

# S-MD 05 Z, S-MD 25 Z carbon steel self-drilling screws

## Product data

### General information -MD05Z

#### Material specification:

Carbon steel: case-hardened

Zinc coating:  $\geq 8 \mu\text{m}$  galvanized

#### Fastening tools

Screwdriver: Hilti ST1800

Torque settings: 8–10

Drive without depth gauge.

Cut-out controlled by torque clutch.

Nut set driver: S-NSD8  
Item no. 308901

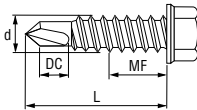
#### Approvals:



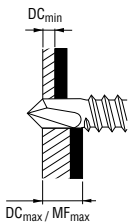
### Dimensions S-MD05Z

#### Uses:

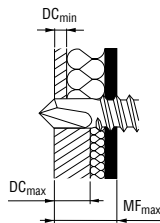
Fastening steel sections and sheet steel to steel framing, with or without insulating material.



#### without insulation



#### with insulation



### General information S-MD25Z

#### Material specification:

galvanized, case-hardened, with pressed-on flange.

#### Fastening tools

Screwdriver: Hilti ST1800

Torque settings: 8–10

Drive without depth gauge.

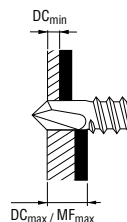
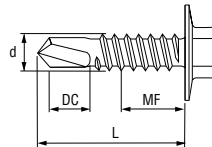
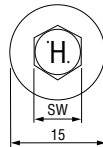
Cut-out controlled by torque clutch.

Nut set driver: S-NSD  
Item no. 308901  
S-NSD10  
Item no. 308902

### Dimensions S-MD25Z

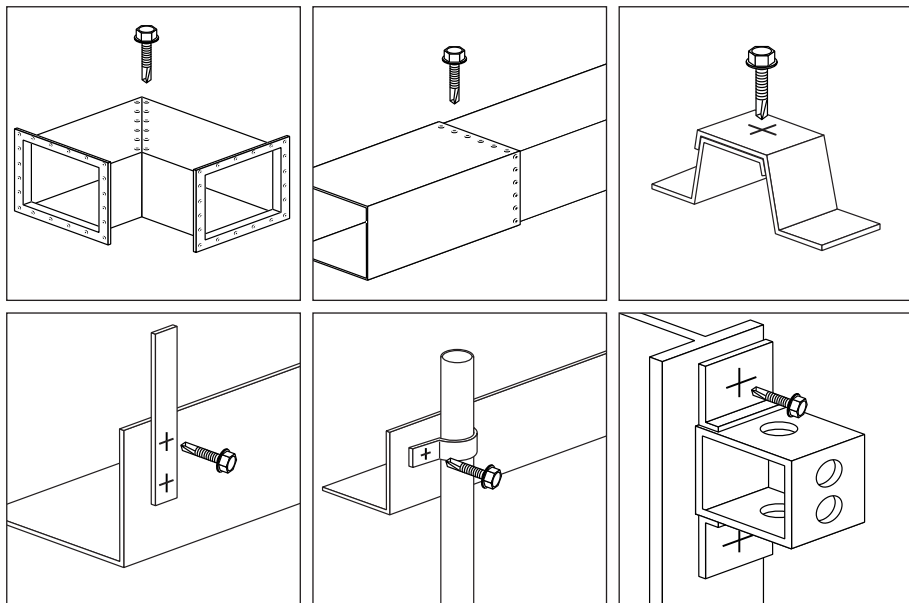
#### Uses:

Fastening supporting decking sheets to steel framing. Screw with pressed-on flange, particularly suitable for highly-stressed fastenings, e.g. roofing sheets on insulated (built-up) roofs.

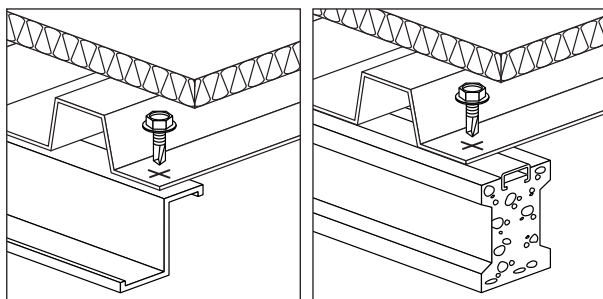


**Applications**

Examples: S-MD05Z

**Applications**

Examples: S-MD25Z



## Load data

## Design data

## Drilling capacity $\Sigma t$

max. 15.00 mm

## Tightening torque (recommendation)

Screw in end-stop oriented

Tightening torque: 5 Nm

**Component II** steel with  $t_{II}$  [mm]  
S235J according to DIN EN 10025-2  
S280GD or S320GD (DIN EN 10326)

**4.00                  5.00                  6.00                  > 6.00**

## Component I

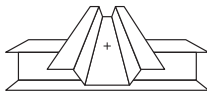
steel with  $t_I$  [mm]  
S280GD or S320GD  
(DIN EN 10326)

### Shear force $V_{R,k}$ [kN]

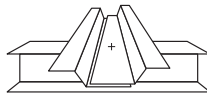
<b>0.63</b>	2.70 abcd	2.70 abcd	2.70 abcd	2.70 abcd
<b>0.75</b>	3.40 abcd	3.40 abcd	3.40 abcd	3.4 abcd0
<b>0.88</b>	4.20 ac	4.20 ac	4.20 ac	4.20 ac
<b>1.00</b>	4.90 ac	4.90 ac	4.90 ac	4.90 ac
<b>1.13</b>	5.70 ac	5.70 ac	5.70 ac	5.70 ac
<b>1.25</b>	6.50	6.50	6.50	6.50
<b>1.50</b>	7.60	7.60	7.60	7.60
<b>1.75</b>	7.60	7.60	7.60	7.60
<b>2.00</b>	7.60	7.60	7.60	7.60

### Tension force $N_{R,k}$ [kN]

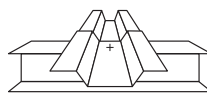
<b>0.63</b>	1.50 abcd	1.50 abcd	1.50 abcd	1.50 abcd
<b>0.75</b>	1.80 abcd	1.80 abcd	1.80 abcd	1.80 abcd
<b>0.88</b>	2.10 ac	2.10 ac	2.10 ac	2.10 ac
<b>1.00</b>	2.40 ac	2.40 ac	2.40 ac	2.40 ac
<b>1.13</b>	2.70 ac	2.70 ac	2.70 ac	2.70 ac
<b>1.25</b>	3.00	3.00	3.00	3.00
<b>1.50</b>	3.60	3.60	3.60	3.60
<b>1.75</b>	3.60	3.60	3.60	3.60
<b>2.00</b>	4.80	4.80	4.80	4.80



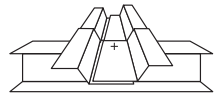
**(a)**  
single



**(b)**  
side lap



**(c)**  
end overlap



**(d)**  
side lap and end overlap

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

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

\* 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.

## Screw selection

### Screw program

Drilling thickness DC mm	Fastening thickness MF max. mm	Dimensions (dxL) mm	Head size AF	Package contents	Ordering designation	Item no.
<b>4.6-15.00</b>	18	5.5x38	8	250	S-MD05Z 5.5x38	<b>219030</b>
<b>4.6-15.00</b>	30	5.5x50	8	250	S-MD05Z 5.5x50	<b>219028</b>
<b>4.6-15.00</b>	43	5.5x63	8	250	S-MD05Z 5.5x63	<b>219031</b>
<b>4.6-15.00</b>	18	5.5x38	8	500	S-MD25Z 5.5x38	<b>234598</b>