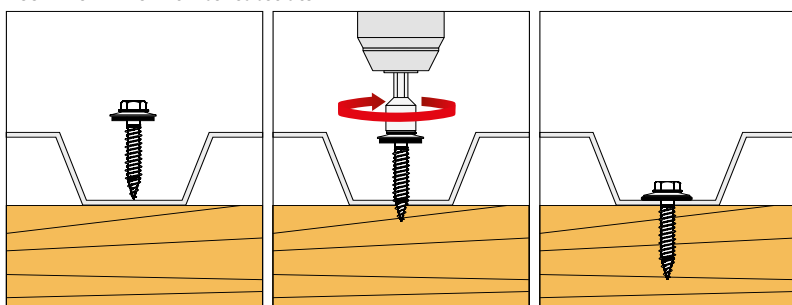
Type		WB6P	WB6P-D	WB6P	WB6P-D
Technical approval	-	ETA-16/0443		ITB-KOT-2020/1057	
Fastener diameter	d_w [mm]	6,3			
Socketed wrench	S [mm]	SW-8			
Head height	k [mm]	5,3			
Head diameter	F [mm]	10,5			
Washer EPDM	D [mm]	steel Z19	aluminium A19	steel Z19	aluminium A19
Fastener material	-	carbon steel			
Protective coating	-	galvanized zinc coating 12 µm	ceramic coating SQ Ceramic	galvanized zinc coating 12 µm	ceramic coating SQ Ceramic

Type		WB6P	WB6P-D	WB6P	WB6P-D
Substrate material	-	timber ≥ C24		concrete ≥ C20/25	
Paint coating RAL	-	min. 60 µm			
Fastener anchorage depth	h_{eff} [mm]	≥ 30		≥ 30	
Min. pre-drilled hole depth	h_0 [mm]	-		40	
Pre-drilled hole diameter	d_0 [mm]	-		5,0	
Min. substrate thickness	h_{min} [mm]	50		80	
Min. spacing	S_{min} [mm]	90		90	
Min. edge distance	C_{min} [mm]	45		45	

MOUNTING METHOD - substrate concrete



MOUNTING METHOD - timber substrate



Self-tapping fastener for fixing steel sheets to concrete and timber



Flange head self-drilling fastener

WSPC

ø 4,2



PN-EN 14566+A1:2010

SUBSTRATES



Steel profiles, steel sheet with thickness ≤ 2 mm

Zinc coated

ø 4,2

WSPC
Length range: 13-55 mm

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	· Zinc coated
APPLICATION: INTERNAL	· For fixing sheets to steel substrates · For mounting flashings · For joining sheets with an overlap



PAN HEAD, WITH PH SOCKET

Ensures proper pressure of the fastened element.



SELF-DRILLING TIP

Ability of drilling plates of thickness up to 2 mm, short time of fixing.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED

Thickness of zinc coating min. 5 µm, guarantee of quality and high level of anti-corrosion protection.

Other fastener

SAMPLE APPLICATION



Sample application



Sample application



Sample application

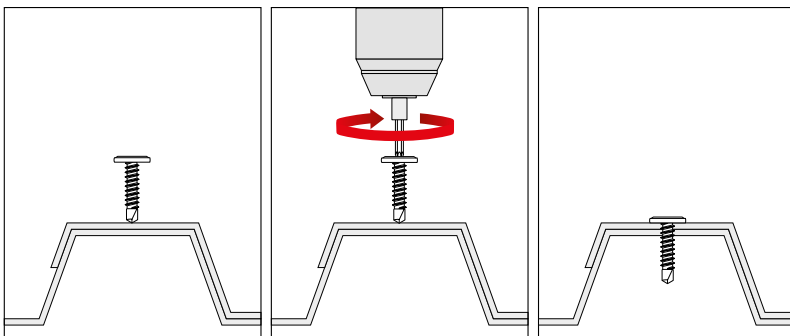


Sample application



Sample application

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111

Flange head self-drilling fastener

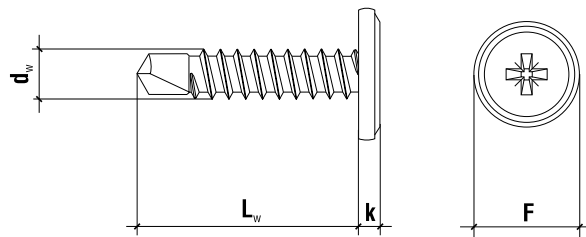
WSPC



PN-EN 14566+A1:2010

How to read the code, e.g. WSPC-42045?

WSPC	42	045
Type	Fastener diameter: 4.2 mm	Fastener length 45 mm



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{ix} [mm]	[pcs]
WSPC - Zinc coated				
ø4,2	WSPC-42013	4,2x13	3	1000
	WSPC-42016	4,2x16	6	1000
	WSPC-42019	4,2x19	9	1000
	WSPC-42025	4,2x25	15	500
	WSPC-42032	4,2x32	22	500
	WSPC-42045	4,2x45	35	300
	WSPC-42055	4,2x55	45	300

TECHNICAL PARAMETERS

Type	WSPC	
Norma	-	PN-EN 14566+A1:2010
Fastener diameter	d_w [mm]	4,2
Drilling capacity	$\sum t$ [mm]	≤ 2
Bit type	S [mm]	PH-2
Head height	k [mm]	2,3
Head diameter	F [mm]	11,0
Drill length	[mm]	8,0

Type	WSPC	
Substrate material	-	steel ≥ S235JR
Fastener material	-	carbon steel
Protective coating	-	zinc coated 5 μm
Fastener anchorage depth	h_{eff} [mm]	push-through installation
Min. substrate thickness	h_{min} [mm]	0,5
Min. spacing	S_{min} [mm]	50
Min. edge distance	C_{min} [mm]	25



Zinc coated

∅ 4,2

WPC
Length range: 13-65 mm

Flange head self-tapping fastener

WPC

∅ 4,2



PN-EN 14566+A1:2010

SUBSTRATES



Steel profiles, steel sheet with thickness ≤ 2 mm

Screw material	Carbon steel
TYPE OF COATING PROTECTION	· Zinc coated
APPLICATION: INTERNAL	· For mounting flashings · For joining sheets with an overlap



PAN HEAD, WITH PH SOCKET

Ensures proper pressure of the fastened element



ANTI-CORROSION COATING - ELECTRO-GALVANIZED

Thickness of zinc coating min. 5 µm, guarantee of quality and high level of anti-corrosion protection

Other fastener

Flange head self-tapping fastener

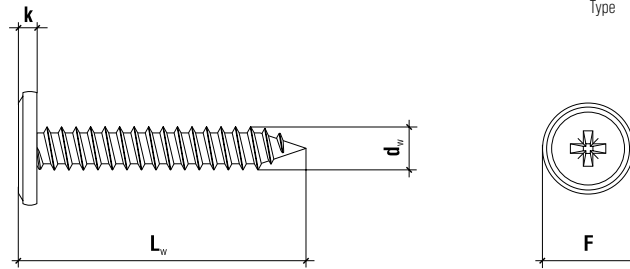
WPC



PN-EN 14566+A1:2010

How to read the code, e.g. WPC-42040?

WPC	42	040
Type	Fastener diameter: 4.2 mm	Fastener length 40 mm



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fx} [mm]	[pcs]
WPC - Zinc coated				
ø4,2	WPC-42013	4,2x13	10	1000
	WPC-42016	4,2x16	13	1000
	WPC-42019	4,2x19	16	1000
	WPC-42025	4,2x25	20	500
	WPC-42032	4,2x32	25	500
	WPC-42040	4,2x40	35	400
	WPC-42050	4,2x50	45	300
	WPC-42065	4,2x65	60	250

TECHNICAL PARAMETERS

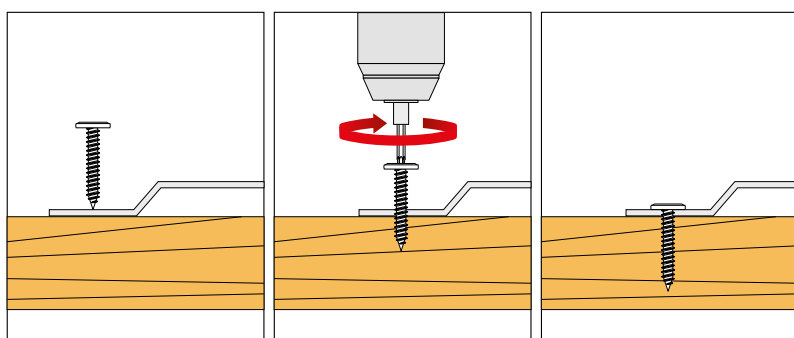
Type	WPC	
Norma	-	PN-EN 14566+A1:2010
Fastener diameter	d_w [mm]	4,2
Drilling capacity	$\sum t$ [mm]	≤ 2
Bit type	S [mm]	PH-2
Head height	k [mm]	2,3
Head diameter	F [mm]	11,0
Fastener material	-	carbon steel

Type	WPC	
Substrate material	-	steel ≥ S235JR
Protective coating	-	zinc coated 5 μm
Fastener anchorage depth	h_{eff} [mm]	push-through installation
Min. substrate thickness	h_{min} [mm]	0,5
Min. spacing	S_{min} [mm]	50
Min. edge distance	C_{min} [mm]	25



Other fastener

MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111



Zinc coated

Ø 4,8

WDSK
Length range: 32-50 mm



Zinc coated

Ø 5,5

WDSK
Length range: 38-50 mm

Self-drilling fastener for fixing timber in steel construction

WDSK

Ø 4,8 Ø 5,5



ITB-KOT-2020/1057



PH-2
PH-3



REACTION TO FIRE
CLASS A1

SUBSTRATES



Steel profiles a thickness ≤ 3 mm - WDSK Ø4,8
Steel profiles a thickness ≤ 5 mm - WDSK Ø5,5

SCREW MATERIAL	Carbon steel
TYPE OF COATING PROTECTION	· Zinc coated
APPLICATION: INTERNAL /EXTERNAL	· Carbon-steel self-drilling screw for fixing timber elements in steel · WDSK screw are intended for direct timber-to-steel fastening



COUNTERSUNK HEAD, WITH PH SOCKET

Facilitates the facing of a screw at level of fixed wooden element.
PH-2 socket - ease of fixing, the most common socket of PH type.



SELF-DRILLING TIP

Possibility of drilling both the wooden and metal elements.



STEEL WINGS

They expand the hole in the wooden element rendering damage impossible during the process of drilling the screw through steel flooring.

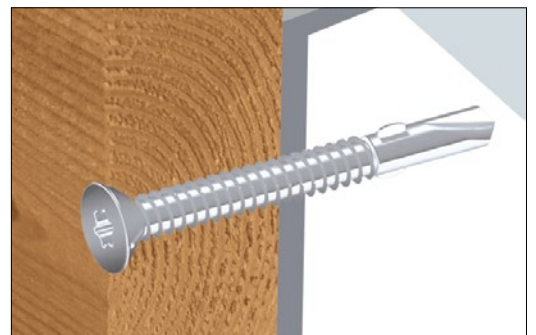
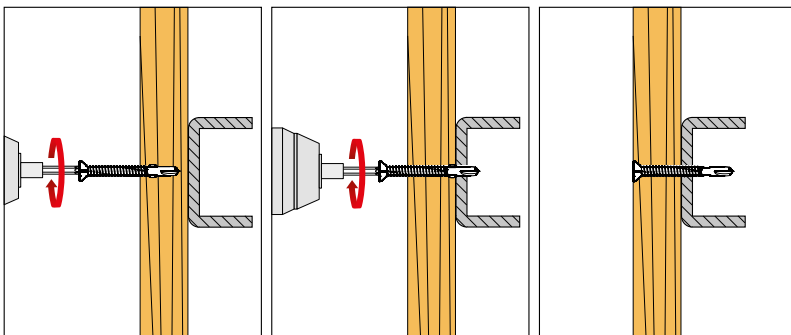


ANTI-CORROSION COATING - ELECTRO-GALVANIZED

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.



MOUNTING METHOD



ACCESSORIES

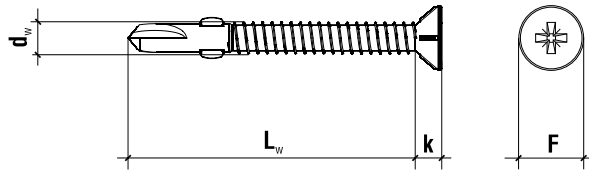
SEE PAGE 110-111

Self-drilling fastener for fixing timber in steel construction

WSDSK



ITB-KOT-2020/1057



How to read the code, e.g. WSDSK-48045?

WSDSK	48	045
Type	Fastener diameter: 4.8 mm	Fastener length 45 mm

ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WSDSK - Zinc coated				
ø4,8	WSDSK-48032	4,8x32	14	500
	WSDSK-48038	4,8x38	20	250
	WSDSK-48045	4,8x45	27	250
	WSDSK-48050	4,8x50	32	250
WSDSK - Zinc coated				
ø5,5	WSDSK-55038	5,5x38	13	250
	WSDSK-55045	5,5x45	20	250
	WSDSK-55050	5,5x50	25	250

TECHNICAL PARAMETERS

Type		WSDSK ø4,8	WSDSK ø5,5
National Technical Assessment	-	ITB-KOT-2020/1057	
Fastener diameter	d_w [mm]	4,8	5,5
Drilling capacity	$\sum t$ [mm]	≤ 3	≤ 5
Bit type	S [mm]	PH-2	PH-3
Head height	k [mm]	3,0	4,8
Head diameter	F [mm]	9,5	10,5
Drill length	[mm]	15,0	20,0

Type		WSDSK ø4,8	ø5,5
Substrate material	-	steel ≥ S280GD	
Fastener material	-	carbon steel	
Protective coating	-	galvanized zinc coating min. 12µm	
Fastener anchorage depth	h_{eff} [mm]	push-through installation	
Min. substrate thickness	h_{min} [mm]	0,75	
Min. spacing	S_{min} [mm]	50	
Min. edge distance	C_{min} [mm]	25	

DESIGN PULL-OUT STRENGTH [kN]

Type	Steel sheet thickness [mm]						
	0,75	0,88	1,00	1,25	1,50	2,00	3,00
WSDSK-4,8	0,21	0,32	0,47	0,62	0,67	1,58	-
WSDSK-5,5	0,28	0,55	0,73	1,47	2,97	4,12	4,12

Partial safety factor of 1.33 recommended



Self-drilling fastener for fixing timber in steel construction

WSDST

∅ 6,3



ITB-KOT-2020/1057

SUBSTRATES



Steel profiles a thickness ≤ 6 mm

Screw material	Carbon steel
TYPE OF COATING PROTECTION	· Zinc coated
APPLICATION: INTERNAL /EXTERNAL	· Carbon-steel self-drilling screw for fixing timber elements in steel · WSDST screw are intended for direct timber-to-steel fastening



COUNTERSUNK HEAD, WITH TX SOCKET

Facilitates the facing of a screw at level of fixed wooden element. TX-30 socket - it guarantees the optimal transfer of the torque.



SELF-DRILLING TIP

Possibility of drilling both the wooden and metal elements.



STEEL WINGS

They expand the hole in the wooden element rendering damage impossible during the process of drilling the screw through steel flooring.



ANTI-CORROSION COATING - ELECTRO-GALVANIZED

Thickness of zinc coating min. 12 µm, guarantee of quality and high level of anti-corrosion protection.

Zinc coated

∅ 6,3

WSDST
Length range: 50-70 mm

Other fastener

Self-drilling fastener for fixing timber in steel construction

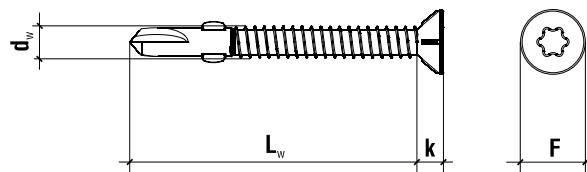
WSDST



ITB-KOT-2020/1057

How to read the code, e.g. WSDST-63050?

WSDST	63	050
Type	Fastener diameter: 6,3 mm	Fastener length 50 mm



ORDER TABLE

	Code	Diameter and fastener length	Max. effective length	Quantity per unit box
		$d_w \times L_w$ [mm]	t_{fix} [mm]	[pcs]
WSDST - Zinc coated				
ø 6,3	WSDST-63050	6,3x50	21	250
	WSDST-63060	6,3x60	31	200
	WSDST-63070	6,3x70	41	200

TECHNICAL PARAMETERS

Type	WSDST	
National Technical Assessment	-	ITB-KOT-2020/1057
Fastener diameter	d_w [mm]	6,3
Drilling capacity	Σt [mm]	≤ 6
Bit type	S [mm]	TX-30
Head height	k [mm]	5,2
Head diameter	F [mm]	12,0
Drill length	[mm]	22,0

Type	WSDST	
Substrate material	-	steel ≥ S280GD
Fastener material	-	carbon steel
Protective coating	-	galvanized zinc coating min. 12µm
Fastener anchorage depth	h_{eff} [mm]	push-through installation
Min. substrate thickness	h_{min} [mm]	1,0
Min. spacing	S_{min} [mm]	50
Min. edge distance	C_{min} [mm]	25

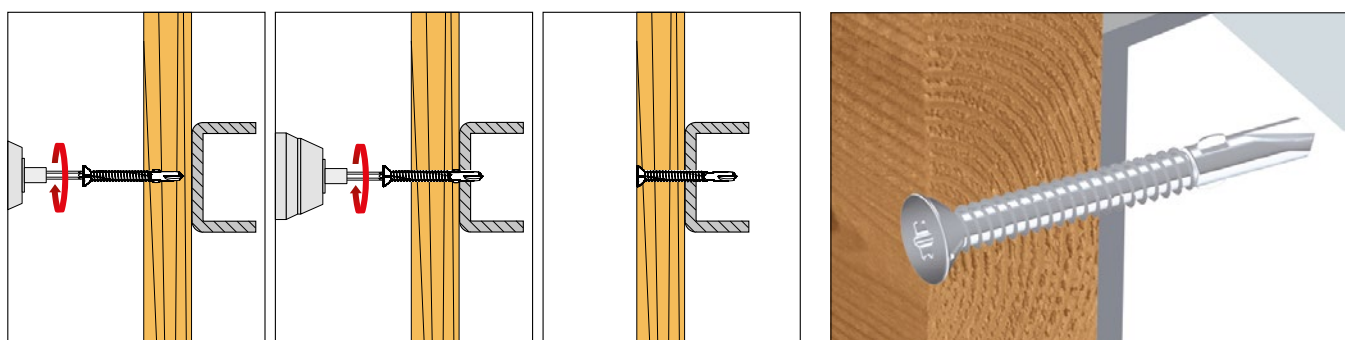
DESIGN PULL-OUT STRENGTH [kN]

Type	Steel sheet thickness [mm]				
	1,00	1,25	1,50	2,00	3,00
WSDST-6,3	0,86	1,52	3,18	4,56	7,58

Partial safety factor of 1.33 recommended



MOUNTING METHOD



ACCESSORIES

SEE PAGE 110-111



Zinc coated

ø 3,2

NAS / NASS / NASM
Length range: 6-16 mm



Zinc coated

ø 4,0

NAS / NASS / NASM
Length range: 6-24 mm



Zinc coated

ø 4,8

NAS / NASS / NASM
Length range: 8-30 mm

Blind rivets

NAS / NASS / NASM

ø 3,2 ø 4,0 ø 4,8



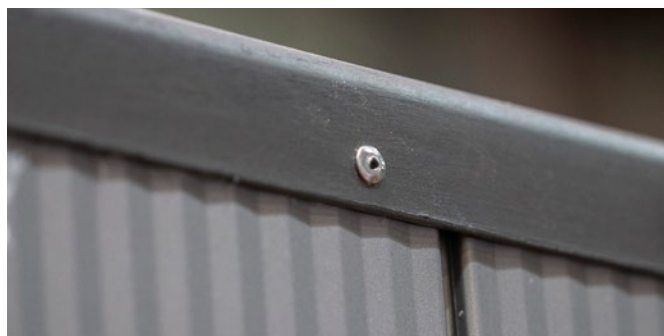
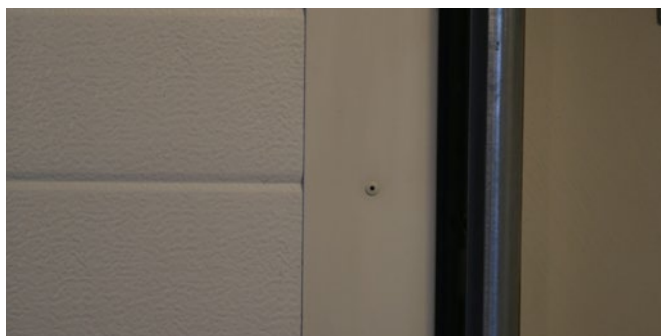
SUBSTRATES



Steel sheet

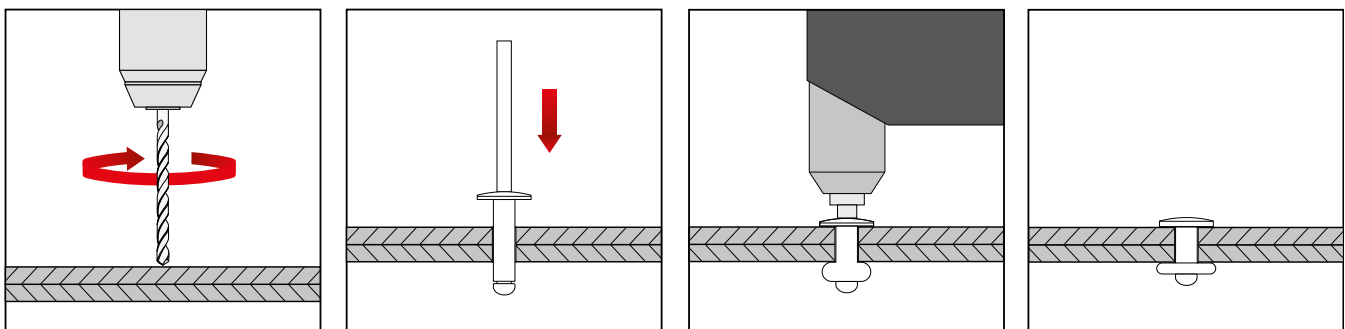
MATERIAL	Steel/Aluminium
TYPE OF COATING PROTECTION	· Zinc coated
APPLICATION:	· Aluminium / steel blind rivets for stitching lap joints, especially those prone to vibrations

SAMPLE APLICATION



Blind rivets

MOUNTING METHOD



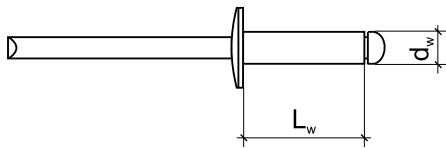
ACCESSORIES

SEE PAGE 110-111

Blind rivets

NAS / NASS / NASM

Zn/Al



How to read the code, e.g. NAS-32006?		
NAS	32	006
Type	Diameter: 3.2 mm	Length: 6 mm

NAS - bulk packaging [kg]

NASS - medium-sized packaging [pcs]

NASM - small-sized packaging [pcs]

ORDER TABLE

	Code	Quantity per unit box	Code	Quantity per unit box	Code	Quantity per unit box	$d_w \times L_w$	Max. effective length
		[Kg]		[pcs]		[pcs]		[mm]
ø3,2	NAS-32006	5	NASS-32006	1000	NASM-32006	50	3,2x6	1-3
	NAS-32008	5	NASS-32008	1000	NASM-32008	50	3,2x8	3-5
	NAS-32010	5	NASS-32010	1000	NASM-32010	50	3,2x10	5-7
	NAS-32012	5	NASS-32012	1000	NASM-32012	50	3,2x12	7-9
	NAS-32014	5	NASS-32014	1000	NASM-32014	50	3,2x14	9-11
	NAS-32016	5	NASS-32016	1000	NASM-32016	50	3,2x16	11-13
ø4,0	NAS-40006	5	NASS-40006	1000	NASM-40006	50	4,0x6	1-2,5
	NAS-40008	5	NASS-40008	1000	NASM-40008	50	4,0x8	3-4,5
	NAS-40010	5	NASS-40010	1000	NASM-40010	50	4,0x10	5-6,5
	NAS-40012	5	NASS-40012	500	NASM-40012	50	4,0x12	7-8,5
	NAS-40014	5	NASS-40014	500	NASM-40014	50	4,0x14	8-10,5
	NAS-40016	5	NASS-40016	500	NASM-40016	50	4,0x16	10-12,5
	NAS-40018	5	NASS-40018	500	NASM-40018	50	4,0x18	12-14,5
	NAS-40020	5	NASS-40020	500	NASM-40020	50	4,0x20	14-16,5
	NAS-40022	5	NASS-40022	500	NASM-40022	50	4,0x22	16-18,5
	NAS-40024	5	NASS-40024	500	NASM-40024	50	4,0x24	18-20,5
ø4,8	NAS-48008	5	NASS-48008	500	NASM-48008	50	4,8x8	2-4
	NAS-48010	5	NASS-48010	500	NASM-48010	50	4,8x10	4-6
	NAS-48012	5	NASS-48012	500	NASM-48012	50	4,8x12	6-8
	NAS-48014	5	NASS-48014	500	NASM-48014	50	4,8x14	8-10
	NAS-48016	5	NASS-48016	500	NASM-48016	50	4,8x16	10-12
	NAS-48018	5	NASS-48018	500	NASM-48018	50	4,8x18	12-14
	NAS-48020	5	NASS-48020	500	NASM-48020	50	4,8x20	14-16
	NAS-48022	5	NASS-48022	500	NASM-48022	50	4,8x22	16-18
	NAS-48024	5	NASS-48024	500	NASM-48024	50	4,8x24	18-20
	NAS-48030	5	NASS-48030	250	NASM-48030	50	4,8x30	24-26

Blind rivets

TECHNICAL PARAMETERS

Type	NAS/NASS/NASM			
Technical approval	-	-		
Diameter	d _w [mm]	3,2	4,0	4,8
Material	-	steel/aluminium		
Protective coating	-	galvanized zinc coating min. 12µm		
Fastener anchorage depth	h _{eff} [mm]	push-through installation		

TECHNICAL PARAMETERS

Type	NAS/NASS/NASM			
Substrate material	-	steel		
Pre-drilled hole diameter	d _o [mm]	3,3	4,1	5,1
Min. substrate thickness	h _{min} [mm]	1,0		
Min. spacing	S _{min} [mm]	50		
Min. edge distance	C _{min} [mm]	25		

DESIGN STRENGTH [kN]

Rivet diameter [mm]	Sheet thickness [mm]	Design strength [kN]	
		Tensile	Shearing
NAS/NASS/NASM-3,2	1+2	0,63	0,89
NAS/NASS/NASM-4,0	1+4	1,16	1,52
NAS/NASS/NASM-4,8	1+5	1,90	2,07

ACCESSORIES

PEPDM

Code	Recommended screw diameter	Outer diameter	Quantity per unit box
	[mm]	[mm]	[pcs]
Zinc coated ZN			
PEPDM-14	4,8	14	500
PEPDM-16	5,5	16	500
PEPDM-19	6,3	19	500
Aluminium AL *			
PEPDM-A14	4,8	14	500
PEPDM-A16	5,5	16	500
PEPDM-A19	6,3	19	500

* on order



WSW-KAP

Code	Fastener head	Colour	Quantity per unit box
			[pcs]
WSW-KAP	SW-8	RAL 9010	100
WSW-KAP-RAL	SW-8	RAL	100



SD4 / H-A

Code	Drill diameter	Total length	Working length	Quantity per unit box
	[mm]	[mm]	[mm]	[pcs]
SD4				
SD4-05110	5,0	110	60	1
H-A				
H-A 782404	5,0	110	60	1
H-A 782406	5,0	160	110	1
H-A 782407	5,0	210	160	1
H-A 782408	5,0	260	210	1
H-A 782409	5,0	310	260	1



ACCESSORIES

WM

Socketed wrench bit WM

Code	Klucz	Ilość sztuk w opakowaniu
		[pcs]
WM-06050	SW-6	1
WM-08050	SW-8	1
WM-10050	SW-10	1



PH-S2

Bit - type PH

Code	Klucz	Ilość sztuk w opakowaniu
		[pcs]
PH-S2-02025	PH-2	10
PH-S2-02050	PH-2	10
PH-S2-03025	PH-3	10
PH-S2-03050	PH-3	10



TX-S2

Bit - type TX

Code	Klucz	Ilość sztuk w opakowaniu
		[pcs]
TX-30S2	TX-30	5



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FASTENER TECHNOLOGIES

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