



Hilti S-MD 03S/SS Self-Drilling Screws

Submission Folder

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S-MD 03 S self-drilling screw, without washer

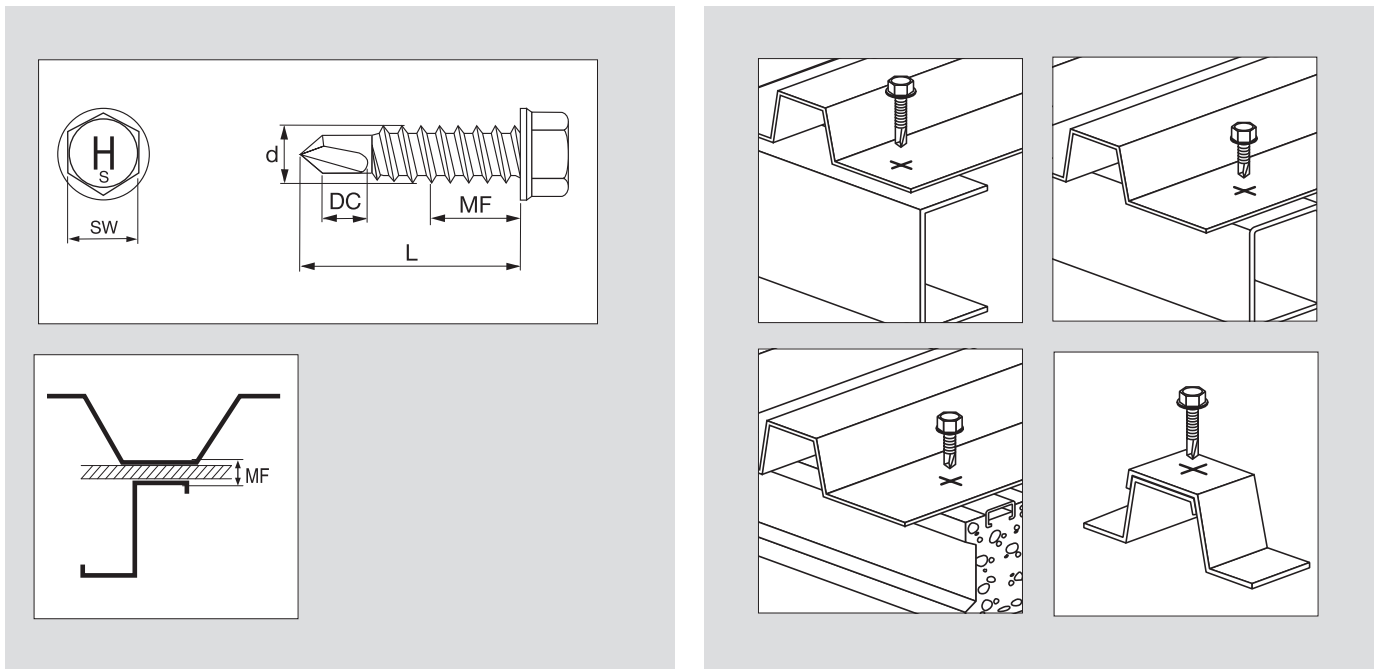


APPLICATIONS

- Fastening steel sections and sheet steel to steel framing

ADVANTAGES

- Fast and robust drill tip featuring Racing Tip technology



A2 stainless steel version, with hardened carbon steel drill point

Order Now



Ordering designation	Drilling capacity range (DC)	Thickness fastened range (MF)	Screw diameter (d)	Screw length (L)	Head size (SW)	Sales pack quantity	Item number
S-MD 03 S 5.5x25	2.1 - 6 mm	2.1 - 10 mm	5.5 mm	25 mm	8	500 pc	413408

Please visit Hilti website for the latest item numbers and related products

A4 stainless steel version, with hardened carbon steel drill point

Order Now



Ordering designation	Drilling capacity range (DC)	Thickness fastened range (MF)	Screw diameter (d)	Screw length (L)	Head size (SW)	Sales pack quantity	Item number
S-MD 03 SS 5.5x25	2.1 - 6 mm	2.1 - 10 mm	5.5 mm	25 mm	8	500 pc	2114790 ¹⁾

¹⁾ For detailed stock availability and lead time information please contact your Hilti representative.

Please visit Hilti website for the latest item numbers and related products

Cordless metal construction screwdriver ST 1800-A22 **NEW**



APPLICATIONS

- Driving self-drilling and self-tapping screws in various materials including steel, aluminium and wood
- Fastening profile metal sheets
- Fastening sandwich panels
- Fastening liner trays
- Screwing steel or aluminium profiles together
- Driving collated screws at side laps

ADVANTAGES

- High-performance cordless screwdriver with the features of a corded tool, specially designed for metal construction work
- Compact and well-balanced design with practical and comfortable in-line grip
- Built-in torque clutch and depth gauge for driving self-drilling screws (torque-controlled and depth-controlled driving)
- Perfectly matched power and speed for maximum productivity in steel and metal screwdriving applications
- Higher cordless productivity and greater working comfort with the SDT30 stand-up tool and ST-SG screw guide
- Batteries are compatible with other tools in the Hilti 22V Li-ion cordless system

Technical data

No-load speed - range	0 - 2000 rpm
Max. torque	12 Nm
Dimensions (LxWxH)	252 x 94 x 268 mm
Weight	2.5 kg
Control switch lock	Yes
Chuck type	Quick-release chuck 1/4 in
Reversing switch	Yes
Spindle lock	Yes



Order Now



Ordering designation	Package contents	Sales pack quantity	Item number
ST 1800-A22	1x Cordl. metal screwdr. ST 1800-A22, 1x Socket wrench insert S-NSD 8, 1x Cap, 1x Case	1 pc	437867

Please visit Hilti website for the latest item numbers and related products

Metal construction screwdriver ST 1800



APPLICATIONS

- Sheet metal to sheet metal
- Sheet metal on steel or aluminum substructures
- Trapezoidal profile sheets on liner trays

ADVANTAGES

- Universal screwdriver for a wide range of applications in metal construction
- The torque clutch prevents over-driving or screw head breakage
- Depth gauge function for controlled compression of the sealing washer and thus optimum sealing

Technical data

Mains frequency	50/60 Hz
No-load speed - range	0 - 1900 rpm
Max. torque	22 Nm
Dimensions (LxWxH)	308 x 72 x 265 mm
Variable speed switch	Yes
Weight	1.8 kg
Control switch lock	Yes
Chuck type	Quick-release chuck 1/4 in
Reversing switch	Yes



Order Now



Ordering designation	Package contents	Sales pack quantity	Item number
ST 1800 110V	1x Metal constr screwdr ST 1800 110V assy, 1x Cover cap, 1x Case	1 pc	378554
ST 1800 230V	1x Metal constr screwdr ST 1800 230V assy, 1x Cover cap, 1x Case	1 pc	286048

Please visit Hilti website for the latest item numbers and related products

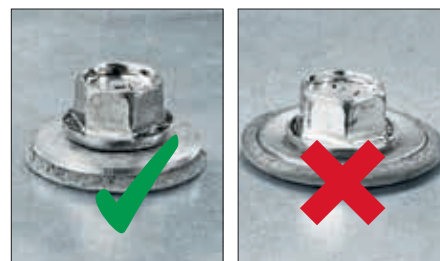
2.2 Make reliable, high-speed screw fastenings without tip failure, even in high-strength steel

Hilti screw fastening technology sets new standards because, on the one hand, virtually no drill point failure occurs even in high-strength steel with a thickness of up to 15 mm and, on the other, because sealing washers are always perfectly and reliably compressed even when the screws are driven at high speed.

We offer an immediate solution for all of your screw fastening applications where a drilling capacity of greater than 3 mm is required.

„PS” sealing through customized below-head geometry

The sealing washers at screws on decking, siding and facades are often over compressed. Excessive pressure between the screw head and the sheets fastened causes fine cracks to occur in the EPDM sealing washer. This leads to leakage through the outer skin of the building at the fastening point and thus to an increase in the amount of subsequent remedial work required. The innovative and patented “PS” feature incorporated in all Hilti self-drilling screws with a drilling capacity of more than 3 mm provides a simple solution to the problem of over compression. Hilti screws with this new feature can be identified by the “PS” logo on the package.



The Hilti „RT“-drill point for fast, reliable screwdriving characteristics

Burned out or broken drill points are not only a thorn in the side of the user. The remedial work required is costly and time-consuming. Thanks to the new, patented, RT wave-form cutting edge, burned out drill points become a thing of the past, even in high-strength S355 steel. Rapid removal of the drilling chips allows the screw to penetrate the base material more quickly and prevents point burn-out in materials with a thickness of up to 15 mm. All screws featuring the new technology carry the “RT” logo on the package.



3.1 Selection of the right screw

Selection of the right screw depends on a number of factors determined by the application and the circumstances or conditions under which the screw is to be used. If the application is known, the Hilti screw designation system provides a quick and reliable screw selection aid.



To quickly find the most suitable product for the specific application on hand, simply ask yourself the following questions.

1. Which type of Hilti fastener do you wish to use?

S: Screw

Example: Example
S- always stands for Hilti screw fastening

2. Which material is to be fastened?

- M:** Metal
- C:** Sandwich panel
- W:** Wood
- I:** Insulation
- A:** Aluminium

Example: Fastening metal profile sheet
S-M

3. Do you wish to use a self-tapping, self-drilling or pointed self-piercing (chipless) screw?

- S:** Pointed, self-piercing (Speedy function)
- D:** Self-drilling
- DU:** Self-drilling undercut
- DW:** Self-drilling wood
- P:** Pre-drilling (self-tapping)
- T:** Treadfast
- DP:** Plastic plug pre-mounted screw

Example: Self-drilling
S-MD

4. Is a sealing washer or a pressed-on washer required?

- 0:** No sealing washer
- 1:** Countersunk head
- 2:** Pressed-on flange
- 3:** 12 mm sealing washer
- 4:** 14 mm sealing washer
- 5:** 16 mm sealing washer
- 6:** 19 mm sealing washer
- 7:** 22 mm sealing washer
- 8:** 29 mm sealing washer

Example: 19 mm sealing washer
S-MD 6



5. How thick is the material to be drilled through by the screw?

S-MS stitching screw

1: Drilling capacity 2 x 0.4 mm up to 2 x 1.25 mm

Self-drilling screw

1: Drilling capacity 1.0 up to 4.0 mm

3: Drilling capacity 2.1 up to 6.0 mm

5: Drilling capacity 4.6 up to 15.0 mm

Example: Drilling capacity 5 mm

S-MD 63

Self-tapping screw

2: Blunt thread run-out >1.25 mm steel substructure

3: Pointed thread run-out <3 mm steel substructure

Timber substructure

4: Blunt, hardened thread run-out, suitable for S355/ST52
high strength steel > 1.25 mm steel substructure

6. Which type of corrosion protection and head geometry are required.

Material:

Z: Galvanized carbon steel

C: Duplex coated carbon steel

S: A2 grade stainless steel

SS: A4 grade stainless steel

S-A: A2 with alu washer

SS-A: A4 with alu washer

Example: Stainless steel

S-MD 63 S

Head geometry:

PS: Pan head, stainless steel

PS-A: Pan head with alu washer

LS: Long drill point / A2 Drilling capacity 1.0 to approx. 4.0 mm

LZ: Long drill point / galvanized carbon steel

Drilling capacity 1.0 to approx. 4.0 mm

ZW: Wafer head, galvanized

GZ: Coarse thread galvanized

GS: Coarse thread stainless

Example: 5.5 mm diameter
length 55 mm

S-MD 63 S 5.5x40

7. Dimensions and screw diameter

Screw diameter:

3.8 / 4.2 mm / 4.8 mm / 5.5 mm / 6.3 mm / 6.5 mm

Screw length:

13 mm – 102 mm S-MD screws

75 mm – 300 mm S-CD screws

19 mm – 275 mm S-MP screws

3.2 Screw type

S-MD_1/3/5 S-CDW_1 S-CD_3/5 S-AD 01 S-IDP_4.8/6.7	S-MS_1	S-MP_2 S-MP_4	S-MP_3 S-IT_1

3.3 Screw head & recess

Hexagon head	Hexagon head with pressed-on flange	Hexagon head with sealing washer	Hexagon head with sealing washer and supporting thread
Pan head	Pan head with sealing washer	Wafer head	Countersunk head

3.4 Determining the screw length

All values from this manual need to be verified with actual jobsite situation and adapted if additional distances e.g. gaps occur on site.

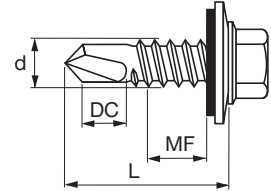
3.4.1 Definition of the screw length (L)

The screw length is measured from the start of the screw (drill point) to below the screw head. However, the screw length alone says nothing about the screw's clamping area.

The screw length is selected depending on

- the thickness of the base material,
- the thickness of the building component to be fastened,
- the thickness of possible intermediate layers such as thermal separation, and
- additional building components such as calottes.

It must also be noted that when determining the screw length, the drill point, thread cut and (if necessary, in the case of bi-metal screws) the welding zone must be taken into account.



3.4.2 Definition of the drilling performance (DC)

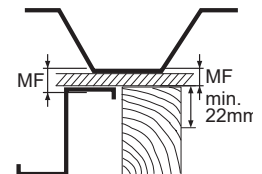
The drilling performance is the sum of the building component thicknesses, consisting of building component I and building component II, which can be drilled through by the drill point. The length of the drill point must always be selected such that the total material thickness is completely drilled through before the thread starts to mold.

3.4.3 Calculating the fastening height (MF)

The fastening height MF (clamping area) is understood to mean the total height, consisting of:

- + the thickness of building component I
- + the thickness of possible intermediate layers, such as thermal separation
- + the thickness of additional building components, such as calottes
- + the embedment depth in building component II (steel)

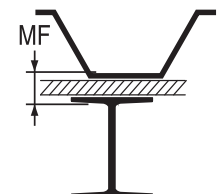
Note: in wood embedment is not part of MF



Fastening height in sheet metal with and without an intermediate layer Fastening height in wood

The embedment depth in building component II depends on the base material thickness and the base material itself. It is calculated as follows:

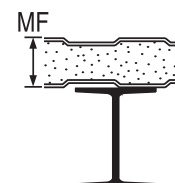
- Sheet metal or steel < 6 mm ➔ embedment depth = existing material thickness
- Steel ≥ 6 mm
 - ➔ Self-tapping screws: embedment depth = 6 mm
 - ➔ Self-drilling screws: embedment depth = existing material thickness
- Wood ➔ embedment depth ≥ 22 mm



Fastening height in profile metal sheet on steel

Special features:

- Sandwich elements fastened with S-CD screws: The fastening height (MF) or clamping length is only specified with the maximum sandwich element thickness that is relevant to the fastening.
- Calottes: If using calottes, 3 mm must be taken into account when calculating the fastening height (MF).



Fastening height in sandwich panel

The fastening height (MF) is not included in the screw approvals. For this, please refer to the Hilti technical manual for metal construction screws for use in roofs/walls.



3.6 Hilti Screw Nomenclature

The easy way to find the right screw

S	-	M	D	5	3	Z	5,5x25	M
Screw Fastening							Dimensions Thread Diameter x Length	Further Information M: Collated RAL: Color Code
Application M: Metall C: Composite/Sandwich W: Wood I: Insulation A: Aluminium						Material Z: Galvanized C: Duplex coated S: Stainless (A2) SS: Stainless (A4) S-A: A2 with alu SS-A: A4 with alu		
Function S: Speedy function D: Self-drilling DU: Self-drilling undercut DW: Self-drilling wood P: Pre-drilling T: Treadfast DP: Plastic plug pre-mounted screw						Add on PS: Pan head / Stainless PS-A: Pan head / Alu LS: Long point / Stainless LZ: Long point / galvanized ZW: Wafer head / galvanized GZ: Coarse thread galvanized GS: Coarse thread stainless		
Information about washers 0: No washer 1: Countersunk head 2: Pressed on flange 3: Washer 12 mm 4: Washer 14 mm 5: Washer 16 mm 6: Washer 19 mm 7: Washer 22 mm 8: Washer 29 mm						Information about the screw point Self-piercing (S-MS) 1: Drilling capacity 2 x 0.4mm – 2 x 1.25 mm Self-drilling screw (S-MD / S-CD) 1: Drilling capacity 1.0 – 4.0 mm 3: Drilling capacity 2.1 – 6.0 mm 5: Drilling capacity 4.6 – 15.0 mm Self-tapping screw (S-MP) 2: >1.25 mm steel base material 3: <3.00 mm steel base material and wood base material 4: >1.25 mm steel base material, in high strength		

S-MD 03S/SS 5.5xL

stainless steel self-drilling screw

Load data

Design data

Drilling capacity Σt

max. 6.0 mm

Component II steel with t_{II} [mm] S280GD or S320GD (DIN EN 10326)		
1.50	2.00	3.00

Component I steel with t_I [mm] S280GD or S320GD (DIN EN 10326)			
	Shear force $V_{R,k}$ [kN]		
0.63	-	2.30	2.30
0.75	-	2.30	3.00
0.88	-	2.30	3.00
1.00	-	4.80	-
	Tensile force $N_{R,k}$ [kN]		
0.63	1.50	1.50	1.50
0.75	1.70	2.00	2.00
0.88	1.70	2.00	2.00
1.00	1.70	2.60	3.20
1.13	1.70	2.60	3.20
1.25	1.70	2.60	4.60
1.50	1.70	2.60	4.60
2.00	1.70	2.60	4.60

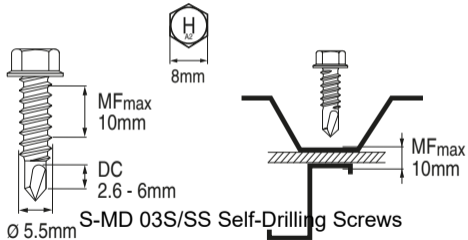
Safety factors according to EN 1993-1-3 and CUAP 06.02/07

	Tension	Shear
Partial safety concept		
Partial safety factor	$Y_M = 1.33$	$Y_M = 1.33$
Influence of cyclic loading	$\alpha_{cyclic} = 1.0$	- / -
Design load	$N_{Rd} = 1.0 \cdot N_{Rk} / 1.33$	$V_{Rd} = V_{Rk} / 1.33$
Global safety concept		
Global safety factor *	$Y_{GLOB} = 2.0$	$Y_{GLOB} = 2.0$
Recommended load	$N_{rec} = 1.0 \cdot N_{Rk} / 2.0$	$V_{rec} = V_{Rk} / 2.0$

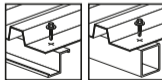
* Note: The global safety factor of 2.0 includes a partial safety factor of $\gamma_F = 1.5$ for wind load. For other loads safety factors should be applied in accordance with the appropriate standards.

S-MD 03 S 5.5 x 25

413408

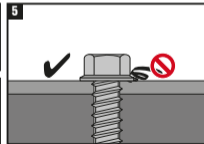
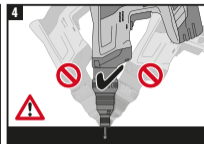
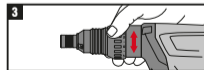
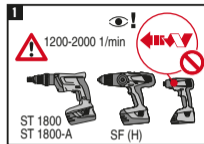


Rostfrei / Inox / Stainless A2



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2009394



Oct 2023

Attn. : To whom it may concern

Date : 27 September 2023
Ref. : 150/AN/DY/23

Subject : Country of Origin- Hilti S-MD Self-drilling Screw

Dear Sir / Madam,

Enclosed please find the information of S-MD Self-drilling Screw.

Brand Name : Hilti

Model Name : Hilti S-MD Self-drilling Screw

Manufacturer : Hilti Corporation

Address of Manufacturer : FL-9494, Principality of Liechtenstein.

Manufacturer Contact Person : Dennis Yeung

Supplier : Hilti (Hong Kong) Ltd

Address of Supplier : 701-704, 7/F, Tower A, Manulife Financial Centre,
223 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong

Supplier Contact Person : Dennis Yeung (+852 9723 4621)

Country of Origin : Taiwan

Should you have further questions, please do not hesitate to contact our Technical Representatives, Customer Service Hotline at 8228-8118, or email us at hksales@hilti.com.

Yours faithfully,



Dennis Yeung
Head of Product Leadership Strategy, F&P



Hilti S-MD 03S/SS Self-Drilling Screws Job Reference

Year	Project Name	Customer Name	Project type
2020	WEST KOWLOON CULTURAL DISTRICT	CHAELE LTD	
2020	QUEEN'S HILL	HOP FAT STRUCTURAL STEEL	
2020	GOLDEN DRAGON INDUSTRIAL CENTER	WENGO TECHNOLOGY CONSTRUCTION	
2020	SHATIN INDUSTRIAL CENTRE	ASSA ABLOY ENTRANCE	
2020	ENTRY OF HOI TAI ST	FAR EAST FACADE (HONG KONG) LIMITED	
2020	111 TUNG CHAU STREET	WAI BONG (H.K.) ENGINEERING LTD	
2020	AV. ALMIRANTE LACERDA	SUN KOU NGAI ENGINEERING CO LTD	
2021	NGAU CHI WAN MUNICIPAL	UNITED BUILDING CONTRACTORS LTD	
2021	KAI TAK AREA 1F SITE 2, NKIL 6556	HOP FAT STRUCTURAL STEEL	
2021	FLOURISH FOOD MANUFACTORY CENTRE	WONDERFUL PROSPECT ENGINEERING	
2021	RUA D. BELCHIOR CARNEIRO No.25A	JM ENGINEERING & CONSTRUCTION LTD	
2021	ONE MONG KOK ROAD COMMERCIAL CENTRE	DOING ENGINEERING COMPANY LIMITED	
2021	8 LAM CHAK STREET	CO-WIN FACADE LIMITED	
2021	HK AUXILIARY POLICE HEADQUARTERS	UNITED BUILDING CONTRACTORS LTD	
2021	GALAXY INDUSTRIAL CENTRE	CHUEN TUNG ENGINEERING CO LIMITED	
2021	WING SHING IND. BLDG	PROGRAM CONTRACTORS LIMITED	
2021	SHATIN INDUSTRIAL CENTRE	KML ENGINEERING LIMITED	
2021	CENTRO COMERCIAL KUONG FAT	BESWORK BUSINESS SOLUTIONS LIMITED	
2021	AV. CIDADE NOVA	THE MACAU BRANCH COMPANY OF MACAU STUDIO CITY PH 2	
2022	EAST SUN INDUSTRIAL CENTRE	SKY FAMOUS DEVELOPMENT LIMITED	
2022	RUA DA ILHA VERDE 95-111E	MENGCHEONG ENGINEERING LIMITED	
2022	MACAO STUDIO CITY II	SANXIN FACADE	
2022	TAI PO COMPLEX	TAK SING ENGINEERING (HONG KONG)	
2022	20 WAH MING ROAD	CHI TAK ENGINEERING COMPANY	
2022	11 HOI WAH ROAD	GAMMON ENGINEERING & CONSTRUCTION	
2022	CCT TELECOM BUILDING	LISTO ENTERPRISES COMPANY LIMITED	
2022	MACAU STUDIO CITY PH 2	JANGHO CURTAIN WALL MACAO CO.,LTD	