ANK-E end anchor; for on-site custom cut-length of Halfen Cast-in channels

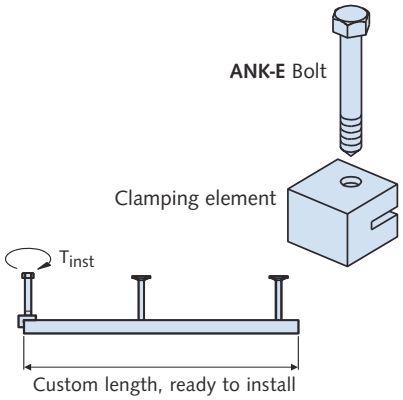
Notes for assembling end anchor, type ANK-E

- Cut the Halfen Cast-in channel at the selected point. The cut face must be at a right angle to the longitudinal axis of the channel. The end projection "**e**" should not be less than 35 mm and not more than 175 (225) mm*.
- Select the correct **ANK-E** End anchor for the Halfen Cast-in channel profile; see table on the right. Slide the clamping element on to the back of the channel. If necessary, push in the foam filler at the end of the channel.
- Tighten the bolt by applying the required torque. See table (right) for correct torque value.

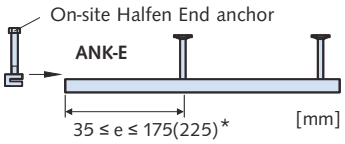
End anchor selection

for profile	End anchor	Thread	Torque T_{inst} [Nm]
28/15 - FV	ANK-E1 - FV	M8	10
28/15 - A4	**ANK-E1 - A4**	**M8**	**10**
38/17 - FV	ANK-E2 - FV	M10	20
40/25 - FV			
41/22 - FV ①			
38/17 - A4	**ANK-E2 - A4**	**M10**	**20**
40/25 - A4			
41/22 - A4 ①			

① Short HZA 41/22 sections may be used with one end anchor only. Not included in the ETA.



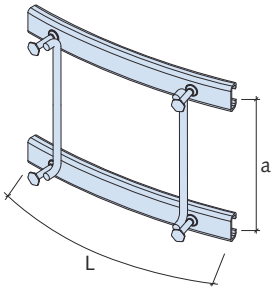
Custom lengths



* 175: for 28/15, 38/17
225: for 40/25, 41/22

Halfen Channel pairs

Material/type:
Channel (Type straight or curved):
FV = Hot-dip galvanized
A4 = Stainless steel
Spacer:
Reinforcement steel B500B or B500B/A NR, ⌀ 10-16 mm
Recommended for stainless steel type spacers in: B500B/A NR.



Ordering example:

Type:	Halfen Channel pair HTA-CE 38/17
Dimensions:	L = 350 mm, a = 200 mm
Material:	hot-dip galvanized, with filler
Radius:	R_i =... (for curved type)

Halfen Corner channel

Material/type:
Channel and anchor:
FV = Hot-dip galvanized
A4 = Stainless steel
Standard type:
a/b = 125/250 mm
Other lengths for a and b and other profiles are available on request

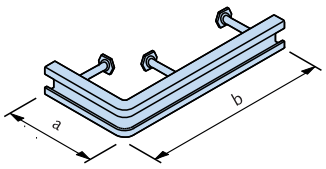


Figure: HTA-CE 38/17 – Corner piece

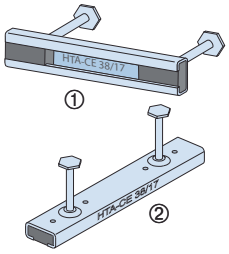
Area of application:
- fixing for Halfen Console anchors for supporting brickwork cladding
- other near edge fixings

HALFEN HTA-CE/HZA CAST-IN CHANNELS
Installation/Assembly

1.1 Delivery and identification

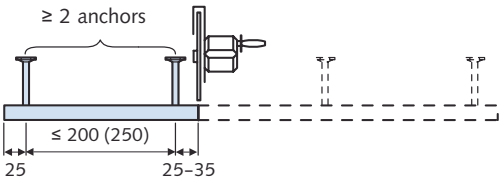
We can supply ready to install short channels and standard lengths.

Product identification
① inside the channel
② also on the channel side



1.2 Installing to formwork

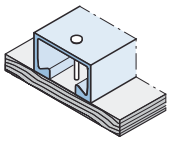
If required, Halfen Cast-in channels can also be cut to size on site.

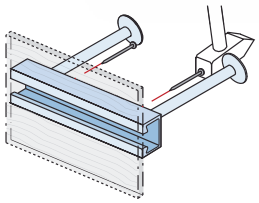


2.1 Fixing to the formwork

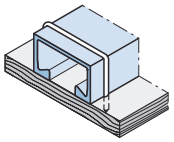
Timber formwork

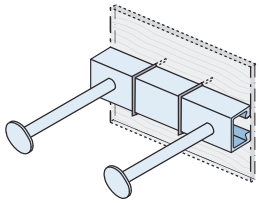
2.1.1 with nails





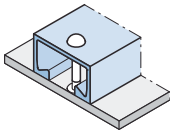
2.1.2 with staples

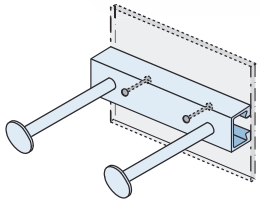




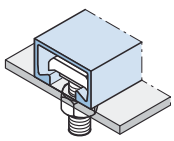
Steel formwork

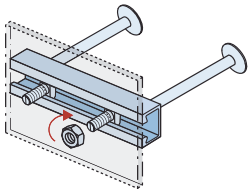
2.1.3 aluminium rivets





2.1.4 Halfen Bolt and nut

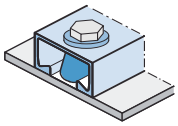




2.1 Fixing to the formwork, continued

Steel formwork

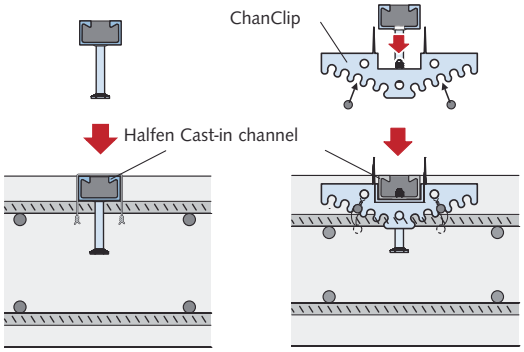
2.1.5 Halfen HFK Fixing cone

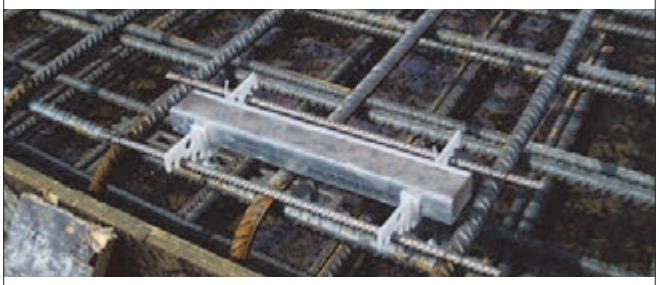


2.2 Top face installation

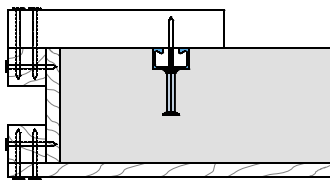
2.2.1 **directly to reinforcement:** with tying wire

2.2.2 with Halfen HCP ChanClip





2.2.3 **Installation using an auxiliary aid**



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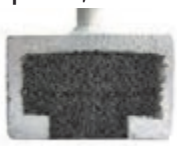
HALFEN HTA-CE/HZA CAST-IN CHANNELS
Installation/Assembly

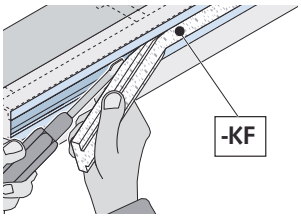
3.1 Removing the filler

Strip filler, available in two versions:



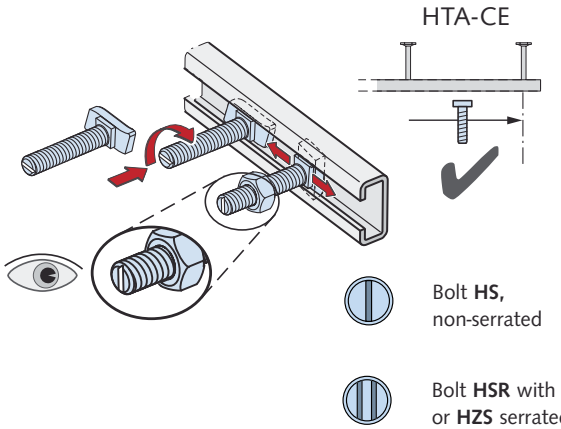
KF – PE strip filler
with reinforcement layer

KF – PE strip filler



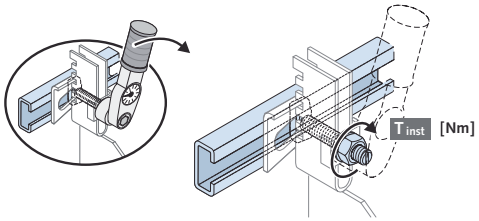
Removing the strip filler
Grip the strip filler at one end and pull out in one piece by hand; use a tool, e. g. a screwdriver.

4.1 Installing Halfen Bolts



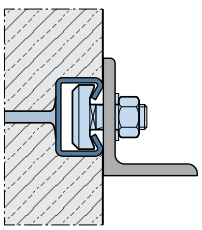
Safe assembly with Halfen Cast-in channels
Halfen Bolts can be inserted anywhere in the channel slot, turned 90° and then locked in place by tightening the nut. Do not position bolts at channel ends past the last anchor. On channels with bolt anchors, the anchor locations are visible through the channel slot.

Check
Bolts: After installation check that the bolts are properly aligned; the notch or notches in the tip of the shank must be at right angles to the longitudinal axis of the channel.

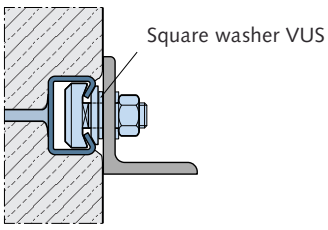


Fixings
The bolt heads must sit flush on both lips of the anchor channel and be secured by tightening the nut with a torque wrench with the required value. Observe the torque values in the tables on page 25/26 for HS/HSR or page 35 for HZS.

Direct attachment ①



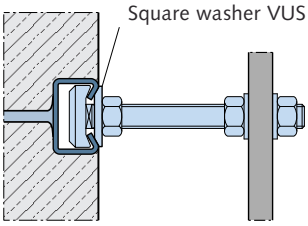
Surface-flush installation



Non-flush installation

① If the front surface of the channel is set back from the concrete surface, the attached structure must be shimmed with a washer (VUS).
In case of shear stress, add bolt flexure to the tensile force.

Stand-off installation ②



② Always install a square washer for stand-off installations.

Example:
Halfen Channel: **HTA-CE 49/30**
Halfen Bolt: **HS 50/30 - M16**
Washer: **VUS 49/30 - M16**

Assembly instructions on the internet
Multi-language assembly instructions can be found at **www.halfen.com ► Downloads ► Brochures ► Assembly Instructions**.

HALFEN HTA-CE/HZA ASSEMBLY
Installation in Pre-stressed Concrete

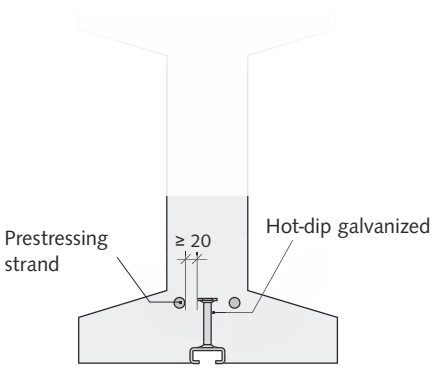
Halfen Anchor channels, hot-dip galvanized with stainless steel anchors

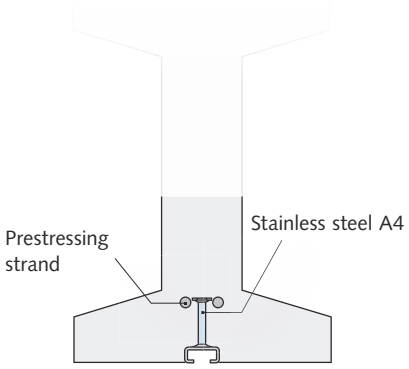
Requirements
according to EN 1992-1-1/NA (EC 2 with German National Annex, 2nd edition, 2016, chapter 8.10.1.1) *"Ensure at least 20 mm concrete between pre-stressed tension strands and galvanized components."* Otherwise there is a risk of hydrogen induced cracking.

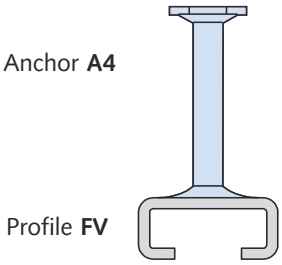
Solution
If hot-dip galvanized channels are used together with stainless steel bolt anchors then the pre-stressed tension-strands are allowed to have contact with the stainless steel bolt anchor.

Types:
Lengths available: up to 6.07 m

Available profiles:
- 50/30P
- 49/30
- 40/25
- 38/17







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