R-OC GALVANIZED SELF-DRILLING SHEET METAL SCREWS

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

FEATURES AND BENEFITS

Screws available with a coloured polyester coating (RAL) provide additional corrosion protection and ensure aesthetic matching with roofing or façade cladding. UV stabilisers guarantee long-term colour durability and resistance to fading throughout the service life.

The case-hardened thread ensures high cutting performance and secure anchorage in the substrate, while maintaining a ductile core. This increases resistance to dynamic loads and reduces the risk of screw fracture.

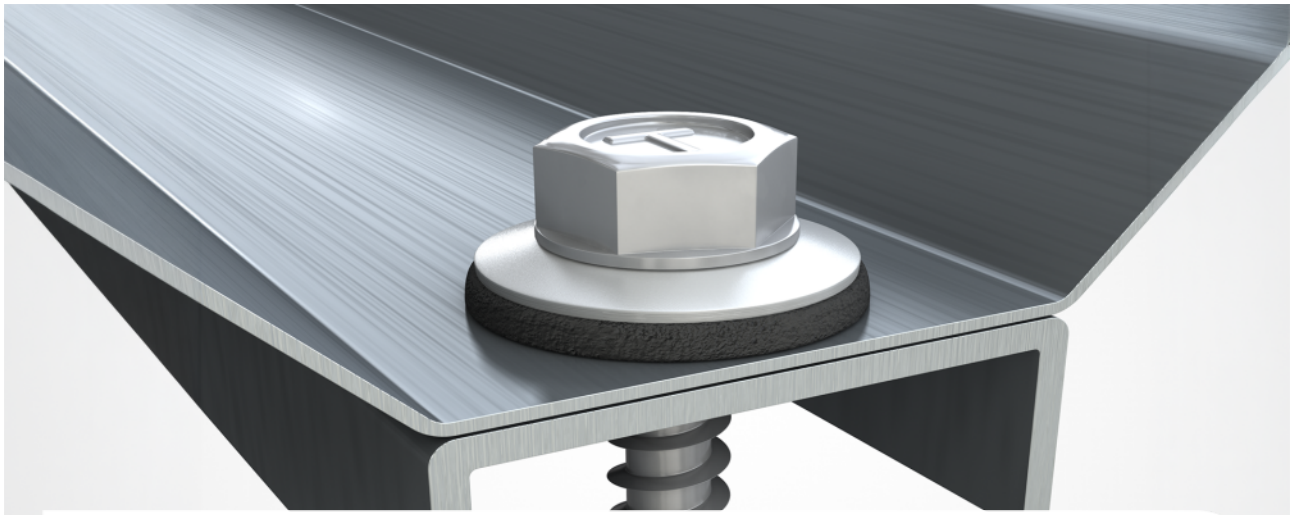
The self-vulcanizing EPDM sealing washer is resistant to UV radiation, ageing, and temperature fluctuations. It guarantees long-term watertightness and protects the joint against water ingress.

The optimised drill point geometry enables efficient drilling in steel, reducing installation time and increasing assembly efficiency

SUBSTRATES

- Metal sheet & profiles
- Structural steel

R-OC GALVANIZED SELF-DRILLING SHEET METAL SCREWS



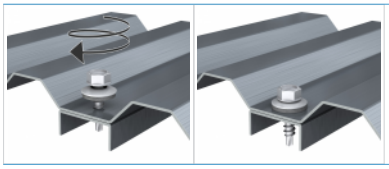
Self-Drilling Screws R-OC are high-quality fasteners for metal structures, providing quick and hassle-free installation thanks to their specially designed drill tip. The colored polyester coating with anti-corrosion protection and UV stabilizers ensures durability and a perfect aesthetic match with the metal sheets. The hardened, zinc-protected thread allows secure fastening of load-bearing and cladding sheets to steel roof and facade structures.

APPLICATIONS

Drilling and screwing

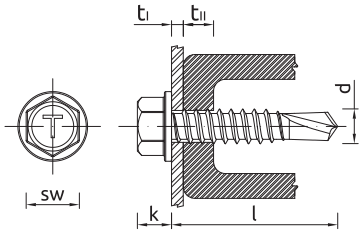
Profiled and cover sheets

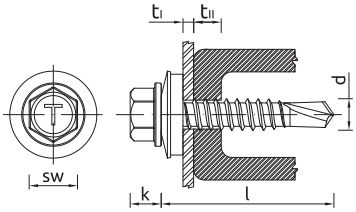
INSTALLATION GUIDE



1. The screw must be installed perpendicular to the substrate to ensure proper seating.
2. Use a magnetic socket and a screwdriver with adjustable torque or a depth stop; Warning: Do not use a drill.
3. Start screwing at low speed, increasing gradually, and reduce speed when flattening of the washer is observed.
4. Recommended screwdriver speed is 1600–2000 RPM, with controlled torque for precise and safe installation.

INSTALLATION DATA





SKU	Screw diameter	Screw length	Head size	Washer diameter	Maximum drilling depth	Maximum fixture thickness with washer	Maximum fixture thickness without washer
	-	-	-	-	-	-	-
	d	l	S	-	-	t_{fix}	t_{fix}
	mm	mm	mm	mm	mm	mm	mm
R-S1-OC-48016	4.8	16	8	14	3	1	4
R-S1-OC-48016T	4.8	16	8	14	3	1	4
R-S1-OC-55022	5.5	22	8	16	5	4	7
R-S1-OC-55022T	5.5	22	8	16	5	4	7
R-S1-OC-55025	5.5	25	8	16	5	7	10
R-S1-OC-55025T	5.5	25	8	16	5	7	10
R-S1-OC-55032	5.5	32	8	16	5	14	17
R-S1-OC-55038	5.5	38	8	16	5	20	23
R-S1-OC-55045	5.5	45	8	16	5	27	30
R-S1-OC-55055	5.5	55	8	16	5	37	40
R-S1-OC-55075	5.5	75	8	16	8	57	60

Size			Ø4,8	Ø5,5	Ø6,3
Thread diameter	d	[mm]	4,8	5,5	6,3
Min. substrate thickness	t_{II}	[mm]	0,75	1	1
Max. drilling capacity	$t_I + t_{II}$	[mm]	3	6	6
Min. edge distance	c_{min}	[mm]	10	10	10
Min. spacing	s_{min}	[mm]	30	30	30
Wrench size	Sw	[mm]	8	8	8
Head height	k	[mm]	4,3	5,3	6,3

DESIGN PERFORMANCE DATA

R-OC 4,8 x L		
Thickness of metal member or sheeting	t_I	[mm]
TENSION LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 4,8 without washer) [1]		
Thickness of steel substructure t_{II} = 0,75mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 0,88mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]

R-OC 4,8 x L		
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 4,8 with washer) [1)]		
Thickness of steel substructure t_{II} = 0,75mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 0,88mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 4,8 without washer)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 4,8 with washer ≥ Ø14)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - PULL-OUT FAILURE (screw R-OC 4,8 without or with washer ≥ Ø14)		
Thickness of steel substructure t_{II} = 0,75mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 0,88mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,25mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,50mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 2,00mm	$N_{Rk,II,k}$	[kN]
Partial safety factor	γ_M	[-]
SHEAR LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 4,8 without or with washer ≥ Ø14)		
Thickness of steel substructure t_{II} = 0,75mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 0,88mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,00mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	V_{Rk}	[kN]
Partial safety factor	γ_M	[-]

[1)] min ($N_{Rk,I,k}$; $N_{Rk,II,k}$)

R-OC 5,5 x L		
Thickness of metal member or sheeting	t_i	[mm]
TENSION LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 without washer) [1)]		
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 with washer ≥ Ø14) [1)]		
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 with washer ≥ Ø16) [1)]		
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 5,5 without washer)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 5,5 with washer ≥ Ø14)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 5,5 with washer ≥ Ø16)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]

R-OC 5,5 x L		
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - PULL-OUT FAILURE (screw R-OC 5,5 without or with washer ≥ Ø14 or Ø16)		
Thickness of steel substructure t_{II} = 1,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,25mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,50mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 2,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 3,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 4,00mm	V_{Rk}	[kN]
Partial safety factor	γ_M	[-]
SHEAR LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 without or with washer ≥ Ø14 or Ø16)		
Thickness of steel substructure t_{II} = 1,00mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	V_{Rk}	[kN]
Partial safety factor	γ_M	[-]

[1] min ($N_{Rk,I,k}$; $N_{Rk,II,k}$)

R-OC 6,3 x L		
Thickness of metal member or sheeting	t_I	[mm]
TENSION LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 without washer) [1]		
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 with washer ≥ Ø14) [1]		
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 with washer ≥ Ø16) [1]		
Thickness of steel substructure t_{II} = 1,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 3,00mm	N_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	N_{Rk}	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 6,3 without washer)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 6,3 with washer ≥ Ø14)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
PULL-THROUGH FAILURE (screw R-OC 6,3 with washer ≥ Ø16)		
Characteristic resistance	$N_{Rk,I,k}$	[kN]
Partial safety factor	γ_M	[-]
CHARACTERISTIC RESISTANCE - PULL-OUT FAILURE (screw R-OC 6,3 without or with washer ≥ Ø14 or Ø16)		
Thickness of steel substructure t_{II} = 1,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,25mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 1,50mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 2,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 3,00mm	$N_{Rk,II,k}$	[kN]
Thickness of steel substructure t_{II} = 4,00mm	V_{Rk}	[kN]
Partial safety factor	γ_M	[-]
SHEAR LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 without or with washer ≥ Ø14 or Ø16)		
Thickness of steel substructure t_{II} = 1,00mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,25mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 1,50mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 2,00mm	V_{Rk}	[kN]

R-OC 6,3 x L		
Thickness of steel substructure t_{II} = 3,00mm	V_{Rk}	[kN]
Thickness of steel substructure t_{II} = 4,00mm	V_{Rk}	[kN]
Partial safety factor	γ_M	[-]

[1] min ($N_{Rk,I,k}$; $N_{Rk,II,k}$)

LOGISTICAL DATA

SKU	Base-sales unit
R-S1-OC-48016	pack
R-S1-OC-48016T	pack
R-S1-OC-55022	pack
R-S1-OC-55022T	pack
R-S1-OC-55025	pack
R-S1-OC-55025T	pack
R-S1-OC-55032	pack
R-S1-OC-55038	pack
R-S1-OC-55045	pack
R-S1-OC-55055	pack
R-S1-OC-55075	pack

RELATED PRODUCTS

ANCHORING	Manual	Cordless RawlDriver 18V, set **R-PDD18** 	Long impact sockets **RT-IS**
SAFETY	Accesories	Protective gloves for power tools **R-PGL** 	