

Confast

CHCA Hollow Ceiling Anchor

Confast CHCA torque controlled anchor with internal thread for use in prestressed hollow core concrete slabs



Intended use:

Onsite testing: Confast Lab Testing

1 APPLICATIONS AND INTENDED USE

-All purpose expansion anchor for use in prestressed hollow concrete slabs

Base materials:

-Hollow concrete prestressed slabs strength classes C30/37 to C50/60

Futures:

- Torque controlled expansion
- No cleaning of the hole required
- Zinc plated > 5 μm
- Pre installation
- Application with pipes, ventilation systems, cable trays, substructures, gates

Applications:

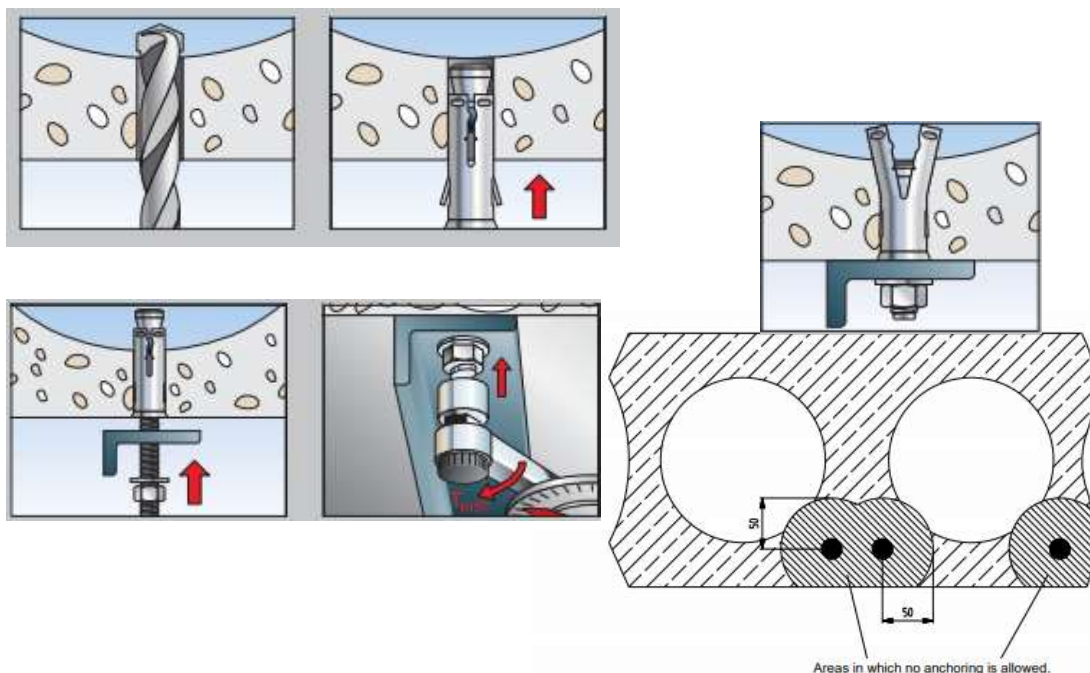
- Force-controlled anchor with internally metric thread without screw or bolt allow user specific applications
- Expansion corpus and cone made of steel
- Expansion in prestressed hollow core slab
- Possible complete disassembling

Installation:

- Drilling the hole by hammer drilling
- Drive in the plug
- Position the building material
- Tighten with a torque spanner
- The fastener may only be set once

2 INSTALATION INSTRUCTIONS

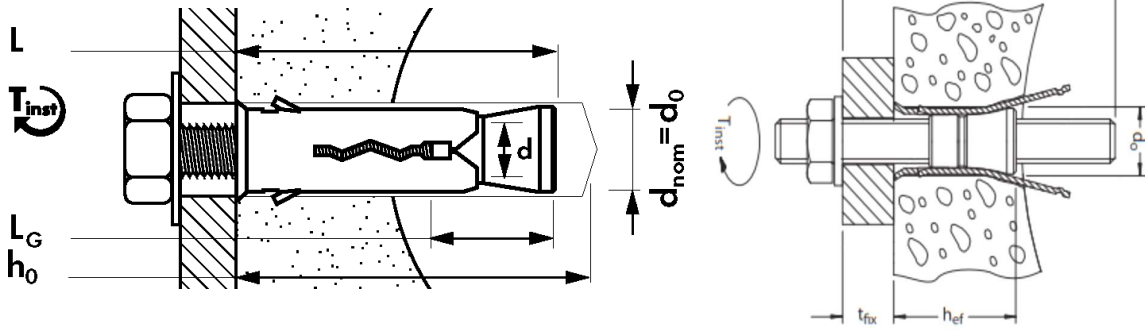
1. Drilling the hole by hammer drilling in concrete or solid wall
2. Insert the Hollow Ceiling Anchor into the building material (no hole cleaning is required)
3. Position the building materials and fix it with a screw or threaded rod and corresponding nut
4. Tighten the screw with a torque spanner to the predetermined value (Tinst)



The distance between the anchor axis and the tensioning strands shall be at least 50mm.

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3 INSTALLATION DATA



FASTENER SIZE CHCA			M10	M12
Fastener length	L	[mm]	52	52
Internal metric thread diameter	d_s	[mm]	10	12
Nominal diameter of shaft	d_{nom}	[mm]	16	18
Diameter of clearance hole in fixture	d_f	[mm]	12	14
Internal metric thread length	L_g	[mm]	19	19
Drill hole diameter in substrate	d_0	[mm]	16	18
Dept of drill hole in substrate	h_0	[mm]	65	65
Effective anchorage depth	h_{ef}	[mm]	30	30
Installation torque	T_{inst}	[Nm]	20	20
Minimum thickness of a hollow concrete prestressed slab	h_{min}	[mm]	30	30
Minimum edge distance	c_{min}	[mm]	200	200
Min. spacing parallel to prestressed reinforcement	s_{min}	[mm]	400	400
Min. spacing orthogonal to prestressed reinforcement	s_{min}	[mm]	200	200

3.1 Load DATA

Basic performance data for CHCA in cracked and non-cracked hollow prestressed concrete slabs without influence of edge distance, spacing and splitting failure due to dimensions of concrete member

Confast CHCA (Hollow ceiling Anchor) in combination with metric threaded rod or screw with a steel quality ≥ 8.8

FASTENER SIZE CHCA			M10	M12
Minimum thickness of a hollow concrete slab	h_{min}	[mm]	30	30
Tension load concrete C30/37 to C50/60	non-cracked	$N_{Rk, ucr}^{2)}$ [kN]	3.90	3.90
Shear load concrete C30/37 to C50/60	non-cracked	$V_{Rk, ucr}^{3)}$ [kN]	10.10	10.10
Bending moment (threaded rod steel failure)		M_{Rk} [Nm]	59.8	104.8
Tension load concrete C30/37 to C50/60	non-cracked	$N_{Rd, ucr}^{2)}$ [kN]	2.60	2.60
Shear load concrete C30/37 to C50/60	non-cracked	$V_{Rd, ucr}^{3)}$ [kN]	6.73	6.73
Bending moment (threaded rod steel failure)		M_{Rd} [Nm]	47.84	83.84
Tension load concrete C30/37 to C50/60	non-cracked	$N_{rec, ucr}^{2)}$ [kN]	1.26	1.26
Shear load concrete C30/37 to C50/60	non-cracked	$V_{rec, ucr}^{3)}$ [kN]	4.81	4.81
Bending moment (threaded rod steel failure)		M_{rec} [Nm]	34.17	59.89

¹⁾ Steel failure

²⁾ Pull-out failure

³⁾ Concrete pry-out failure