

S-MD 33 PS 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 12 mm.
Coloured screws available on request.

Fastening tools:

Screwdriver: Hilti ST 1800
Hilti ST 2500

Drive using depth gauge set:

Item no. 304611

Bit S-B TX25W:

Item no. 237296

Approvals:

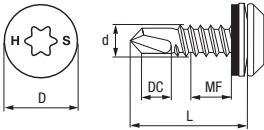


Dimensions

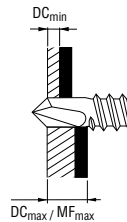
Uses:

Fastening profiled corrugated sheet metal with steel base material with or without intermediate insulation layers.

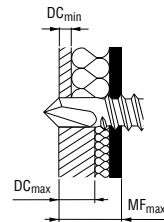
For corrosion-resistant and watertight joints.



without insulation

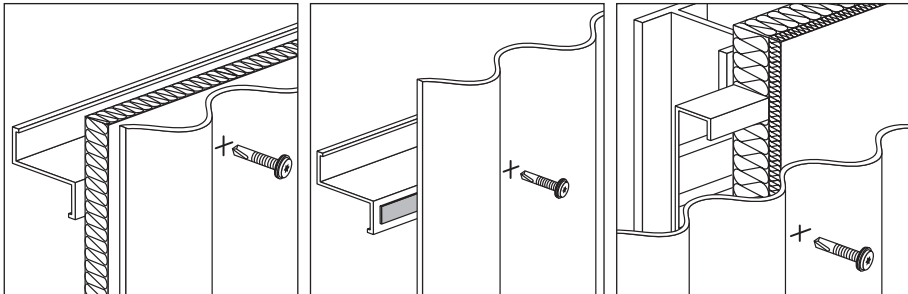


with insulation



Applications

Examples



Load data
Design data
Drilling capacity Σt

max. 6.0 mm

Screw in end-stop oriented
Component II aluminium t_{ij} [mm]

 Profil sheeting with $R_m \geq 185 \text{ N/mm}^2$ according to
 DIN EN 485-2:2004-09 or substructure according to
 DIN 4113-1/A1:2002-09 with $\beta_z \geq 185 \text{ N/mm}^2$
1.00 1.50 2.00 2,50 3.00
Component I

 steel with t_i [mm]

S280GD up to S350GD

(DIN EN 10326)

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

0.63	1.10	1.10	1.10	1.10	1.10
0.75	1.28	1.46	1.46	1.46	1.46
0.88	1.32	1.73	1.73	1.73	1.73
1.00	1.36	1.99	1.99	1.99	1.99
1.13	1.36	1.99	1.99	1.99	1.99
1.25	1.36	1.99	1.99	1.99	1.99
1.50	1.36	1.99	1.99	1.99	1.99
1.75	1.36	1.99	1.99	1.99	1.99
2.00	1.36	1.99	1.99	1.99	1.99

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

0.63	0.34	0.78	1.17	1.66	2.34
0.75	0.34	0.78	1.17	1.66	2.34
0.88	0.34	0.78	1.17	1.66	2.34
1.00	0.34	0.78	1.17	1.66	2.34
1.13	0.34	0.78	1.17	1.66	2.34
1.25	0.34	0.78	1.17	1.66	2.34
1.50	0.34	0.78	1.17	1.66	2.34
1.75	0.34	0.78	1.17	1.66	2.34
2.00	0.34	0.78	1.17	1.66	2.34

Screw in end-stop oriented

Component II steel t_{II} [mm]

S235 according to DIN EN 10026-2

S280GD up to S350GD as per DIN EN 10326

0.75 0.88 1.00 1.25 2 x 0.75 2 x 0.88 2 x 1.00 2 x 1.25

Component I

steel with t_I [mm]

S280GD up to S350GD

(DIN EN 10326)

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

0.63	–	–	–	–	–	–	–	–
0.75	1.29	1.29	1.29	1.29	2.05	2.05	2.05	2.05
0.88	1.29	1.81	1.81	1.81	2.05	2.56	2.56	2.56
1.00	1.29	1.81	2.32	2.32	2.05	2.56	3.07	3.07
1.13	1.29	1.81	2.32	2.32	2.05	2.56	3.07	3.07
1.25	1.29	1.81	2.32	2.32	2.05	2.56	3.07	3.07
1.50	1.29	1.81	2.32	2.32	2.05	2.56	3.07	3.07
1.75	1.29	1.81	2.32	2.32	2.05	2.56	3.07	3.07
2.00	1.29	1.81	2.32	2.32	2.05	2.56	3.07	3.07
	Tension force $N_{R,k}$ [kN]							
0.63	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
0.75	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
0.88	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.00	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.13	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.25	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.50	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.75	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
2.00	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91

Drilling capacity Σt

max. 6.0 mm

Screw in end-stop oriented

Component II aluminium t_{II} [mm] Profil sheeting with $R_m \geq 185 \text{ N/mm}^2$ according to DIN EN 485-2:2004-09 or substructure according to DIN 4113-1/A1:2002-09 with $\beta_z 185 \text{ N/mm}^2$					
	1.00	1.50	2.00	2.50	3.00

Component I aluminium t_I [mm] Profil sheeting with $R_m \geq 185 \text{ N/mm}^2$ according to DIN EN 485-2:2004-09					
	Shear force $V_{R,k}$ [kN]				
0.50	0.56	0.79	0.79	0.79	0.79
0.60	0.65	0.91	0.91	0.91	0.91
0.70	0.74	1.03	1.03	1.03	1.03
0.80	0.85	1.10	1.10	1.10	1.10
0.90	0.96	1.18	1.18	1.18	1.18
1.00	1.07	1.25	1.25	1.25	1.25
1.10	1.07	1.25	1.25	1.25	1.25
1.20	1.07	1.25	1.25	1.25	1.25
1.30	1.07	1.25	1.25	1.25	1.25
1.40	1.07	1.25	1.25	1.25	1.25
1.50	1.07	1.25	1.25	1.25	1.25
	Tension force $N_{R,k}$ [kN]				
0.50	0.34	0.61	0.61	0.61	0.61
0.60	0.34	0.70	0.70	0.70	0.70
0.70	0.34	0.78	0.83	0.83	0.83
0.80	0.34	0.78	0.99	0.99	0.99
0.90	0.34	0.78	1.17	1.19	1.19
1.00	0.34	0.78	1.17	1.42	1.42
1.10	0.34	0.78	1.17	1.66	1.70
1.20	0.34	0.78	1.17	1.66	2.02
1.30	0.34	0.78	1.17	1.66	2.02
1.40	0.34	0.78	1.17	1.66	2.02
1.50	0.34	0.78	1.17	1.66	2.02

Screw in end-stop oriented

Component II steel t_{II} [mm]

S235 according to DIN EN 10026-2

S280GD up to S350GD as per DIN EN 10326

0.75 0.88 1.00 1.25 2 × 0.75 2 × 0.88 2 × 1.00 2 × 1.25

Component I

aluminium t_I [mm]

Profil sheeting with R_m

≥ 185 N/mm² according to

DIN EN 485-2:2004-09

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

0.50	-	-	-	-	-	-	-	-
0.60	-	-	-	-	-	-	-	-
0.70	0.99	0.99	0.99	0.99	1.18	1.18	1.18	1.18
0.80	0.99	0.99	0.99	0.99	1.18	1.18	1.18	1.18
0.90	0.99	0.99	0.99	0.99	1.18	1.18	1.18	1.18
1.00	0.99	0.99	1.31	1.31	1.18	1.18	1.18	1.18
1.10	0.99	0.99	1.31	1.31	1.18	1.18	1.18	1.18
1.20	0.99	0.99	1.31	1.31	1.18	1.18	1.18	1.18
1.30	0.99	0.99	1.31	1.31	1.18	1.18	1.18	1.18
1.40	0.99	0.99	1.31	1.31	1.18	1.18	1.18	1.18
1.50	0.99	0.99	1.31	1.31	1.18	1.18	1.18	1.18

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

0.50	0.45	0.61	0.61	0.61	0.61	0.61	0.61	0.61
0.60	0.45	0.65	0.70	0.70	0.70	0.70	0.70	0.70
0.70	0.45	0.65	0.83	0.83	0.83	0.83	0.83	0.83
0.80	0.45	0.65	0.85	0.99	0.97	0.99	0.99	0.99
0.90	0.45	0.65	0.85	1.08	0.97	1.19	1.19	1.19
1.00	0.45	0.65	0.85	1.08	0.97	1.24	1.42	1.42
1.10	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.70
1.20	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.30	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.40	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91
1.50	0.45	0.65	0.85	1.08	0.97	1.24	1.51	1.91

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	Drive dimensions	Package contents	Ordering designation	Item no.
2.1-6.0	5	5.5x22	12	TX 25	500	S-MD 33PS 5.5x22	202427
2.1-6.0	11	5.5x28	12	TX 25	500	S-MD 33PS 5.5x28	202428
2.1-6.0	21	5.5x38	12	TX 25	250	S-MD 33PS 5.5x38	202429
2.1-6.0	33	5.5x50	12	TX 25	250	S-MD 33PS 5.5x50	202430