

TECHNICAL DATA SHEET



T12 R16

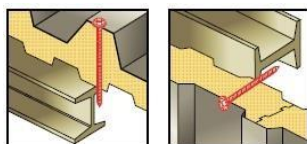
SELF-DRILLING SCREWS FOR SANDWICH PANELS

PRODUCT DESCRIPTION

Self-drilling, self-tapping screws (double thread) made of surface-hardened carbon steel, drilling point #5, with very fine thread and hex head, with integrated steel washer with vulcanized EPDM layer.

APPLICATION

Designed for mounting sandwich panels to hot rolled steel structures. Protected with paint coating - polyester thickness of not less than 50 µm, intended for use in environments with corrosivity class C1, C2 and C3 according to PN-EN ISO 12944-2: 2001 standard. Galvanized without paint coating intended for use in environments with corrosivity class C1, C2.



LENGTH OF SCREWS

Fastener type		Dimensions D x L [mm]	Maximum drill capacity [mm]	Maximum thickness of fixed elements [mm]	
			DC	MTmin	MTmax
T12	R16	5,5/6,3 x 75	12,00	30	50
T12	R16	5,5/6,3 x 90	12,00	40	60
T12	R16	5,5/6,3 x 105	12,00	50	80
T12	R16	5,5/6,3 x 130	12,00	75	105
T12	R16	5,5/6,3 x 150	12,00	90	125
T12	R16	5,5/6,3 x 175	12,00	110	150
T12	R16	5,5/6,3 x 180	12,00	115	155
T12	R16	5,5/6,3 x 200	12,00	135	175
T12	R16	5,5/6,3 x 230	12,00	165	205
T12	R16	5,5/6,3 x 240	12,00	175	215

The working length of the fastener is calculated from the maximum thickness of the DC substrate.

**CHARACTERISTIC CAPACITIES OF SHEAR ATTACHMENTS AND PULL-OUT FROM STEEL SUBSTRATE,
DISPLACEMENT OF THE SCREW HEAD DUE TO HEAT EXPANSION**

Element II: t_{II} w [mm]			3,00	4,00	5,00	6,00	8,00	10,00	$\geq 11,00$
Element I: $t_{n,1}$ lub $t_{n,2}$ w [mm]	SHEAR $V_{R,k}$ w [kN]	0,50	1,40	1,40	1,40	1,40	1,40	1,40	1,40
		0,55	1,40	1,40	1,40	1,40	1,40	1,40	1,40
		0,63	1,60	1,60	1,60	1,60	1,60	1,60	1,60
		0,75	2,10	2,10	2,10	2,10	2,10	2,10	2,10
		0,88	2,10	2,10	2,10	2,10	2,10	2,10	2,10
		1,00	2,10	2,10	2,10	2,10	2,10	2,10	2,10
	PULL-OUT $N_{R,k}$ w [kN]	0,50	3,65	3,65	3,65	3,65	3,65	3,65	3,65
		0,55	3,65	3,65	3,65	3,65	3,65	3,65	3,65
		0,63	4,60	4,60	4,60	4,60	4,60	4,60	4,60
		0,75	5,45	5,45	5,45	5,45	5,45	5,45	5,45
		0,88	5,45	5,45	5,45	5,45	5,45	5,45	5,45
		1,00	5,45	5,45	5,45	5,45	5,45	5,45	5,45
Max. head displacement u^* depending on the sandwich panel thickness in [mm]	30	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
	40	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
	50	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
	60	4	4	4	4	4	4	4	
	70	4	4	4	4	4	4	4	
	80	4	4	4	4	4	4	4	
	90	6	6	6	6	6	6	6	
	100	6	6	6	6	6	6	6	
	120	6	6	6	6	6	6	6	
	≥ 140	6	6	6	6	6	6	6	

Element I - sheet steel of S280GD grade; S320GD; S350GD according to EN 10346.

Element II - steel sheet steel of grade S235 according to EN 10025-1 or S280GD; S320GD; S350GD according to EN 10346.

In order to determine the design load, the characteristic load factor must be divided by the safety factor $\gamma_m = 1.33$.

CHARACTERISTIC CAPACITIES OF SHEAR ATTACHMENTS AND PULL-OUT FROM STEEL SUBSTRATE,
DISPLACEMENT OF THE SCREW HEAD DUE TO HEAT EXPANSION

Element II: t_{II} w [mm]			3,00	4,00	5,00	6,00	7,00	8,00	$\geq 9,00$
Element I: $t_{n,1}$ lub $t_{n,2}$ w [mm]	SHEAR $V_{R,k}$ w [kN]	0,50	1,40	1,40	1,40	1,40	1,40	1,40	1,40
		0,55	1,40	1,40	1,40	1,40	1,40	1,40	1,40
		0,63	1,60	1,60	1,60	1,60	1,60	1,60	1,60
		0,75	2,10	2,10	2,10	2,10	2,10	2,10	2,10
		0,88	2,10	2,10	2,10	2,10	2,10	2,10	2,10
		1,00	2,10	2,10	2,10	2,10	2,10	2,10	2,10
	PULL-OUT $N_{R,k}$ w [kN]	0,50	3,65	3,65	3,65	3,65	3,65	3,65	3,65
		0,55	3,65	3,65	3,65	3,65	3,65	3,65	3,65
		0,63	4,60	4,60	4,60	4,60	4,60	4,60	4,60
		0,75	5,45	5,45	5,45	5,45	5,45	5,45	5,45
		0,88	5,45	5,45	5,45	5,45	5,45	5,45	5,45
		1,00	5,45	5,45	5,45	5,45	5,45	5,45	5,45
Max. head displacement u^* depending on the sandwich panel thickness in [mm]		1,5	1,5	1,5	1,5	1,5	1,5	1,5	
	40	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
	50	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
	60	4	4	4	4	4	4	4	
	70	4	4	4	4	4	4	4	
	80	4	4	4	4	4	4	4	
	90	6	6	6	6	6	6	6	
	100	6	6	6	6	6	6	6	
	120	6	6	6	6	6	6	6	
	≥ 140	6	6	6	6	6	6	6	

Element I – steel plate s280gd; s320gd; s350gd according to: en 10346.

Element II – steel plate s235 according to: en 10025-1 or steel plate s280gd; s320gd; s350gd according to: en 10346.

To define a design load should divide the value of the characteristic load by a safety factor $\gamma_m = 1,33$.

OTHER FEATURES

BASE MATERIAL: *HOT ROLLED STEEL PROFILE*

SIZE OF HEX HEAD: *8 mm*

MINIMUM THICKNESS OF STEEL BASE: *3,0 mm*

MAXIMUM DRILLING CAPACITY: *12,0 mm*

THICKNESS OF ZINC COATING: *12 μ m*

CORROSIVITY CATEGORY: *PAINTED - C3
UNPAINTED - C2*

TECHNICAL OPINION ON CORROSION PROTECTION: *02248/16/Z00NZM*

PAINTING POSSIBILITY: *YES*

THICKNESS OF POLYESTER PAINT: *50 μ m*

TIGHTENING TORQUE: *5 Nm*

RECOMMENDED SPEED OF THE TOOL WITHOUT LOAD: *1500 rpm*

WASHER DIAMETER (STEEL R16): *16 mm*

