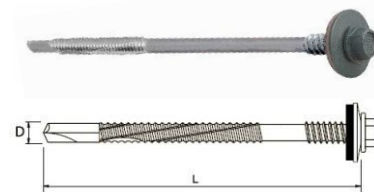


## GTR 16 SP A19

SELF-DRILLING SCREWS  
FOR SANDWICH PANELS

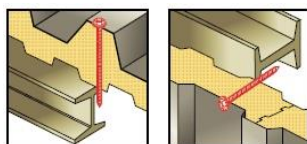


### PRODUCT DESCRIPTION


Self-drilling, self-tapping screws (double thread) made of surface-hardened carbon steel, drilling point #6, with fine working thread and enlarged hex head, with integrated aluminum washer with vulcanized EPDM. Additional corrosion protection: gRey.coat coating.

### APPLICATION

Designed for mounting sandwich panels to hot-rolled steel structures of very high thickness. 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]		Maximum thickness of fixed elements [mm]	
			DC	MTmin	MTmax	
GTR 16 SP	A19	6,3/7,0 x 85	16,00	35	40	
GTR 16 SP	A19	6,3/7,0 x 105	16,00	55	60	
GTR 16 SP	A19	6,3/7,0 x 125	16,00	50	80	
GTR 16 SP	A19	6,3/7,0 x 135	16,00	60	90	
GTR 16 SP	A19	6,3/7,0 x 155	16,00	65	110	
GTR 16 SP	A19	6,3/7,0 x 160	16,00	70	115	
GTR 16 SP	A19	6,3/7,0 x 180	16,00	90	135	
GTR 16 SP	A19	6,3/7,0 x 190	16,00	100	145	
GTR 16 SP	A19	6,3/7,0 x 215	16,00	125	170	
GTR 16 SP	A19	6,3/7,0 x 250	16,00	160	205	
GTR 16 SP	A19	6,3/7,0 x 280	16,00	190	235	
GTR 16 SP	A19	6,3/7,0 x 315	16,00	225	270	
GTR 16 SP	A19	6,3/7,0 x 350	16,00	260	305	

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

## EUROPEAN TECHNICAL ASSESSMENT 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]		4,00	5,00	8,00	10,00	12,00	14,00	≥ 15,00	
Element I: $t_{n,1} lub t_{n,2w}$ [mm]	SHEAR $V_{R,k} w$ [kN]	0,50	1,29	1,29	1,29	1,29	1,29	1,29	1,29
		0,55	1,29	1,29	1,29	1,29	1,29	1,29	1,29
		0,63	2,35	2,35	2,35	2,35	2,35	2,35	2,35
		0,75	2,50	2,50	2,50	2,50	2,50	2,50	2,50
		0,88	2,50	2,50	2,50	2,50	2,50	2,50	2,50
		1,00	2,50	2,50	2,50	2,50	2,50	2,50	2,50
	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	1	1	1	1	1	1	
	40	1	1	1	1	1	1	1	
	50	1	1	1	1	1	1	1	
	60	2,5	2,5	2,5	2,5	2,5	2,5	2,5	
	70	2,5	2,5	2,5	2,5	2,5	2,5	2,5	
	80	2,5	2,5	2,5	2,5	2,5	2,5	2,5	
	90	4	4	4	4	4	4	4	
	100	4	4	4	4	4	4	4	
	120	4	4	4	4	4	4	4	
≥140	4	4	4	4	4	4	4		

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]		4,00	5,00	6,00	7,00	8,00	9,00	≥ 10,00	
Element I: $t_{n,1}$ lub $t_{n,2}$ w [mm]	SHEAR $V_{R,k}$ w [kN]	0,50	1,29	1,29	1,29	1,29	1,29	1,29	1,29
		0,55	1,29	1,29	1,29	1,29	1,29	1,29	1,29
		0,63	2,35	2,35	2,35	2,35	2,35	2,35	2,35
		0,75	2,50	2,50	2,50	2,50	2,50	2,50	2,50
		0,88	2,50	2,50	2,50	2,50	2,50	2,50	2,50
		1,00	2,50	2,50	2,50	2,50	2,50	2,50	2,50
	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	1	1	1	1	1	
	40	1,5	1	1	1	1	1	1	
	50	1,5	1	1	1	1	1	1	
	60	4	2,5	2,5	2,5	2,5	2,5	2,5	
	70	4	2,5	2,5	2,5	2,5	2,5	2,5	
	80	4	2,5	2,5	2,5	2,5	2,5	2,5	
	90	6	4	4	4	4	4	4	
	100	6	4	4	4	4	4	4	
	120	6	4	4	4	4	4	4	
	≥140	6	4	4	4	4	4	4	

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:	6,0 mm
MAXIMUM DRILLING CAPACITY:	16,0 mm
ADDITIONAL CORROSION PROTECTION:	gRey.coat
CORROSIVITY CATEGORY:	C4
TECHNICAL OPINION ON CORROSION PROTECTION:	02248/16/ZOONZM
PAINTING POSSIBILITY:	YES
THICKNESS OF POLYESTER PAINT:	50 µm
TIGHTENING TORQUE:	6 Nm
RECOMMENDED SPEED OF THE TOOL WITHOUT LOAD:	1200 rpm
WASHER DIAMETER (ALUMINUM A19):	19 mm



ETA



DWU/DoP



KDWU



ZKP



TC



POCC



SZU