

HALFEN WINCH POINT SYSTEM

TECHNICAL PRODUCT INFORMATION



HWP ANCHORAGE SYSTEM

HWP 15-UK

CONCRETE



HALFEN
YOUR BEST CONNECTIONS

HALFEN HD LIFTING SYSTEM

HWP Winch Point Connection

6367 HD Rotary Eye

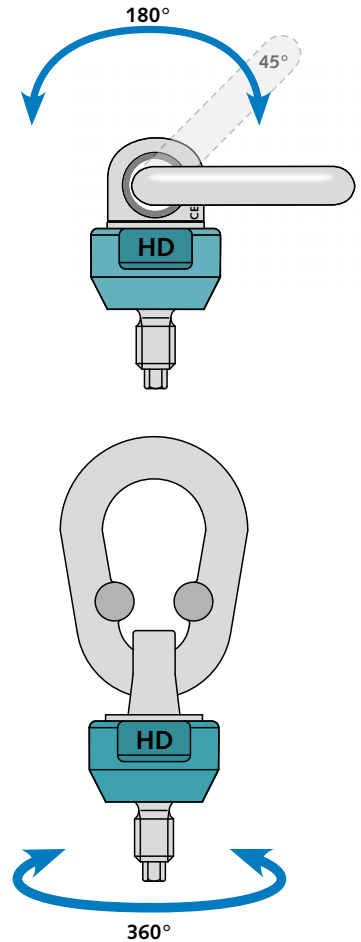
Lifting eye connections are commonly required at the top of elevator shafts to provide an anchorage/hoisting point for lift installation, maintenance and repair. Winch points may also be required in the concrete structure for the installation and maintenance of escalators, stair units, water pumps, and other mechanical and electrical services.

The HALFEN HD Rotary Eye used in conjunction with a cast-in HD Lifting Anchor and Nailing Plate provides a versatile and reliable fixing for this type of application, which can be fully removed if required.

The standard HD Rotary Eye has a 4 tonne SWL (other load classes available on request) and is fully rotatable around the base – this prevents the threaded connection from working free and allows the eye to align with the direction of pull.

In addition, the eyelet pivots 180° around the centre to accommodate angular forces. Combined with the cast in HD Anchor and Nailing Plate, the system enables highly efficient load transfer into the concrete structure.

Once installed the 4 tonne capacity eye projects just 135mm from the concrete soffit – this small form factor enables use in tighter spaces where headroom is restricted.



Both the HALFEN HD cast in anchors and the HD Rotary Eyes are fully CE marked in conformance with CPR regulations, providing a complete CE approved assembly in line with harmonised standards.

HALFEN anchors also meet the requirements of the European machine guidelines (MD) 2006/42/EC that define the required steel load capacity for transport systems, as well as the requirements of VDI/BV-BS regulation 6205 ensuring safe use of transport anchor systems and resistance values for cast in inserts.

- Compatible with HALFEN HD Lifting Anchors
- Locking plates available to prevent any loosening of the thread once installed
- Rotatable base and pivoting eye cope with loads in all directions
- Flat sections on the rotatory head allow for easy assembly and disassembly using a suitable wrench
- Galvanised coating is free of Chromium IV for environmentally friendly corrosion protection
- Rotary mechanism allows for smooth rotation even under load
- Safe working loads up to 25 tonnes available on request

HALFEN HD LIFTING SYSTEM

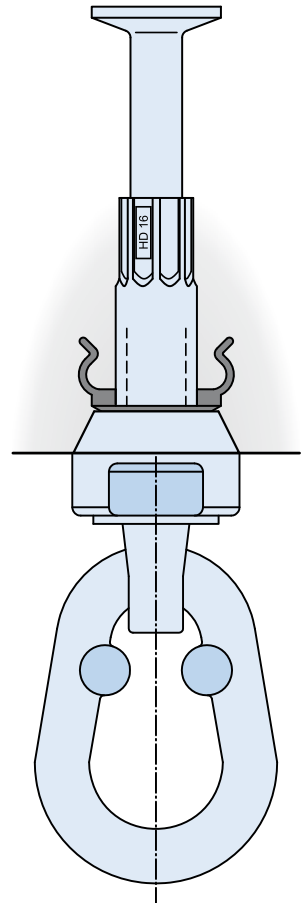
HWP Winch Point Connection

Installation and maintenance of the HD winch point connection

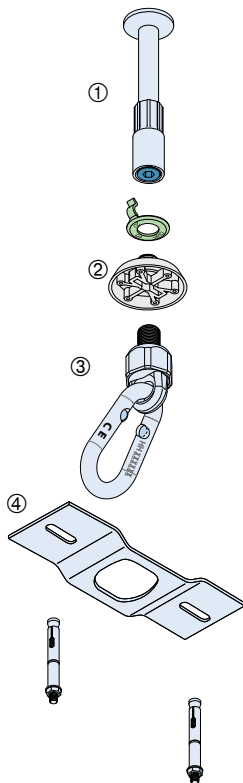
The HALFEN Winch Point connection (HWP) is comprised of a HD Rotary Eye screwed into a HD Lifting Anchor. The insert must be cast into the concrete soffit with the associated HD Nailing Plate, a suitable distance from the concrete edges. The HD Nailing Plate creates a recess in the concrete in which the tapered base of the lifting eye fits – this ensures full bearing of the rotary base with the concrete structure, and guarantees the correct alignment of the insert. Information regarding HD Anchors and their installation can be found in the HALFEN 'HD Lifting System' catalogue.

All HD Anchors are colour coded for easy identification of the load capacity. Following installation of the eye, HALFEN recommend proof load testing the assembly before first use and annually thereafter. The eye can then be labelled to denote it has been tested.

In accordance with safe working practices this type of installation should be visually inspected before each use to check for signs of damage or corrosion, and to ensure that the thread of the lifting eye is fully engaged in the socket.



HD winch point connection assembly



- ① 6360-4-125 HD Short Anchor
- ② 6358-20 HD Nailing Plate
- ③ 6367-20 HD Rotary Eye
- ④ HDLP-4 Locking Plate

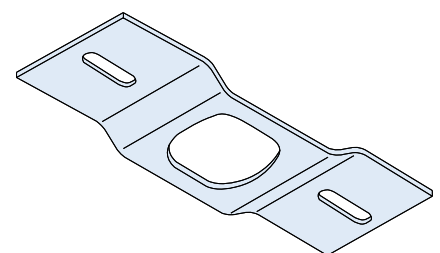
To order the complete 4 tonne capacity kit (including items 1-4 above plus expansion bolt fixings for the locking plate) use order code HWP-4

i identification-number

CE-mark

All HALFEN HD Rotary Eyes are supplied with test certificates confirming the eye was tested to twice its nominal load capacity. The eyelet of each HD Rotary Eye is stamped with a unique identification number that is referenced on the test certification.

Although the rotatable base of the Swivel Lifting Eye prevents the thread from working free, an additional locking plate can be used if required. The HALFEN HDLP locking plate is slotted over the eye and drilled and fixed to the soffit using M8 expansion bolts to prevent any unscrewing of the thread and provide an additional layer of safety.



HALFEN HD LIFTING SYSTEM

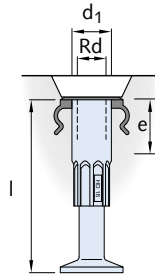
HWP Winch Point Connection

Installation of the HD Anchor

The standard HWP connection utilises a 6360-4-125 HD Short Anchor as a cast in fixing point for installing the HD Rotary Eye. This anchor is suitable for the majority of applications as it operates in thin slabs (170 mm minimum slab depth), and achieves the full 4 tonne tensile capacity in 35N/mm² concrete.

The anchor should be installed a minimum of 250mm from the slab edges, with a distance of 375mm maintained between anchors. For diagonal load connections where the angle of pull is between 10° and 45° from vertical, the anchors must be installed with additional reinforcement stirrups as outlined in the table below.

For shear load applications (i.e. when the angle of pull exceeds 45° from vertical), please consult HALFEN.



Dimensions and reinforcements – HD Short anchor

Load class	Article number	Order no. 0740.130-	Article number	Order no. 0740.130-	Dimensions HD Short anchors				Main reinforcement mesh both sides mm ² /m	Required additional reinforcement ③ for shear load up to 45°				
					Rd	d ₁ ①	l [mm]	e [mm]		l _{s1} ② [mm]			d _{br}	
4.0	6360-4,0-125	00019	6360-4,0-125 A4	00023	20	27 (26)	125	42	188	14	1020	860	750	40

① Smaller diameter sockets are available in S460 for selected sleeve diameter in S355 (see values in brackets). Delivery is subject to confirmation.

② Elongated length

③ Diagonal load reinforcement must be installed with direct contact to the socket.

For this application it is irrelevant if the minimal bending roll diameter is below requirement.

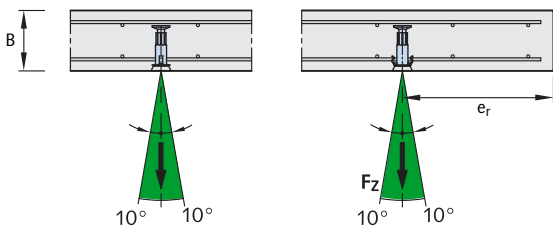
Load capacity – HD Short anchor

Load class	Article number	Anchor layout ④		Increased slab thickness B ⑤ [mm]	Load capacity [kN] at concrete compression strength f _{ci} for axial and shear load up to 45°			Minimal-slab thickness B ⑥ [mm]	Load capacity [kN] at concrete compression strength f _{ci} for axial load and diagonal load up to 45°		
		e _r [mm]	e _z min [mm]		15 N/mm ²	25 N/mm ²	35 N/mm ²		15 N/mm ²	25 N/mm ²	35 N/mm ²
4.0	6360-4,0-125	250	375	220	31.2	40.0	40.0	170	25.3	32.6	40

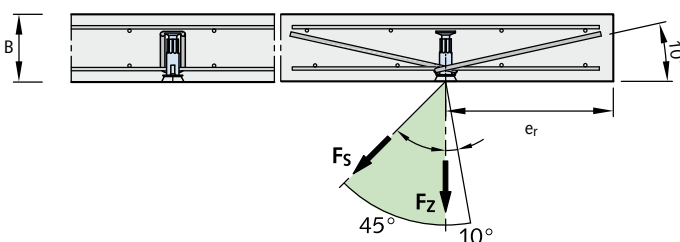
④ e_r = edge distance (e_r applies to axial load; for diagonal load, see reinforcement); e_z = axial spacing

⑤ The values for intermediate slab thicknesses may be interpolated. f_{ci} = cube concrete strength at time of lifting

No diagonal load stirrup; axial load up to 10°

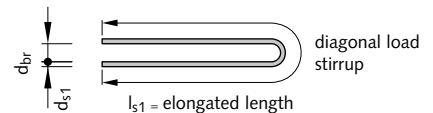


With diagonal load stirrup diagonal load up to 45°



Diagonal loads up to 45° require 2 no. diagonal load stirrups to be installed in contact with the barrel of the anchor. Stirrups are placed in opposite directions to each other as illustrated. Reinforcement surrounding lifting anchors must be provided on site.

Diagonal load stirrups are not required if the axial load does not deviate beyond 10° from vertical.



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