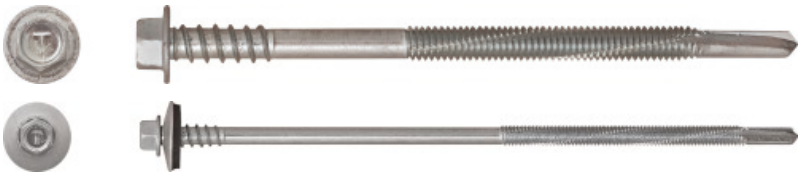
ON-55/63 Self-drilling screws for composite panels max 12mm

The special drill bit shape designed to provide quick and trouble-free installation in metal constructions made from hot rolled sections



Approvals and Reports

- ETA-13/0453

According to colorsystems:

RAL

Product information

Features and benefits

- Coloured polyester protective coating with a thickness of 45-50 um (RAL, NCS, RR), provides additional protection against corrosion. Various colours available to suit all metal sheet variants. UV stabilizers ensure colour quality over a long period of use.
- Hardened surface of the thread (flexible core). Corrosion resistant zinc coating of thickness not less than 12 um.
- The shape of the thread and its height is designed for applications into sandwich panels and steel construction.
- Two types of threads: one designed for mounting into a steel structure, second under head thread, prevents external panel dents and helps to seal the connection.
- The drill bit is designed to provide quick and trouble-free installation in the steel. Sharp point of the drill prevents movement of the surface of the fixture.

Applications

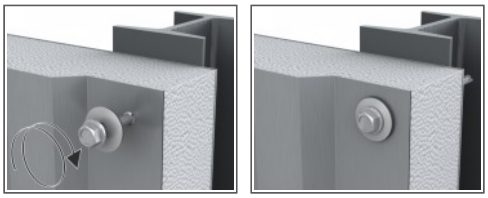
- For fixing of: Composite panels to thick wall hot rolled steel sections

Base materials

Approved for use in:

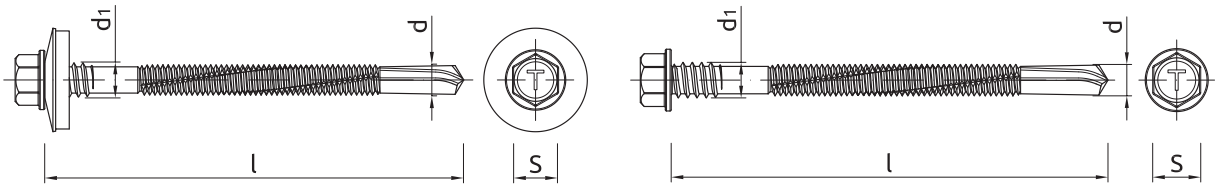
- Structural Steel

Installation guide



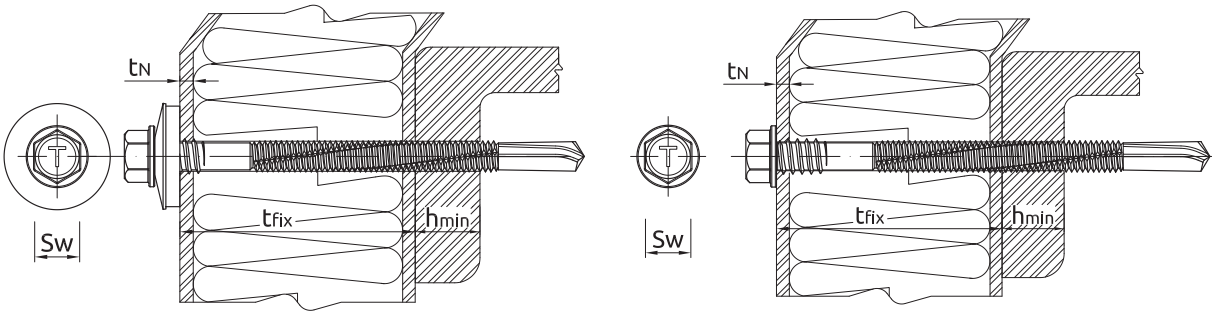
1. Screw must be installed at 90 degrees to substrate.
2. Magnetic driver must be used.
3. Lowest torque setting on impact screwdriver to start.
4. Reduce speed when the washer starts to deform.
5. Use a cordless Impact screwdriver. Note: Never use a power drill.
6. For installation please use screwdriver of load capacity 1600 - 2000 rpm with regulated trogue.

Product information



Size	Product Code	Screw				Fixture		Max. drilling thickness	Washer size
		Diameter		Length	Head size	Max. thickness with washer	Max. thickness without washer		
		d	d_1	l	S	t_{fix}			
		[mm]							
Ø5.5/6.3	ON-55/63080	5.5	6.3	80	8	55	58	12	19
	ON-55/63100	5.5	6.3	100	8	75	78	12	19
	ON-55/63130	5.5	6.3	130	8	105	108	12	19
	ON-55/63150	5.5	6.3	150	8	125	128	12	19
	ON-55/63160	5.5	6.3	160	8	135	138	12	19
	ON-55/63180	5.5	6.3	180	8	155	158	12	19
	ON-55/63210	5.5	6.3	210	8	185	188	12	19
	ON-55/63235	5.5	6.3	235	8	210	213	12	19
	ON-55/63280	5.5	6.3	280	8	255	258	12	19

Installation data



Size			Ø5.5/6.3
Screw diameter	d	[mm]	5.5/6.3
Hole diameter in substrate	d_0	[mm]	-
Min. hole depth in substrate	h_0	[mm]	-
Min. installation depth	h_{nom}	[mm]	-
Min. substrate thickness	h_{min}	[mm]	3
Min. spacing	s_{min}	[mm]	30
Min. edge distance	c_{min}	[mm]	10
Wrench size	Sw	[mm]	8

Basic performance data

Performance data for single screw without influence of edge distance and spacing

Size		TENSION LOAD	SHEAR LOAD
		Ø5.5/6.3 (T16)	Ø5.5/6.3
MEAN ULTIMATE LOAD			
Substrate thickness 3,00mm	[kN]	3.82	1.93
Substrate thickness 5,00mm	[kN]	3.82	-
CHARACTERISTIC LOAD			
Substrate thickness 3,00mm	[kN]	2.91	1.73
Substrate thickness 5,00mm	[kN]	2.91	-
DESIGN LOAD			
Substrate thickness 3,00mm	[kN]	2.19	1.30
Substrate thickness 5,00mm	[kN]	2.19	-
RECOMMENDED LOAD			
Substrate thickness 3,00mm	[kN]	1.56	0.93
Substrate thickness 5,00mm	[kN]	1.56	-

Design performance data

DESIGN PERFORMANCE DATA Ø5.5/6.3

TENSION LOAD

Size			Ø5.5/6.3	
Substrate thickness	h_{min}	[mm]	**3.00**	**5.00**
Characteristic load	N_{Rk}	[kN]	6.07	10.20
Design resistance γ_{Ms} = 1.33	N_{Rd}	[kN]	4.56	7.70

TENSION LOAD TO PULL SCREW WITH WASHER 16/19 THROUGH FIXTURE

Size			Ø5.5/6.3			
Sheet metal thickness	t_N	[mm]	**0.40**	**0.50**	**0.63**	**0.75**
Characteristic resistance	$N_{o,Rk}$	[kN]	1.65	2.91	3.87	4.55
Design resistance γ_{Ms} = 1.33	N_{oRd}	[kN]	1.24	2.19	2.91	3.42

SHEAR LOAD

Size			Ø5.5/6.3		
Sheet metal thickness	t_N	[mm]	**0.40**	**0.50**	**0.60**
SUBSTRATE THICKNESS 1.50 mm					
Characteristic resistance	V_{Rk}	[kN]	1.07	1.73	1.96
Design resistance γ_{Mc} = 1.33	V_{Rd}	[kN]	0.80	1.30	1.47

Product commercial data

Product Code	Screw	Washer size [mm]	Quantity [pcs]			Weight [kg]			Bar Codes
	Diameter [mm]		Box	Outer	Pallet	Box	Outer	Pallet	
ON-55/63080[1)]	6.3	19	100	800	19200	1.64	13.1	344.9	5906675332123
ON-55/63100[1)]	6.3	19	100	800	19200	1.92	15.4	398.6	5906675332222
ON-55/63130[1)]	6.3	19	100	800	19200	2.4	18.8	481.2	5906675332420
ON-55/63150[1)]	6.3	19	100	800	19200	2.6	20.8	529.2	5906675332529
ON-55/63160[1)]	6.3	19	100	800	19200	2.6	20.8	529.2	5906675100333
ON-55/63180[1)]	6.3	19	100	800	19200	3.1	24.4	615.6	5906675332628
ON-55/63210[1)]	6.3	19	100	800	19200	3.2	25.6	644.4	5906675100340
ON-55/63235[1)]	6.3	19	100	800	19200	3.5	27.6	692.4	5906675332826
ON-55/63280[1)]	6.3	19	100	100	11200	3.2	3.2	388.4	5906675100357

1) ETA-13/0453