

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 ✓

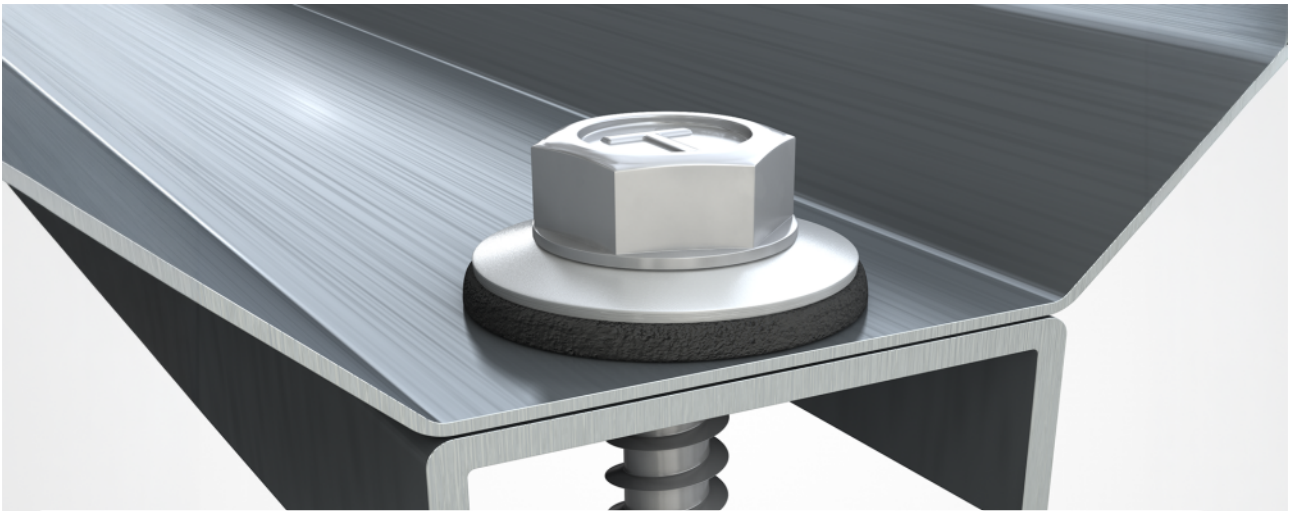


Metal sheet & profiles



Structural steel





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.

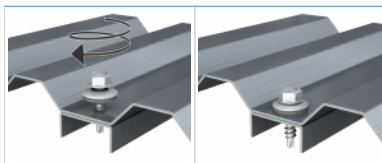
APPLICATIONS

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 ₁	[mm]	0,75	1	1
Max. drilling capacity	t ₁ + t ₂	[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 ₁	[mm]
TENSION LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 4,8 without washer) ¹⁾		
Thickness of steel substructure t ₁ = 0,75mm	N _{Rk}	[kN]
Thickness of steel substructure t ₁ = 0,88mm	N _{Rk}	[kN]
Thickness of steel substructure t ₁ = 1,00mm	N _{Rk}	[kN]

R-OC 4,8 x L		
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	γ_{M}	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 4,8 with washer) ¹⁾		
Thickness of steel substructure $t_{\text{st}} = 0,75\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 0,88\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	γ_{M}	[-]
PULL-THROUGH FAILURE (screw R-OC 4,8 without washer)		
Characteristic resistance	$N_{\text{Rk},\text{J,k}}$	[kN]
Partial safety factor	γ_{M}	[-]
PULL-THROUGH FAILURE (screw R-OC 4,8 with washer $\geq \varnothing 14$)		
Characteristic resistance	$N_{\text{Rk},\text{J,k}}$	[kN]
Partial safety factor	γ_{M}	[-]
CHARACTERISTIC RESISTANCE - PULL-OUT FAILURE (screw R-OC 4,8 without or with washer $\geq \varnothing 14$)		
Thickness of steel substructure $t_{\text{st}} = 0,75\text{mm}$	$N_{\text{Rk},\text{II,k}}$	[kN]
Thickness of steel substructure $t_{\text{st}} = 0,88\text{mm}$	$N_{\text{Rk},\text{II,k}}$	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,00\text{mm}$	$N_{\text{Rk},\text{II,k}}$	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	$N_{\text{Rk},\text{II,k}}$	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	$N_{\text{Rk},\text{II,k}}$	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	$N_{\text{Rk},\text{II,k}}$	[kN]
Partial safety factor	γ_{M}	[-]
SHEAR LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 4,8 without or with washer $\geq \varnothing 14$)		
Thickness of steel substructure $t_{\text{st}} = 0,75\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 0,88\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,00\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	V_{Rk}	[kN]
Partial safety factor	γ_{M}	[-]

¹⁾ $\min(N_{\text{Rk},\text{J,k}}; N_{\text{Rk},\text{II,k}})$

R-OC 5,5 x L		
Thickness of metal member or sheeting	t_{f}	[mm]
TENSION LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 without washer) ¹⁾		
Thickness of steel substructure $t_{\text{st}} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 3,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 4,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	γ_{M}	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 with washer $\geq \varnothing 14$) ¹⁾		
Thickness of steel substructure $t_{\text{st}} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 3,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 4,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	γ_{M}	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 with washer $\geq \varnothing 16$) ¹⁾		
Thickness of steel substructure $t_{\text{st}} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 2,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 3,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{\text{st}} = 4,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	γ_{M}	[-]
PULL-THROUGH FAILURE (screw R-OC 5,5 without washer)		
Characteristic resistance	$N_{\text{Rk},\text{J,k}}$	[kN]
Partial safety factor	γ_{M}	[-]
PULL-THROUGH FAILURE (screw R-OC 5,5 with washer $\geq \varnothing 14$)		
Characteristic resistance	$N_{\text{Rk},\text{J,k}}$	[kN]
Partial safety factor	γ_{M}	[-]
PULL-THROUGH FAILURE (screw R-OC 5,5 with washer $\geq \varnothing 16$)		
Characteristic resistance	$N_{\text{Rk},\text{J,k}}$	[kN]

R-OC 5,5 x L		
Partial safety factor	V_M	[-]
CHARACTERISTIC RESISTANCE - PULL-OUT FAILURE (screw R-OC 5,5 without or with washer $\geq \varnothing 14$ or $\varnothing 16$)		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 3,00\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 4,00\text{mm}$	V_{Rk}	[kN]
Partial safety factor	V_M	[-]
SHEAR LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 5,5 without or with washer $\geq \varnothing 14$ or $\varnothing 16$)		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 3,00\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 4,00\text{mm}$	V_{Rk}	[kN]
Partial safety factor	V_M	[-]
¹⁾ $\min(N_{Rk,ILk}; N_{Rk,ILk})$		
R-OC 6,3 x L		
Thickness of metal member or sheeting	t_f	[mm]
TENSION LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 without washer) ¹⁾		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 3,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 4,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	V_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 with washer $\geq \varnothing 14$) ¹⁾		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 3,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 4,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	V_M	[-]
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 with washer $\geq \varnothing 16$) ¹⁾		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 3,00\text{mm}$	N_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 4,00\text{mm}$	N_{Rk}	[kN]
Partial safety factor	V_M	[-]
PULL-THROUGH FAILURE (screw R-OC 6,3 without washer)		
Characteristic resistance	$N_{Rk,ILk}$	[kN]
Partial safety factor	V_M	[-]
PULL-THROUGH FAILURE (screw R-OC 6,3 with washer $\geq \varnothing 14$)		
Characteristic resistance	$N_{Rk,ILk}$	[kN]
Partial safety factor	V_M	[-]
PULL-THROUGH FAILURE (screw R-OC 6,3 with washer $\geq \varnothing 16$)		
Characteristic resistance	$N_{Rk,ILk}$	[kN]
Partial safety factor	V_M	[-]
CHARACTERISTIC RESISTANCE - PULL-OUT FAILURE (screw R-OC 6,3 without or with washer $\geq \varnothing 14$ or $\varnothing 16$)		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 3,00\text{mm}$	$N_{Rk,ILk}$	[kN]
Thickness of steel substructure $t_{fl} = 4,00\text{mm}$	V_{Rk}	[kN]
Partial safety factor	V_M	[-]
SHEAR LOAD		
CHARACTERISTIC RESISTANCE - CONNECTION FAILURE (screw R-OC 6,3 without or with washer $\geq \varnothing 14$ or $\varnothing 16$)		
Thickness of steel substructure $t_{fl} = 1,00\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,25\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 1,50\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{fl} = 2,00\text{mm}$	V_{Rk}	[kN]

R-OC GALVANIZED SELF-DRILLING SHEET METAL SCREWS

R-OC 6,3 x L		
Thickness of steel substructure $t_{ij} = 3,00\text{mm}$	V_{Rk}	[kN]
Thickness of steel substructure $t_{ij} = 4,00\text{mm}$	V_{Rk}	[kN]
Partial safety factor	V_M	[-]

¹⁾ $\min(N_{Rk,j,k}; N_{Rk,l,k})$

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 
	Accessories	Protective gloves for power tools R-PGL 	