

S-MD51S 4.8×L + 5.5×L / S-MD61S 4.8×L stainless steel self-drilling screw

Product data

General information

Material specification:

made from A2 (AISI 304) material,
with hardened carbon steel drill point and
thread start, reduced-diameter drill point for
higher pull-out values and fitted EPDM
sealing washer \varnothing 16 or 19 mm.
Coloured screws available on request.

Fastening tools

Screwdriver: Hilti ST2500,
Hilti ST1800

Drive using depth
gauge set: Item no. 304611

Nut set driver
S-NSD 8: Item no. 308901

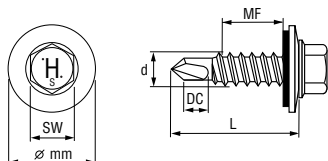
Approvals:



Dimensions

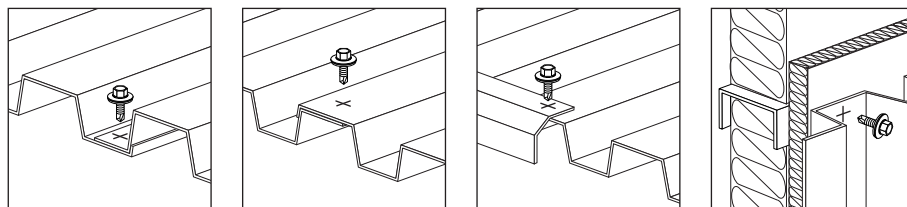
Uses:

Fastening sheet metal to sheet metal, with or without intermediate insulation layer.
For corrosion-resistant and watertight joints.



Applications

Examples



Load data

Design data

Drilling capacity Σt

max. 2,0 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)

0.63 0.75 0.88 1.00 1.13 1.25

Component I

steel with t_I [mm]

S280GD or S320GD

(DIN EN 10326)

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

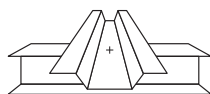
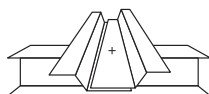
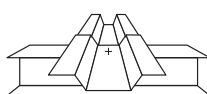
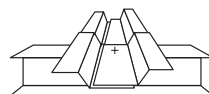
0.63	1.00	1.50	1.80	2.00 a	2.00 a	2.00 a
0.75	1.00	1.80	2.10	2.40	2.40 a	2.40 a
0.88	1.20	1.90	2.30	2.80	2.80	–
1.00	1.40	2.10	2.60	3.10	–	–
1.13	1.40	2.10	2.60	–	–	–
1.25	1.40	2.10	–	–	–	–

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

0.50	0.43	0.54	0.65	0.76 a	0.92 a	1.08 a
0.55	0.55	0,68	0.82	0.95 a	1.16 a	1.36 a
0.63	0.80	1.00	1.20	1.40 a	1.70 a	2.00 a
0.75	0.80	1.00	1.20	1.40	1.70 a	2.00 a
0.88	0.80	1.00	1.20	1.40	1.70	–
1.00	0.80	1.00	1.20	1.40	–	–
1.13	0.80	1.00	1.20	–	–	–
1.25	0.80	1.00	–	–	–	–

Additional provisions:

For steel grade S320GD characteristic loads can be increased by 8%.

(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
Partial safety concept		
Partial safety factor	$\gamma_M = 1.33$	$\gamma_M = 1.33$
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 *	$\gamma_{GLOB} = 2.0$	$\gamma_{GLOB} = 2.0$
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.

Screw selection

Screw program

Drilling thickness DC mm	Fastening thickness MF max. mm	Dimensions (dxL) mm	Sealing washer Ø mm	Head size AF	Package contents	Ordering designation	Item no.
1.25-2.0	6.0	4.8x22	16	8	500	S-MD51S 4.8x22	375228
1.25-2.0	9.0	4.8x25	16	8	500	S-MD51S 4.8x25	375229
1.25-2.0	6.0	4.8x22	19	8	500	S-MD61S 4.8x22	283052

Load data

Design data

Drilling capacity Σt

max. 3,0 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)

0.63 0.75 0.88 1.00 1.13 1.25 1.50 2.00

Component I

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

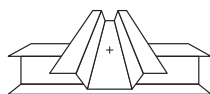
Shear force $V_{R,k}$ [kN]

0.63	1.00	1.30	1.70	2.00	2.40	2.80 ac	3.00 ac	3.00 a
0.75	1.30	1.80	2.10	2.40	2.70	3.00	3.80	3.80 a
0.88	1.30	1.80	2.10	2.70	2.70	3.00	3.80	4.50
1.00	1.30	1.80	2.40	3.00	3.00	3.00	3.80	5.20
1.13	1.30	1.80	2.40	3.40	3.40	3.40	4.40	–
1.25	1.40	1.80	2.80	3.80	3.90	4.10	5.00	–
1.50	1.40	1.80	2.80	3.80	3.90	4.70	5.00	–

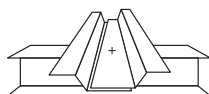
Tension force $N_{R,k}$ [kN]

0.50	0.38	0.49	0.59	0.76	0.92	1.03	1.24	1.24
0.55	0.48	0.61	0.75	0.95	1.16	1.30	1.57	1.57
0.63	0.70	0.90	1.10	1.40	1.70	1.90	2.30	2.30
0.75	0.70	0.90	1.10	1.40	1.70	1.90	2.50	3.30
0.88	0.70	0.90	1.10	1.40	1.70	1.90	2.50	3.70
1.00	0.70	0.90	1.10	1.40	1.70	1.90	2.50	3.70
1.13	0.70	0.90	1.10	1.40	1.70	1.90	2.50	–
1.25	0.70	0.90	1.10	1.40	1.70	1.90	2.50	–
1.50	0.70	0.90	1.10	1.40	1.70	1.90	2.50	–

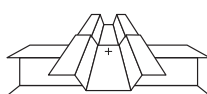
Additional provisions: For steel grade S275J and S350GD characteristic loads can be increased by 10%.



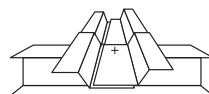
(a)
single



(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
Partial safety concept		
Partial safety factor	$\gamma_M = 1.33$	$\gamma_M = 1.33$
Influence of cyclic loading	$\alpha_{\text{cyclic}} = 1.0$	- / -
Design load	$N_{Rd} = 1.0 \cdot N_{Rk} / 1.33$	$V_{Rd} = V_{Rk} / 1.33$
Global safety concept		
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	Sealing washer \varnothing mm	Head size AF	Package contents	Ordering designation	Item no.
1.25-3.0	8.0	5.5x25	16	8	500	S-MD51S 5.5x25	378257
1.25-3.0	15.0	5.5x32	16	8	250	S-MD51S 5.5x32	375230
1.25-3.0	21.0	5.5x38	16	8	250	S-MD51S 5.5x38	375231
1.25-3.0	33.0	5.5x50	16	8	250	S-MD51S 5.5x50	375232