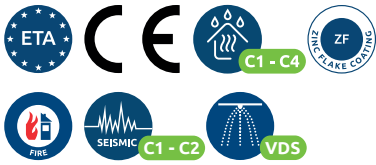


R-HLX CARBON STEEL CONCRETE SCREW WITH ZINC FLAKE COATING FOR CRACKED AND UNCRACKED CONCRETE

Induction hardened concrete screw



ETA - 23/0707

FEATURES AND BENEFITS ✓

The new thread shape with additional cutting teeth ensures quick and easy installation, also in reinforced concrete C20/25 - C50/60.

The highest parameters in cracked and uncracked concrete C20/25 - C50/60 confirmed in the ETA.

Zinc flake ZF coating with increased anti-corrosion resistance.

Multiple installations for temporary fixings.

R-HLX concrete screws can be used in earth-quake-prone zones - seismic category C1 and C2.

Induction hardening ensures high surface hardness and high core impact strength.

Possibility of installation near the concrete edge and at reduced spacing between adjacent screws.

Various head types for a wide range of applications.

Concrete screws have a fire resistance certificate.

The design of concrete screws allows drilling and installation directly through the fastened element.

Polish production - the production of screws takes place in one of the largest and most reputable cold forging factories in Europe, with experience in the automotive and industrial sectors.

The production of concrete screws takes place on bar stock, manufactured in a Polish steel mill.

Rawlplug, in the process of applying Zinc Flake coating, does not use acid etching, thereby avoiding the hydrogen embrittlement of screws.

Concrete screw made of manganese steel, characterized by increased yield strength and greater resistance to abrasion.



SUBSTRATES ✓



Uncracked concrete C20/25-C50/60



Cracked concrete C20/25-C50/60



Unreinforced concrete,
Reinforced concrete



Solid masonry (after site testing)



The R-HLX concrete screw has a new thread geometry with additional cutting teeth that ensures quick and easy installation, also in reinforced concrete C20/25-C50/60

APPLICATIONS

Railings and balustrades

Ventilated facades

Steel structures, shelves

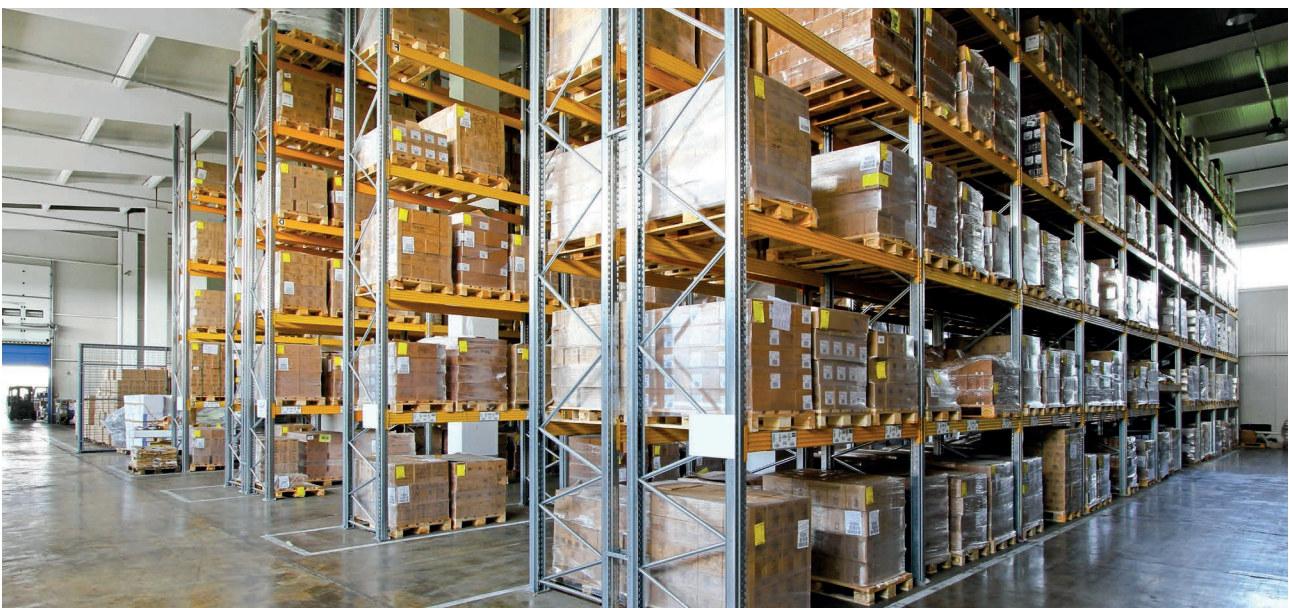
Stadium seats

Fences and gates

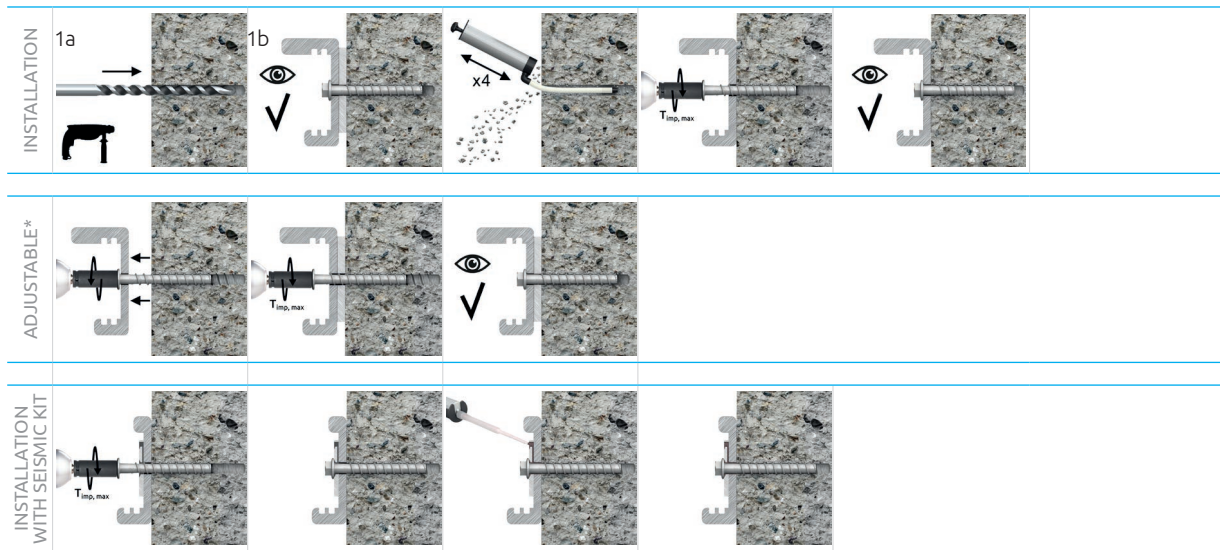
Bumpers

Temporary fixings

Formwork



INSTALLATION INSTRUCTIONS



INSTALLATION

1. Drill the hole with a hammer drill (1a) or a dust-free drill (1b) to the required depth according to the table.
2. Clean the hole (blow dust at least 4 times with the hand pump). When using a dust-free drill bit (1b), it is not necessary to clean the hole.
3. Screw the concrete screw into the hole with an impact wrench and a suitable impact socket.
Tighten until the fixture is clamped to the substrate. Installation with any tangential impact wrench.
4. Finish screwing when the screw head touches the fastened element/substrate. The screw head must not be damaged.

ADJUSTABLE*

1. Possibility to unscrew the fixed anchor to a maximum height of 10 mm. In the adjustment process, the permissible thickness of the fastened elements (T_{fix}) must be observed.
2. Adjust the element and tighten until the fixture is clamped to the substrate.
Installation with any impact wrench with tangential impact.
3. Finish screwing when the anchor presses the fastened element (substrate). The adjustment operation can be performed twice.

INSTALLATION WITH SEISMIC KIT

1. Place the sealing ring on the fixture. Screw the concrete screw into the hole using an impact wrench and an appropriate impact socket.
Tighten until the element is pressed to the surface. Installation using any impact wrench with a tangential impact.
2. Finish screwing in when the screw head and the ring are in contact with the fastened element/substrate. The screw head must not be damaged.
3. Place the dispensing nozzle in the opening of the sealing ring. Fill the annular gap with resin.
4. Correctly installed screw with a sealing ring filled with resin.

* Coming soon to ETA 23/0707

PRODUCT INFORMATION

Size	Product	Drill diameter		Length		Diameter in the fastened element	
		d	[mm]	L	[mm]	d_f	[mm]
R-HLX-HF-ZF							
10	R-HLX-10x060-HF-ZF	12.7		60		14	
	R-HLX-10x070-HF-ZF	12.7		70			
	R-HLX-10x080-HF-ZF	12.7		80			
	R-HLX-10x090-HF-ZF	12.7		90			
	R-HLX-10x100-HF-ZF	12.7		100			
	R-HLX-10x120-HF-ZF	12.7		120			
	R-HLX-10x140-HF-ZF	12.7		140			
	R-HLX-10x180-HF-ZF	12.7		180			
R-HLX-10x200-HF-ZF	12.7		200				

PRODUCT INFORMATION

Size [mm]	Product	Drill diameter		Length		Diameter in the fastened element	
		d	d _f	L	d _f		
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
12	R-HLX-12x070-HF-ZF	14.9		70		16	
	R-HLX-12x090-HF-ZF	14.9		90			
	R-HLX-12x110-HF-ZF	14.9		110			
	R-HLX-12x130-HF-ZF	14.9		130			
	R-HLX-12x150-HF-ZF	14.9		150			
14	R-HLX-14x075-HF-ZF	16.9		75		18	
	R-HLX-14x100-HF-ZF	16.9		100			
	R-HLX-14x130-HF-ZF	16.9		130			
	R-HLX-14x150-HF-ZF	16.9		150			
	R-HLX-14x180-HF-ZF	16.9		180			
R-HLX-CS-ZF							
10	R-HLX-10x070-CS-ZF	12.7		70		14	
	R-HLX-10x090-CS-ZF	12.7		90			
	R-HLX-10x100-CS-ZF	12.7		100			
	R-HLX-10x120-CS-ZF	12.7		120			
	R-HLX-10x140-CS-ZF	12.7		140			

INSTALLATION DATA

R-HLX			M10			M12			M14		
Drill hole diameter	d ₀	[mm]	Ø10			Ø12			Ø14		
Nominal embedment depth	h _{nom} ≥	[mm]	55	75	85	60	80	100	65	85	115
Min hole depth	h ₀ ≥	[mm]	65	85	95	70	90	110	75	95	125
Max installation torque	T _{inst}	[Nm]	1000			1000			1000		
Min thickness of concrete member	h _{min} ≥	[mm]	100	120	130	110	130	155	110	130	190
Min spacing	S _{min}	[mm]	60	60	60	80	80	80	100	100	100
Min edge distance	C _{min}	[mm]	60	60	60	80	80	80	100	100	100
Effective embedment depth	h _{ef}	[mm]	42	59	68	46	63	80	49	66	92
Threaded outer diameter	d _{th}	[mm]	12.7			14.9			16.9		

MECHANICAL PROPERTIES

R-HLX			10			12			14		
Drill hole diameter	d ₀	[mm]	Ø10			Ø12			Ø14		
Nominal embedment depth	h _{nom}	[mm]	55	75	85	60	80	100	65	85	115
Characteristic resistance under tension load - steel failure	N _{Rk,s}	[mm]	54.3			83.1			111.1		
Characteristic resistance under shear load-steel failure	V _{Rk,s}	[mm]	27.2			41.6			55.6		
Characteristic resistance (pull-out failure) cracked concrete	N _{Rk,p}	[kN]	9.4	15.6	19.3	10.7	17.2	24.6	11.8	18.5	30.4
Characteristic resistance (pull-out failure) uncracked concrete	N _{Rk,p}	[kN]	13.4	22.3	27.6	15.4	24.6	35.2	16.9	26.4	43.4

FIRE TESTS

R-HLX									
Characteristic values of resistance to tension load under fire exposure (Steel failure) $N_{Rk,s,fi}$ [kN]									
Size/Fire resistance	Ø10			Ø12			Ø14		
h_{nom}	55	75	85	60	80	100	65	85	115
R30	6,6			11,4			15,2		
R60	5			8,5			11,4		
R90	3,4			5,7			7,6		
R120	2,6			4,3			5,7		
Characteristic values of resistance to tension load under fire exposure (Pull-out failure) $N_{Rk,p,fi}$ [kN]									
Size/Fire resistance	Ø10			Ø12			Ø14		
h_{nom}	55	75	85	60	80	100	65	85	115
R30	2,3	3,9	4,8	2,6	4,3	6,1	2,9	4,6	7,6
R60	2,3	3,9	4,8	2,6	4,3	6,1	2,9	4,6	7,6
R90	2,3	3,9	4,8	2,6	4,3	6,1	2,9	4,6	7,6
R120	1,8	3,1	3,8	2,1	3,4	4,9	2,3	3,6	6
Characteristic values of resistance to shear load under fire exposure (Steel failure) $V_{Rk,s,fi}$ [kN]									
Size/Fire resistance	Ø10			Ø12			Ø14		
h_{nom}	55	75	85	60	80	100	65	85	115
R30	6,6			11,4			15,2		
R60	5			8,5			11,4		
R90	3,4			5,7			7,6		
R120	2,6			4,3			5,7		








SEISMIC TESTS

R-HLX										
Seismic C1	Diameter	Ø10			Ø12			Ø14		
	h_{nom}	55	75	85	60	80	100	65	85	115
	$N_{Rk,sc1}$	54,3			83,1			111,1		
	$N_{Rk,pc1}$	8,6	14,4	17,8	7,6	12,2	17,5	8,4	13,1	21,6
	$V_{Rk,sc1}$	18,7			28,7			38,3		
Seismic C2	h_{nom}	85			100			115		
	$N_{Rk,sc2}$	54,3			83,1			111,1		
	$N_{Rk,pc2}$	8,5			13,3			19,3		
	$V_{Rk,sc2}$	8			22,3			21,6		

LOGISTICS DATA 

Size	Product	Diameter	Length	Weight of a single package	Quantity	
		d	L		Single package	Pallet
[mm]		[mm]	[mm]	[kg]	[pcs]	
R-HLX-HF-ZF						
10	R-HLX-10x060-HF-ZF	12.7	60	2.75	50	14400
	R-HLX-10x070-HF-ZF	12.7	70	3.14	50	12800
	R-HLX-10x080-HF-ZF	12.7	80	3.24	50	12800
	R-HLX-10x090-HF-ZF	12.7	90	3.68	50	12800
	R-HLX-10x100-HF-ZF	12.7	100	3.92	50	12800
	R-HLX-10x120-HF-ZF	12.7	120	2.34	25	7200
	R-HLX-10x140-HF-ZF	12.7	140	2.54	25	7200
	R-HLX-10x180-HF-ZF	12.7	180	2.48	20	6000
12	R-HLX-12x070-HF-ZF	14.9	70	4.62	50	9600
	R-HLX-12x090-HF-ZF	14.9	90	7.10	50	9600
	R-HLX-12x110-HF-ZF	14.9	110	8.23	50	6400
	R-HLX-12x130-HF-ZF	14.9	130	8.92	50	6400
	R-HLX-12x150-HF-ZF	14.9	150	9.55	50	6400
14	R-HLX-14x075-HF-ZF	16.9	75	2.72	20	5120
	R-HLX-14x100-HF-ZF	16.9	100	3.44	20	5120
	R-HLX-14x130-HF-ZF	16.9	130	4.10	20	5120
	R-HLX-14x150-HF-ZF	16.9	150	4.80	15	5120
	R-HLX-14x180-HF-ZF	16.9	180	4.14	10	5120
R-HLX-CS-ZF						
10	R-HLX-10x070-CS-ZF	12.7	70	2.54	50	14400
	R-HLX-10x090-CS-ZF	12.7	90	3.14	50	12800
	R-HLX-10x100-CS-ZF	12.7	100	3.42	50	12800
	R-HLX-10x120-CS-ZF	12.7	120	2.1	25	6400
	R-HLX-10x140-CS-ZF	12.7	140	2.31	25	6400

RELATED PRODUCT 

DRILLING	POWER TOOLS	<p>Hammer drill SDS-PLUS, 850 W, 2,5 J R-PRH26850</p> 	<p>Hammer drill 18 V SDS-PLUS 2,5 J R-PRH18</p> 	<p>Impact wrench 18 V 1000 Nm 1/2" R-PIW18</p> 	<p>Impact driver 18 V 315 Nm 1/2" R-PID18-315</p> 
	POWER TOOL ACCESSORIES	<p>Drill bit Aggressor SDS Plus RT-SDSA</p> 	<p>Drill bit Rebar drill SDS Plus RT-SDSR</p> 	<p>Impact bits 1/2" RT-IS</p> 	<p>T type impact screwdriver bit RT-IBIT-T</p> 