

S-MD 53 S / S-MD 63 S / S-MD 73 S 5.5×L + 6.3×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, with fitted EPDM sealing washer \varnothing 16, 19 or 22 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

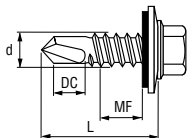
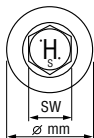
Approvals:



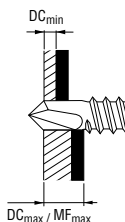
Dimensions

Uses:

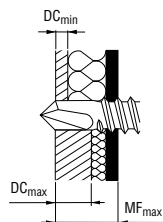
Fastening sheet metal to steel framing, with or without intermediate insulation layers. For corrosion-resistant and watertight joints.



without insulation

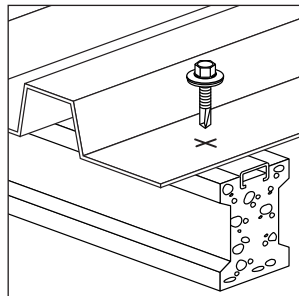
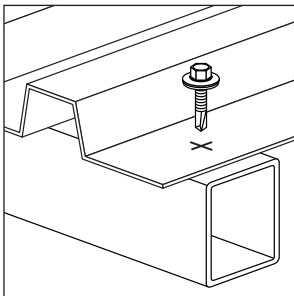
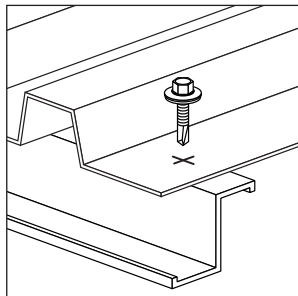


with insulation



Applications

Examples



Load data

Design data

Drilling capacity Σt

max. 6.0 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)

1.50 2.00 2.50 3.00 4.00

Component I

steel with t_I [mm]

S280GD or S320GD

(DIN EN 10326)

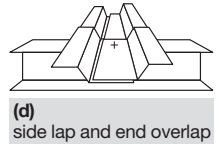
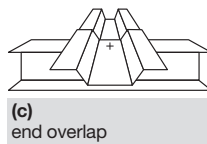
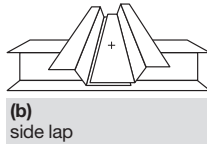
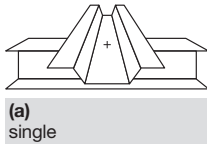
Shear force $V_{R,k}$ [kN]

0.63	2.10 ac	2.60 ac	3.00 ac	3.40 ac	3.40 ac
0.75	2.50 ac	3.00 ac	3.50 ac	4.00 ac	4.00 ac
0.88	2.70	3.40 ac	4.00 ac	4.60 ac	4.60 a
1.00	2.90	4.80 ac	5.00 ac	5.20 ac	5.20 a
1.13	3.30	5.10	5.40	6.00	6.00
1.25	3.60	5.30	5.80	6.80	6.80
1.50	4.40	5.90	6.60	7.20	7.20
1.75	4.40	5.90	6.60	7.20	–
2.00	5.40	6.50	6.60	7.20	–

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

0.50	0.92 ac	1.35 ac	1.35 ac	1.35 ac	1.35 ac
0.55	1.16 ac	1.71 ac	1.71 ac	1.71 ac	1.71 ac
0.63	1.70 ac	2.50 ac	2.50 ac	2.50 ac	2.50 ac
0.75	1.70 ac	2.60 ac	3.30 ac	3.30 ac	3.30 ac
0.88	1.70	2.60 ac	3.60 ac	4.10 ac	4.10 a
1.00	1.70	2.60 ac	3.60 ac	4.60 ac	4.70 a
1.13	1.70	2.60	3.60	4.60	5.40
1.25	1.70	2.60	3.60	4.60	5.90
1.50	1.70	2.60	3.60	4.60	6.00
1.75	1.70	2.60	3.60	4.60	–
2.00	1.70	2.60	3.60	4.60	–

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



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.

Load data

Design data

Drilling capacity Σt

max. 6,00 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)

1.50	2.00	2.50	3.00	4.00
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Component I

steel with t_I [mm]

S280GD or S320GD

(DIN EN 10326)

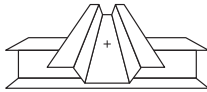
Shear force $V_{R,k}$ [kN]

0.63	2.20	2.50 ac	2.80 ac	3.00 ac	2.00 ac
0.75	2.70	3.20 ac	3.60 ac	4.10 ac	4.10 ac
0.88	3.00	3.70 ac	4.50 ac	5.30 ac	5.30 ac
1.00	3.30	4.00 ac	5.20 ac	6.40 ac	6.40 ac
1.13	3.70	4.70	5.70	6.70	6.70
1.25	4.10	5.10	6.00	6.90	6.90
1.50	5.00	6.30	6.90	7.50	8.10
1.75	5.00	6.30	6.90	7.50	8.10
2.00	6.70	6.70	6.90	7.50	8.10

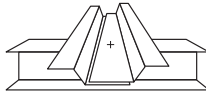
Tension force $N_{R,k}$ [kN]

0.50	0.76	1.46 ac	1.62 ac	1.62 ac	1.62 ac
0.55	0.95	1.84 ac	2.05 ac	2.05 ac	2.05 ac
0.63	1.40	2.70 ac	3.00 ac	3.00 ac	3.00 ac
0.75	1.40	2.70 ac	3.90 ac	3.90 ac	3.90 ac
0.88	1.40	2.70 ac	4.00 ac	4.80 ac	4.80 ac
1.00	1.40	2.70 ac	4.00 ac	5.40 ac	5.60 ac
1.13	1.40	2.70	4.00	5.40	6.20
1.25	1.40	2.70	4.00	5.40	6.80
1.50	1.40	2.70	4.00	5.40	7.20
1.75	1.40	2.70	4.00	5.40	7.20
2.00	1.40	2.70	4.00	5.40	7.20

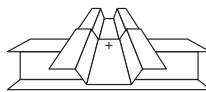
Additional provisions: For steel grade S275J and S350GD characteristic loads can be increased by 10 %.



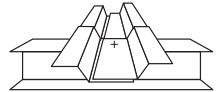
(a)
single



(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	$\alpha_{cyclic} = 1.0$	- / -
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 ∅ mm	Head size AF	Package contents	Ordering designation	Item no.
2.1-6.0	8	5.5x25	16	8	500	S-MD53S 5.5x25	413434
2.1-6.0	15	5.5x32	16	8	250	S-MD53S 5.5x32	413435
2.1-6.0	21	5.5x38	16	8	250	S-MD53S 5.5x38	413436
2.1-6.0	33	5.5x50	16	8	250	S-MD53S 5.5x50	413437
2.1-6.0	46	5.5x63	16	8	100	S-MD53S 5.5x63	413438
2.1-6.0	8	5.5x25	19	8	500	S-MD63S 5.5x25	413450
2.1-6.0	15	5.5x32	19	8	250	S-MD63S 5.5x32	413451
2.1-6.0	21	5.5x38	19	8	250	S-MD63S 5.5x38	413452
2.1-6.0	33	5.5x50	19	8	250	S-MD63S 5.5x50	413453
2.1-6.0	46	5.5x63	19	8	100	S-MD63S 5.5x63	413454
2.1-6.0	8	5.5x25	22	8	500	S-MD73S 5.5x25	413456
2.1-6.0	15	5.5x32	22	8	250	S-MD73S 5.5x32	413457
2.1-6.0	21	5.5x38	22	8	250	S-MD73S 5.5x38	413458
2.1-6.0	33	5.5x50	22	8	250	S-MD73S 5.5x50	413459
2.1-6.0	46	5.5x63	22	8	100	S-MD73S 5.5x63	413460
2.1-6.0	7	6.3x25	16	8	500	S-MD53S 6.3x25	413439
2.1-6.0	7	6.3x25	19	8	500	S-MD63S 6.3x25	413455
2.1-6.0	7	6.3x25	22	8	500	S-MD73S 6.3x25	413461