



# Hilti S-MD 43 S Self-Drilling Metal Screws

## Submission Folder

### Product Information

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### Letters

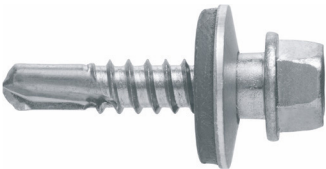
Country of Origin 14

Job Reference 15



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self-drilling screw, 14 mm washer S-MD 43 S

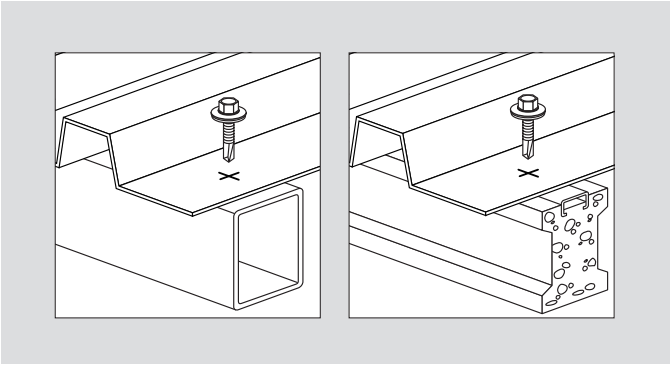
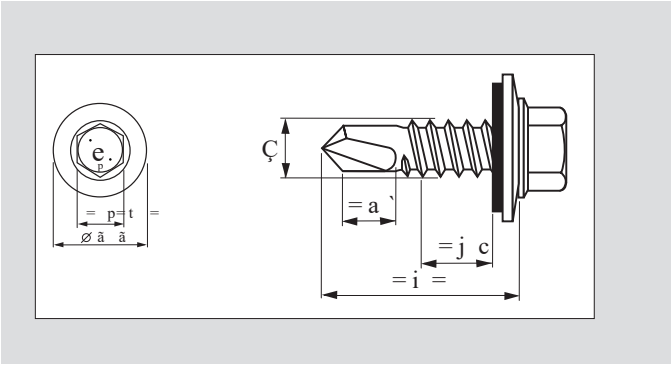


APPLICATIONS

- Fastening corrugated metal sheets to liner trays

ADVANTAGES

- Fast and robust drill tip featuring Racing Tip technology



A2 stainless steel version, with hardened carbon steel drill point with fitted EPDM sealing washer



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 43 S 5.5x25	2.1 - 6 mm	2.1 - 7 mm	5.5 mm	25 mm	8	500 pc	414297

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



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

SF 4-22 Cordless Drill Driver



APPLICATIONS

- Drilling in wood (max. diameter 25 mm)
- Drilling in steel (max. diameter 8 mm)
- Drilling with hole saws in wood (max. diameter 82 mm)
- Driving screws in steel (max. diameter 4.8 mm)
- Drilling with auger and spade bits in wood (max. diameter 25 mm)

ADVANTAGES

- Compact and capable cordless drill driver for working in tight spaces or overhead without compromising on efficiency
- Delivers the highest-ever RPM and torque from a Hilti cordless compact drill driver thanks to high-output Nuron batteries
- Full metal chuck, brushless motor and optimised cooling to better withstand intense use under tough jobsite conditions
- Active Torque Control (ATC) helps to prevent the tool body from uncontrolled spinning if the drill bit sticks
- Cordless tools without compromise thanks to longer-lasting batteries, energy-saving drill bits and a range of services to keep you more productive, today and tomorrow



Technical data	
Maximum torque (soft/hard joint)	36 Nm (soft joint), 62 Nm (hard joint)
No load RPM	gear 1: 610 rpm; gear 2: 2100 rpm
Chuck clamping range	2 - 13 mm
Dimensions (LxWxH)	178 x 68 x 215 mm
Number of gears	2
Weight	1.3 kg
Control switch lock	Yes
Reversing switch	Yes



Ordering designation	Package contents	Sales pack quantity	Item number
SF 4-22	1x Cordl. drill driver SF 4-22 (02), 1x Tool case SF 4-22 assy	1 pc	2253844

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

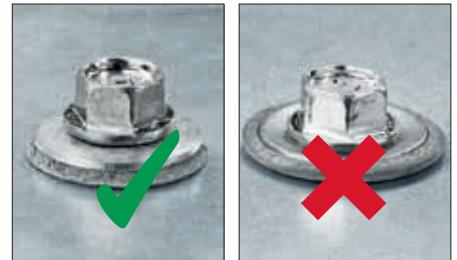
Hilti screw fastening technology sets new standards because, on the one hand, virtually no drill point failure occurs even in high-strength steel with a thickness of up to 15 mm and, on the other, because sealing washers are always perfectly and reliably compressed even when the screws are driven at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



## 2.4 Mobile power for decking and siding

With the power of a corded tool, the new Hilti ST 1800-A22 cordless metal construction screwdriver makes light work of the toughest jobs, even on thick, solid steel beams. With Hilti's comprehensive range of screws and matching accessories it forms an unrivalled cordless system that's unique in this field. Go mobile and raise your productivity – with the Hilti Screw Fastening System and this outstanding cordless tool from the Hilti 22 volt range.



### With the power of a corded tool, the ST 1800-A22 makes light work of the toughest jobs

Ideal for driving screws in sheet metal or aluminium structures and for fastening profile metal sheets to steel or timber supports, the red dot design award-winning ST 1800-A22 brings mobile power to decking and siding work. Thanks also to the Hilti ST-SG screw guide, sandwich panel screws can now be driven more efficiently and reliably than ever before. Developed specially for this application and single-hand use, the ST-SG screw guide enables you to drive long sandwich panel screws with ease, accuracy and without scratching or denting the sensitive panel surface.



### Compact and perfectly balanced

The tool's comfortable in-line grip allows optimum power transmission and a relaxed hand position.



### Extremely cost-efficient

The SDT 5 helps you increase your output by up to 300%. It lets you work cordlessly while maintaining a comfortable, upright stance.



### Optimum screw guidance

The practical ST-SG screw guide lets you drive sandwich panel screws accurately with one hand and without denting the panels.



### 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

- |           |  |
|-----------|--|
| <b>2:</b> | Blunt thread run-out >1.25 mm steel substructure   |
| <b>3:</b> | Pointed thread run-out <3 mm steel substructure<br>Timber substructure                                     |
| <b>4:</b> | Blunt, hardened thread run-out, suitable for S355/ST52<br>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

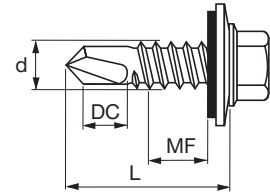
#### Definition of the screw length (L)

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.

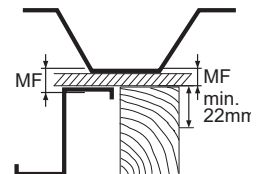
#### 3.4.3

#### 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:

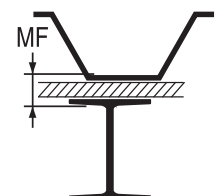
- Sheet metal or steel < 6 mm ➔ embedment depth = existing material thickness
- Steel ≥ 6 mm ➔ Self-tapping screws: embedment depth = 6 mm  
➔ Self-drilling screws: embedment depth = existing material thickness
- Wood ➔ embedment depth ≥ 22 mm

#### Special features:

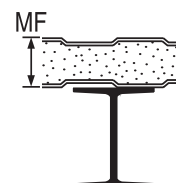
- Sandwich elements fastened with S-CD screws: The fastening height (MF) or clamping length is only specified with the maximum sandwich element thickness that is relevant to the fastening.
- Calottes: If using calottes, 3 mm must be taken into account when calculating the fastening height (MF).

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.



Fastening height in profile metal sheet on steel



Fastening height in sandwich panel

### 3.6 Hilti Screw Nomenclature

The easy way to find the right screw

S		-	M	D	5	3	Z	5,5x25	M
<b>Screw Fastening</b>								<b>Dimensions</b> Thread Diameter x Length	<b>Further Information</b> M: Collated RAL: Color Code
<b>Application</b> M: Metall C: Composite/Sandwich W: Wood I: Insulation A: Aluminium								<b>Material</b> Z: Galvanized C: Duplex coated S: Stainless (A2) SS: Stainless (A4) S-A: A2 with alu SS-A: A4 with alu	
<b>Function</b> 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								<b>Add on</b> 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	
<b>Information about washers</b> 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								<b>Information about the screw point</b> <b>Self-piercing (S-MS)</b> 1: Drilling capacity 2 x 0.4mm – 2 x 1.25 mm  <b>Self-drilling screw (S-MD / S-CD)</b> 1: Drilling capacity 1.0 – 4.0 mm 3: Drilling capacity 2.1 – 6.0 mm 5: Drilling capacity 4.6 – 15.0 mm  <b>Self-tapping screw (S-MP)</b> 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	

**Material:**  
stainless steel (1.4301) - EN 10088  
**Fastener:**  
stainless steel (1.4301) - EN 10088  
**Washer:**  
S280GD, S320GD, S350GD - EN 10346  
**Component I:**  
S235, S275, S355 - EN 10025-1  
**Component II:**  
S280GD, S320GD, S350GD - EN 10346

**Drilling capacity:**  $\Sigma t \leq 6,00$  mm

**Timber substructures:**  
no performance determined

$t_f$ [mm]	1,50	2,00	2,50	3,00	4,00	6,00	—
$V_{R,k}$ [kN]							
0,50	—	—	—	—	—	—	—
0,65	—	—	—	—	—	—	—
0,83	2,50	2,50	2,60	2,70	2,70	2,70	—
0,75	2,80	2,80	2,80	2,80	2,80	2,80	—
0,88	3,00	3,00	3,00	3,00	3,00	3,00	—
1,00	3,30	3,30	3,30	3,30	3,30	3,30	—
1,13	3,50	3,50	3,50	3,50	3,50	3,50	—
1,25	3,80	4,10	4,90	5,80	5,80	5,80	—
1,50	3,80	5,30	5,60	5,90	6,40	6,40	—
1,75	3,80	5,30	5,60	5,90	6,40	6,40	—
2,00	5,80	5,60	5,60	5,90	6,40	6,40	—
0,50	—	—	—	—	—	—	—
0,65	—	—	—	—	—	—	—
0,83	1,90	2,30	2,30	2,30	2,30	2,30	—
0,75	1,90	2,50	2,50	2,50	2,50	2,50	—
0,88	1,90	2,50	2,50	2,50	2,50	2,50	—
1,00	1,90	2,50	2,50	2,50	2,50	2,50	—
1,13	1,90	2,50	2,50	2,50	2,50	2,50	—
1,25	1,90	2,50	2,50	2,50	2,50	2,50	—
1,50	1,90	2,50	2,50	2,50	2,50	2,50	—
1,75	1,90	2,50	2,50	2,50	2,50	2,50	—
2,00	1,90	2,50	2,50	2,50	2,50	2,50	—
$M_{t,perm}$ [Nm]	$\Sigma t \leq 3,00$ mm: 2 Nm $\Sigma t > 3,00$ mm: 5 Nm						

No additional regulations.

Self drilling screw

Hilti S-MD 43 S 5,5 x L  
with hexagon head and sealing washer  $\geq \varnothing 14$  mm

Annex 40

Z36920.13

8.06.02-327/12

**Material:**  
stainless steel (1.4301) - EN 10088  
**Fastener:**  
stainless steel (1.4301) - EN 10088  
**Washer:**  
S320GD, S350GD - EN 10346  
**Component I:**  
S275, S355 - EN 10025-1  
**Component II:**  
S320GD, S350GD - EN 10346

**Drilling capacity:**  $\Sigma t \leq 6,00$  mm

**Timber substructures:**  
no performance determined

$t_f$ [mm]	1,50	2,00	2,50	3,00	4,00	6,00	—
$V_{R,k}$ [kN]							
0,50	—	—	—	—	—	—	—
0,65	—	—	—	—	—	—	—
0,83	2,70	2,70	2,80	2,90	2,90	2,90	—
0,75	3,00	3,00	3,30	3,70	3,70	3,70	—
0,88	3,30	3,30	3,90	4,50	4,50	4,50	—
1,00	3,50	4,00	4,70	5,30	5,30	5,30	—
1,13	3,80	4,20	5,00	5,80	5,80	5,80	—
1,25	4,10	4,40	5,30	6,30	6,30	6,30	—
1,50	4,80	5,70	6,10	6,40	7,00	7,00	—
1,75	4,80	5,70	6,10	6,40	7,00	7,00	—
2,00	6,10	6,10	6,10	6,40	7,00	7,00	—
$M_{t,perm}$ [Nm]							
0,50	—	—	—	—	—	—	—
0,65	—	—	—	—	—	—	—
0,83	2,10	2,60	2,60	2,60	2,60	2,60	—
0,75	2,10	2,80	3,60	3,60	3,60	3,60	—
0,88	2,10	2,80	3,70	4,50	4,50	4,50	—
1,00	2,10	2,80	3,70	4,70	4,70	4,70	—
1,13	2,10	2,80	3,70	4,70	4,70	4,70	—
1,25	2,10	2,80	3,70	4,70	4,70	4,70	—
1,50	2,10	2,80	3,70	4,70	4,70	4,70	—
1,75	2,10	2,80	3,70	4,70	4,70	4,70	—
2,00	2,10	2,80	3,70	4,70	4,70	4,70	—
$\Sigma t \leq 3,00$ mm: 2 Nm $\Sigma t > 3,00$ mm: 5 Nm							

No additional regulations.

Self drilling screw

Hilti S-MD 43 S 5,5 x L - 390  
with hexagon head and sealing washer  $\geq \varnothing 14$  mm

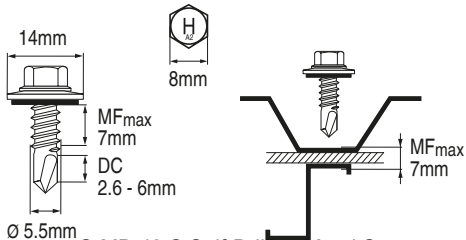
Annex 41

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# S-MD 43 S 5.5 x 25

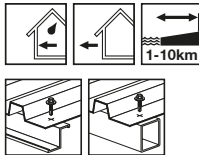
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S-MD 43 S Self-Drilling Metal Screws

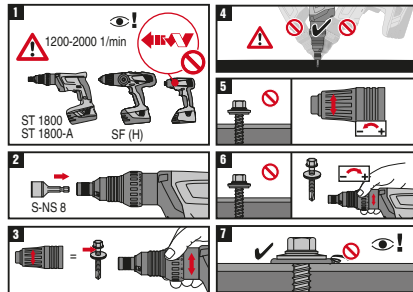
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Rostfrei / Inox / Stainless A2



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Apr 2025

Attn. : To whom it may concern

Date : 1 April 2025  
Ref. : 087/AN/SC/25

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 : Spencer Cheung

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 : Spencer Cheung (+852 9732 1231)

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](mailto:hksales@hilti.com).

Yours faithfully,



Spencer Cheung  
Head of Product Leadership Strategy





## Hilti S-MD 43 S Self-Drilling Metal Screws Job Reference

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