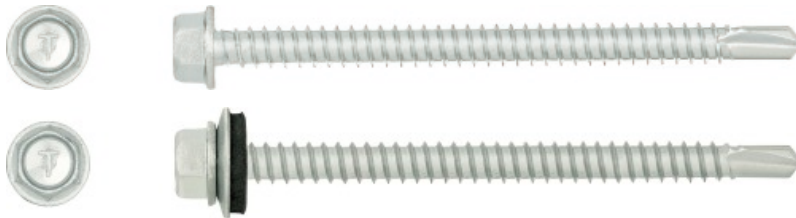


## OC Self-drilling screws

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



### Approvals and Reports

- ETA-13/0203



According to colorsystems:

RAL

### Product information

#### Features and benefits

- Coloured polyester protective coating with a thickness of 45-50 µm (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 µm. The shape of the thread and its height is closely related to the intended use of self drilling fixing into steel construction.
- Self vulcanizing EPDM washer. Temperature and UV resistant. The special shape of the washer ensures proper seating of the sealing material on the outer cladding material fixture which guarantees a proper seal.
- 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

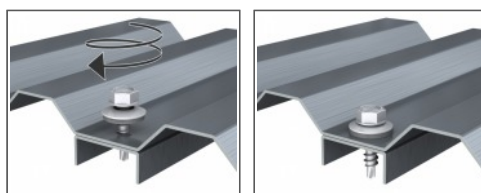
- For fixing: Supporting and cladding metal sheet to steel structures on facades or flat roof construction

#### Base materials

**Approved for use in:**

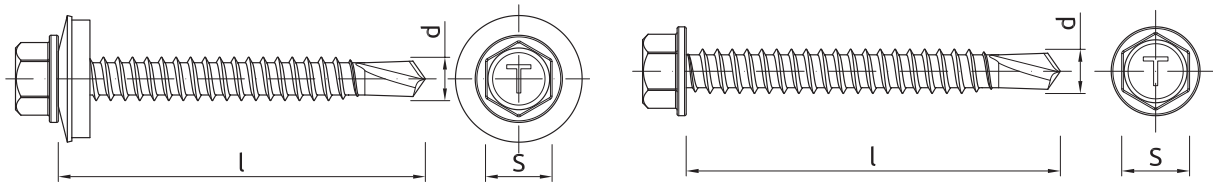
- Structural Steel
- Metal Sheet & Profiles

### Installation guide



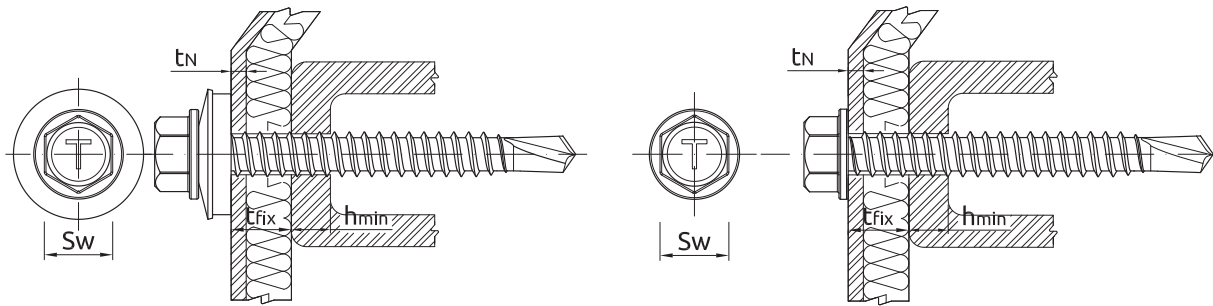
1. Screw must be installed at 90 degrees to substrate.
2. Magnetic driver must be used.
3. Lowest torque setting on impact screwdriver to start.
4. Reduce speed when the washer starts to deform.
5. Use a cordless Impact screwdriver. Note: Never use a power drill.
6. For installation please use screwdriver 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	l	S	t <sub>fix</sub>			
[mm]								
Ø4.8	OC-48016	4.8	16	8	1	4	3	14
	OC-48019	4.8	19	8	4	7	3	14
	OC-48022	4.8	22	8	7	10	3	14
	OC-48025	4.8	25	8	10	13	3	14
	OC-48032	4.8	32	8	17	20	3	14
	OC-48035	4.8	35	8	20	23	3	14
	OC-48038	4.8	38	8	23	26	3	14
	OC-48045	4.8	45	8	30	33	3	14
Ø5.5	OC-55022	5.5	22	8	4	7	5	14, 19
	OC-55025	5.5	25	8	7	10	5	14, 19
	OC-55032	5.5	32	8	14	17	5	14, 19
	OC-55038	5.5	38	8	20	23	5	14, 19
	OC-55045	5.5	45	8	27	30	5	14, 19
	OC-55055	5.5	55	8	37	40	5	14, 19
	OC-55075	5.5	75	8	57	60	8	14, 19
	OC-55090	5.5	90	8	72	75	8	14, 19
Ø6.3	OC-63019	6.3	19	10	2	5	6	14, 19
	OC-63022	6.3	22	10	5	8	6	14, 19
	OC-63025	6.3	25	10	8	11	6	14, 19
	OC-63032	6.3	32	10	15	18	6	14, 19
	OC-63038	6.3	38	10	21	24	6	14, 19
	OC-63045	6.3	45	10	28	31	6	14, 19
	OC-63055	6.3	55	10	38	41	6	14, 19
	OC-63075	6.3	75	10	58	61	6	14, 19
	OC-63090	6.3	90	10	73	76	6	14, 19
OC-63120	6.3	120	10	103	106	6	14, 19	

## Installation data



Size			Ø4.8	Ø5.5 L<70	Ø5.5 L>70	Ø6.3
Screw diameter	d	[mm]	4.8	5.5	5.5	6.3
Hole diameter in substrate	d <sub>0</sub>	[mm]	-	-	-	-
Min. hole depth in substrate	h <sub>0</sub>	[mm]	-	-	-	-
Min. installation depth	h <sub>nom</sub>	[mm]	-	-	-	-
Min. substrate thickness	h <sub>min</sub>	[mm]	0.75	1	1.5	1
Min. spacing	s <sub>min</sub>	[mm]	30	30	30	30
Min. edge distance	c <sub>min</sub>	[mm]	10	10	10	10
Wrench size	Sw	[mm]	8	8	8	10

## Basic performance data

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

Size	TENSION LOAD			SHEAR LOAD			
	Ø4.8 (T14)	Ø5.5 (T16)	Ø6.3 (T16)	Ø4.8	Ø5.5	Ø6.3	
<b>MEAN ULTIMATE LOAD</b>							
Substrate thickness 0,75mm	[kN]	0.76	-	-	1.34	1.50	1.26
Substrate thickness 1,00mm	[kN]	1.08	0.95	1.20	1.95	2.05	1.40
Substrate thickness 1,25mm	[kN]	1.63	1.36	1.39	2.70	2.79	2.65
Substrate thickness 1,50mm	[kN]	2.54	1.27	2.18	3.02	-	-
Substrate thickness 2,00mm	[kN]	3.21	3.21	3.21	-	-	-
Substrate thickness 3,00mm	[kN]	-	3.21	3.21	-	-	-
<b>CHARACTERISTIC LOAD</b>							
Substrate thickness 0,75mm	[kN]	0.61	-	-	1.07	1.20	1.01
Substrate thickness 1,00mm	[kN]	0.87	0.77	0.97	1.58	1.66	1.13
Substrate thickness 1,25mm	[kN]	1.27	1.07	1.09	2.11	2.18	2.07
Substrate thickness 1,50mm	[kN]	2.08	1.04	1.79	2.48	-	-
Substrate thickness 2,00mm	[kN]	2.64	2.64	2.64	-	-	-
Substrate thickness 3,00mm	[kN]	-	2.64	2.64	-	-	-
<b>DESIGN LOAD</b>							
Substrate thickness 0,75mm	[kN]	0.46	-	-	0.80	0.90	0.76
Substrate thickness 1,00mm	[kN]	0.65	0.58	0.73	0.19	1.25	0.85
Substrate thickness 1,25mm	[kN]	0.95	0.80	0.82	1.59	1.64	1.56
Substrate thickness 1,50mm	[kN]	1.56	0.78	1.35	1.86	-	-
Substrate thickness 2,00mm	[kN]	1.98	1.98	1.98	-	-	-
Substrate thickness 3,00mm	[kN]	-	1.98	1.98	-	-	-
<b>RECOMMENDED LOAD</b>							
Substrate thickness 0,75mm	[kN]	0.33	-	-	0.57	0.64	0.54
Substrate thickness 1,00mm	[kN]	0.46	0.41	0.52	0.14	0.89	0.61
Substrate thickness 1,25mm	[kN]	0.68	0.57	0.59	1.14	1.17	1.11
Substrate thickness 1,50mm	[kN]	1.11	0.56	0.96	1.33	-	-
Substrate thickness 2,00mm	[kN]	1.42	1.42	1.42	-	-	-
Substrate thickness 3,00mm	[kN]	1.42	1.42	1.42	-	-	-

## Basic performance data

## Design performance data

### DESIGN PERFORMANCE DATA Ø4.8

#### TENSION LOAD

Size			Ø4.8				
Substrate thickness	$h_{min}$	[mm]	0.75	1.00	1.25	1.50	2.00
Characteristic load	$N_{Rk}$	[kN]	0.61	0.87	1.27	2.08	2.93
Design resistance $\gamma_{Ms} = 1.33$	$N_{Rd}$	[kN]	0.46	0.65	0.95	1.56	2.20

#### TENSION LOAD TO PULL SCREW WITH WASHER 14 THROUGH FIXTURE

Size			Ø4.8				
Sheet metal thickness	$t_N$	[mm]	0.40	0.50	0.63	0.75	1.00
Characteristic resistance	$N_{o,Rk}$	[kN]	1.62	2.64	3.56	4.27	4.75
Design resistance $\gamma_{Ms} = 1.33$	$N_{o,Rd}$	[kN]	1.22	1.98	2.68	3.21	3.57

#### SHEAR LOAD

Size			Ø4.8					
Sheet metal thickness	$t_N$	[mm]	0.50	0.63	0.75	1.00	1.25	1.50
<b>SUBSTRATE THICKNESS 0.75 mm</b>								
Characteristic resistance	$V_{Rk}$	[kN]	0.96	1.02	1.07	-	-	-
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.72	0.77	0.80	-	-	-
<b>SUBSTRATE THICKNESS 1.00 mm</b>								
Characteristic resistance	$V_{Rk}$	[kN]	0.96	1.02	1.07	1.58	-	-
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.72	0.77	0.80	1.19	-	-
<b>SUBSTRATE THICKNESS 1.25 mm</b>								
Characteristic resistance	$V_{Rk}$	[kN]	0.92	1.02	1.07	1.58	2.11	-
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.72	0.77	0.80	1.19	1.59	-
<b>SUBSTRATE THICKNESS 1.50 mm</b>								
Characteristic resistance	$V_{Rk}$	[kN]	0.92	1.02	1.07	1.58	2.11	2.48
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.72	0.77	0.80	1.19	1.59	1.86

### DESIGN PERFORMANCE DATA Ø5.5

#### TENSION LOAD

Size			Ø5.5				
Substrate thickness	$h_{min}$	[mm]	1.00	1.25	1.50	2.00	3.00
Characteristic load	$N_{Rk}$	[kN]	0.77	1.07	1.04	2.84	6.33
Design resistance $\gamma_{Ms} = 1.33$	$N_{Rd}$	[kN]	0.58	0.80	0.78	2.14	4.76

#### TENSION LOAD TO PULL SCREW WITH WASHER 16 THROUGH FIXTURE

Size			Ø5.5				
Sheet metal thickness	$t_N$	[mm]	0.40	0.50	0.63	0.75	1.00
Characteristic resistance	$N_{o,Rk}$	[kN]	1.62	2.64	3.56	4.27	4.75
Design resistance $\gamma_{Ms} = 1.33$	$N_{o,Rd}$	[kN]	1.22	1.98	2.68	3.21	3.57

#### SHEAR LOAD

Size			Ø5.5					
Sheet metal thickness	$t_N$	[mm]	0.50	0.63	0.75	1.00	1.25	
<b>SUBSTRATE THICKNESS 1.00 mm</b>								
Characteristic resistance	$V_{Rk}$	[kN]	0.94	1.05	1.20	1.66	-	
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.71	0.79	0.90	1.25	-	
<b>SUBSTRATE THICKNESS 1.25 mm</b>								
Characteristic resistance	$V_{Rk}$	[kN]	0.94	1.05	1.20	1.66	2.18	
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.71	0.79	0.90	1.25	1.64	

## Design performance data

DESIGN PERFORMANCE DATA Ø6.3

TENSION LOAD

Size			Ø6.3				
Substrate thickness	$h_{min}$	[mm]	1.00	1.25	1.50	2.00	3.00
Characteristic load	$N_{Rk}$	[kN]	0.97	1.09	1.79	2.66	6.06
Design resistance $\gamma_{Ms} = 1.33$	$N_{Rd}$	[kN]	0.73	0.82	1.35	2.00	4.56

TENSION LOAD TO PULL SCREW WITH WASHER 16 THROUGH FIXTURE

Size			Ø6.3				
Sheet metal thickness	$t_N$	[mm]	0.40	0.50	0.63	0.75	1.00
Characteristic resistance	$N_{oRk}$	[kN]	1.62	2.64	3.56	4.27	4.75
Design resistance $\gamma_{Ms} = 1.33$	$N_{oRd}$	[kN]	1.22	1.98	2.68	3.21	3.57

SHEAR LOAD

Size			Ø6.3				
Sheet metal thickness	$t_N$	[mm]	0.50	0.63	0.75	1.00	1.25
<b>SUBSTRATE THICKNESS 1.00 mm</b>							
Characteristic resistance	$V_{Rk}$	[kN]	0.93	0.95	1.01	1.13	-
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.70	0.71	0.76	0.85	-
<b>SUBSTRATE THICKNESS 1.25 mm</b>							
Characteristic resistance	$V_{Rk}$	[kN]	0.93	0.95	1.01	1.13	2.07
Design resistance $\gamma_{Mc} = 1.33$	$V_{Rd}$	[kN]	0.70	0.71	0.76	0.85	1.56

## Product commercial data

Product Code	Washer size [mm]	Quantity [pcs]			Weight [kg]			Bar Codes
		Box	Outer	Pallet	Box	Outer	Pallet	
OC-48016 <sup>1)</sup>	14	250	4000	96000	0.82	13.1	344.9	5906675325026
OC-48019 <sup>1)</sup>	14	250	4000	96000	0.76	12.1	320.9	5906675325125
OC-48022 <sup>1)</sup>	14	250	4000	96000	0.85	13.6	356.4	5906675325224
OC-48025 <sup>1)</sup>	14	250	4000	96000	1.00	16.0	414.0	5906675325323
OC-48032 <sup>1)</sup>	14	250	3000	72000	1.16	13.9	364.1	5906675325422
OC-48035 <sup>1)</sup>	14	250	3000	72000	1.24	14.9	387.1	5906675325521
OC-48038 <sup>1)</sup>	14	250	3000	72000	1.32	15.8	410.2	5906675325620
OC-48045 <sup>1)</sup>	14	100	1600	38400	0.66	10.6	283.4	5906675325729
OC-48055 <sup>1)</sup>	14	100	1600	38400	0.76	12.2	321.8	5906675325828
OC-55022 <sup>1)</sup>	14, 19	200	3200	76800	0.95	15.2	394.8	5906675326924
OC-55025 <sup>1)</sup>	14, 19	200	3200	76800	1.19	19.1	488.5	5906675326023
OC-55032 <sup>1)</sup>	14, 19	100	1600	38400	0.66	10.6	283.4	5906675326122
OC-55038 <sup>1)</sup>	14, 19	100	1600	38400	0.74	11.8	313.4	5906675326221
OC-55045 <sup>1)</sup>	14, 19	100	1600	38400	0.85	13.6	356.4	5906675326320
OC-55055 <sup>1)</sup>	14, 19	100	1600	38400	0.95	15.2	394.8	5906675326528
OC-55075 <sup>1)</sup>	14, 19	100	1200	28800	0.95	11.4	303.6	5906675326627
OC-55090 <sup>1)</sup>	14, 19	100	1200	28800	1.36	16.3	421.7	5906675326726
OC-55120 <sup>1)</sup>	14, 19	100	1200	28800	1.57	18.8	482.2	5906675326825
OC-63019 <sup>1)</sup>	14, 19	200	3200	76800	1.69	27.0	679.0	5906675798509
OC-63022 <sup>1)</sup>	14, 19	200	3200	76800	1.49	23.8	602.2	5906675339122
OC-63025 <sup>1)</sup>	14, 19	200	3200	76800	1.58	25.3	636.7	5906675339221
OC-63032 <sup>1)</sup>	14, 19	200	2400	57600	1.49	17.9	459.1	5906675339429
OC-63038 <sup>1)</sup>	14, 19	200	2400	57600	2.0	24.0	606.0	5906675339528
OC-63045 <sup>1)</sup>	14, 19	100	1200	28800	1.22	14.6	381.4	5906675329222
OC-63055 <sup>1)</sup>	14, 19	100	1200	28800	1.38	16.6	427.4	5906675329321
OC-63075 <sup>1)</sup>	14, 19	100	1200	28800	1.70	20.4	519.6	5906675329420
OC-63090 <sup>1)</sup>	14, 19	100	1200	28800	1.90	22.8	577.2	5906675329529
OC-63120 <sup>1)</sup>	14, 19	100	1200	28800	2.4	29.0	727.0	5906675329628

## Product commercial data

1) ETA-13/0203