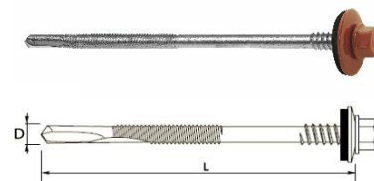


## GTR 12 SP A19

SELF-DRILLING SCREWS  
FOR SANDWICH PANELS

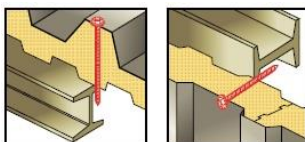


### PRODUCT DESCRIPTION


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 aluminum washer with vulcanized EPDM layer. Additional corrosion protection: gRey.coat coating.

### APPLICATION

Designed for mounting sandwich panels to hot rolled steel structures. Designed for use in environments with atmospheric corrosivity categories C1, C2, C3, C4 according to PN-EN ISO 12944-2: 2001 standard.



### LENGTH OF SCREWS

Fastener type		Dimensions D x L [mm]	Maximum drill capacity [mm]		
			DC	MTmin	MTmax
GTR 12 SP	A19	5,5/6,3 x 70	12,00	25	30
GTR 12 SP	A19	5,5/6,3 x 90	12,00	25	50
GTR 12 SP	A19	5,5/6,3 x 110	12,00	45	70
GTR 12 SP	A19	5,5/6,3 x 130	12,00	65	90
GTR 12 SP	A19	5,5/6,3 x 140	12,00	75	100
GTR 12 SP	A19	5,5/6,3 x 150	12,00	85	110
GTR 12 SP	A19	5,5/6,3 x 160	12,00	95	120
GTR 12 SP	A19	5,5/6,3 x 175	12,00	110	135
GTR 12 SP	A19	5,5/6,3 x 185	12,00	110	145
GTR 12 SP	A19	5,5/6,3 x 190	12,00	115	150
GTR 12 SP	A19	5,5/6,3 x 200	12,00	125	160
GTR 12 SP	A19	5,5/6,3 x 230	12,00	155	190
GTR 12 SP	A19	5,5/6,3 x 240	12,00	165	200
GTR 12 SP	A19	5,5/6,3 x 260	12,00	185	220
GTR 12 SP	A19	5,5/6,3 x 285	12,00	200	245
GTR 12 SP	A19	5,5/6,3 x 330	12,00	245	290

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

## EUROPEAN TECHNICAL APPROVAL ETA-13/0199

### 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	≥ 11,00
Element I: $t_{n,1} lub t_{n,2w}$ [mm]	SHEAR $V_{R,k} w$ [kN]	0,50	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
		0,63	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
		0,88	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
	PULL-OUT $N_{R,k} w$ [kN]	0,50	3,67	3,67	3,67	3,67	3,67	3,67
		0,55	3,67	3,67	3,67	3,67	3,67	3,67
		0,63	4,11	4,11	4,11	4,11	4,11	4,11
		0,75	5,28	5,28	5,28	5,28	5,28	5,28
		0,88	5,28	5,28	5,28	5,28	5,28	5,28
		1,00	5,28	5,28	5,28	5,28	5,28	5,28
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	
	40	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	
	60	4	4	4	4	4	4	
	70	4	4	4	4	4	4	
	80	4	4	4	4	4	4	
	90	6	6	6	6	6	6	
	100	6	6	6	6	6	6	
	120	6	6	6	6	6	6	
	≥140	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  $\gamma_m = 1.33$ .

## NATIONAL TECHNICAL ASSESSMENT ITB-KOT-2017/0022

### 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	≥ 9,00	
Element I: $t_{n,1}$ lub $t_{n,2w}$ [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	3,67	3,67	3,67	3,67	3,67	3,67	3,67
		0,55	3,67	3,67	3,67	3,67	3,67	3,67	3,67
		0,63	4,11	4,11	4,11	4,11	4,11	4,11	4,11
		0,75	5,28	5,28	5,28	5,28	5,28	5,28	5,28
		0,88	5,28	5,28	5,28	5,28	5,28	5,28	5,28
		1,00	5,28	5,28	5,28	5,28	5,28	5,28	5,28
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:	<i>HOT ROLLED STEEL PROFILE</i>
SIZE OF HEX HEAD:	<i>8 mm</i>
MINIMUM THICKNESS OF STEEL BASE:	<i>3,0 mm</i>
MAXIMUM DRILLING CAPACITY:	<i>12,0 mm</i>
ADDITIONAL CORROSION PROTECTION:	<i>gRey.coat</i>
CORROSIVITY CATEGORY:	<i>C4</i>
TECHNICAL OPINION ON CORROSION PROTECTION:	<i>02248/16/Z00NZM</i>
PAINTING POSSIBILITY:	<i>YES</i>
THICKNESS OF POLYESTER PAINT:	<i>50 µm</i>
TIGHTENING TORQUE:	<i>5 Nm</i>
RECOMMENDED SPEED OF THE TOOL WITHOUT LOAD:	<i>1500 rpm</i>
WASHER DIAMETER (ALUMINUM A19):	<i>19 mm</i>



ETA



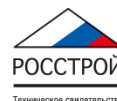
DWU/DoP



KDWU



ZKP



TC



POCC



SZU