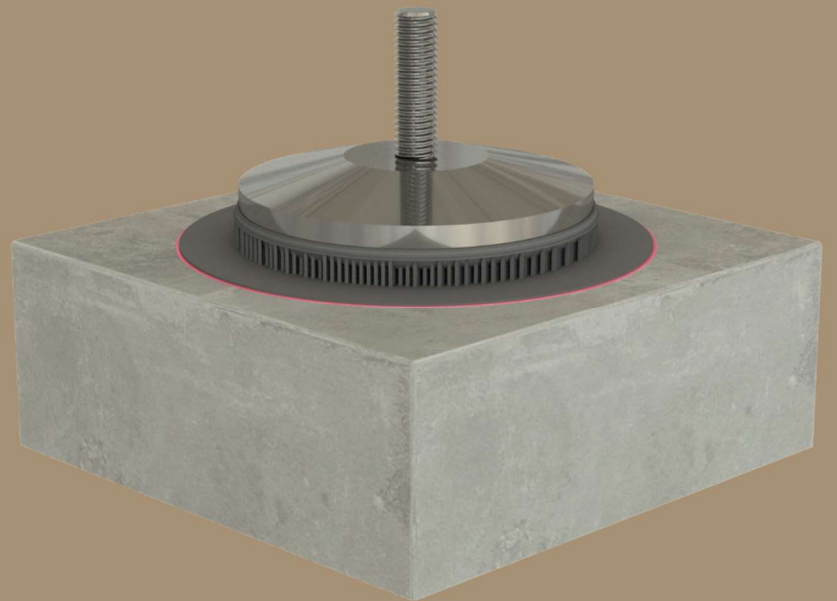




TECHNICAL DATASHEET

C-BLOCK™

The Bonded Anchor
for Concrete Surfaces



THE BONDED MECHANICAL FASTENER FOR CONCRETE

C-BLOCK™ is an anchor point that is bonded directly to the concrete surface. This bonded mechanical fastener's main advantage is its non-intrusiveness (i.e. no drilling).

C-BLOCK™ is made of:

- a circular steel dish with a threaded rod,
- an intermediate deformation layer made of polymer material,
- a nut and a washer.

VERSION:

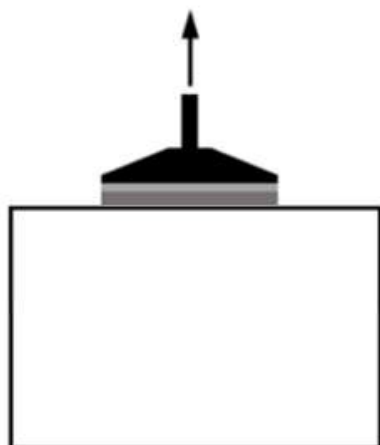
- C-BLOCK™ V1

PRE-DESIGNED VALUES / STATIC CAPACITIES

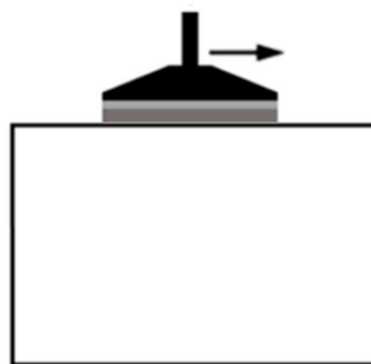
C-BLOCK™ V1 - Concrete C25/30 or higher – uncracked concrete

Applications	Design tensile strength <i>Nrd, ucr</i>	Design shear strength <i>Vrd, ucr</i>
<i>All applications EXCEPT Lifting¹</i>	5.7 kN (570 kg)	4.0 kN (400 kg)
<i>Special case : Lifting²</i>	3.8 kN (380 kg)	2.6 kN (260 kg)

Loading type :



Tensile loading













Shear loading

For lifting applications, COLD PAD can also provide turnkey kits. Contact contact@cold-pad.com for more information.

¹ The qualification campaign of C-BLOCK is presented in EDF note « D305922007899 - Evaluation technique de l'innovation ancrage C-BLOCK V1 »

² A safety factor of 1.5 is applied to the design effort for the lifting applications.

STANDARD SERVICE CONDITIONS ⁽³⁾

Characteristics	C-BLOCK™ V1
Type of concrete	Non cracked
 Grade of concrete	C25/30 or higher
 Expected service life	20 years
 Environment	Indoor Dry indoor condition
 Max. relative humidity	60%
 Service temperature ⁴	[+0°C; +35°C]
 Max. long term temperature ⁵	+24°C
 Radiation exposure	Orange area (ie. <100 mSv/h)
 Concrete min. thickness	100 mm
 Min. distance to edge	100 mm
 min distance between 2 C-BLOCKS (rod to rod)	160 mm
Seismic resistance	No
Risk category ⁶	“standard risk” (as defined in CRT 91.C.075 index 3)

³ For any deviation from the standard service conditions presented in this Technical datasheet, please contact COLD PAD for a case by case study.

⁴ Maximum temperature of concrete during 24 hours cycle – full charge.

⁵ Maximum average temperature seen by concrete over 100% of the life of the anchor – full charge.

⁶ Standard risk excludes:

- operations where anchorage failure could lead to significant economic losses
- materials, equipment, main and secondary structures whose partial or total collapse could affect the safety of persons.

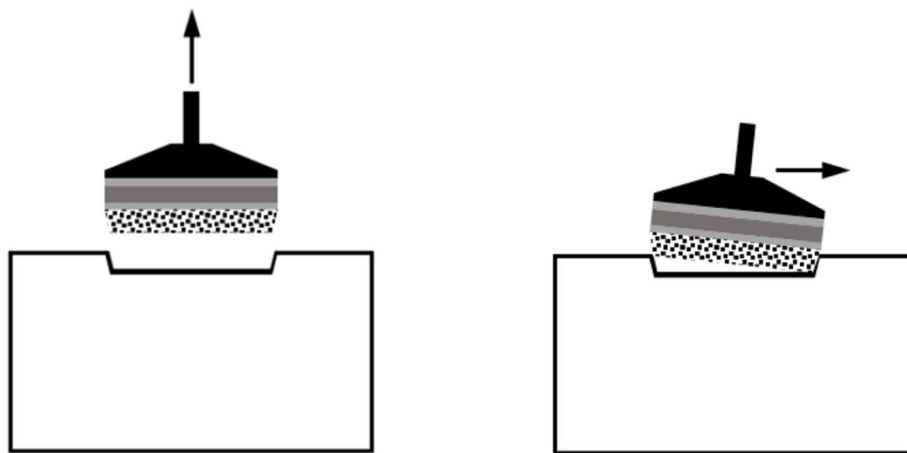
PROOFLOAD TEST

The Non Destructive Test is to be carried out on each C-BLOCK™ using the dedicated proof load test kit. The specifications of the test are as follows:

- Minimum duration between the end of the bonding process and the execution of the proof load test: 16 hours (at ambient temperature higher than 15°C)
- Test value: 5.0 kN

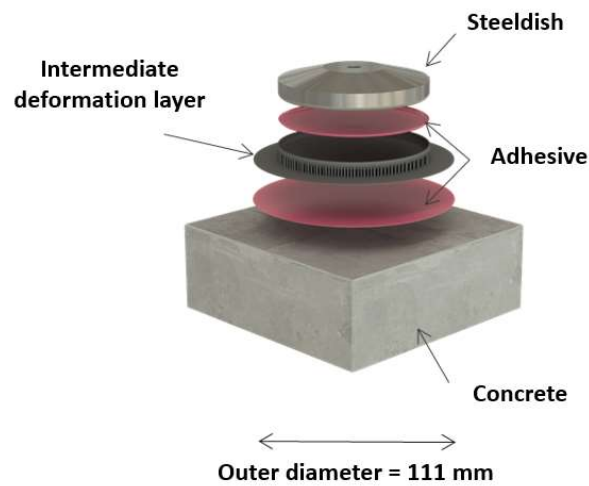
FAILURE MODE

- The expected mode of failure in tensile strength and shear is predominantly failure in concrete C25/30.



C-BLOCK™ MATERIALS

C-BLOCK™ V1	
Dish	Stainless Steel : 303
Threaded rod	A4-70
Washer	A4
Hexagonal nut	A4-70
Adhesive	HIT-RE 500 V4
Intermediate deformation layer (IDL)	Polymer



C-BLOCK™ DIMENSIONS

Properties	Value
Outside diameter	111 mm
Distance between the concrete surface and the top of Steel dish surface	24.3 mm
Thread diameter / Height of the threaded rod	M12 / 38 mm
Weight (per unit)	1 kg

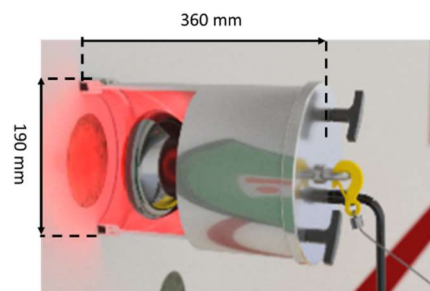
INSTALLATION

INSTALLATION TOOLING

Designation	Product details
Bonding tool - C-Hawk	Control box and installation bell
Temperature setting tool – C-Heat	Infrared lamp 250W
Concrete resurfacers with abrasive disc	Makita PC5010C 1400 W
Adhesive kit <ul style="list-style-type: none"> • Adhesive Cartridge • Application gun • Static mixer 	HIT RE 500 V4
Proof load kit	Hydrajaws Reference : 200-001

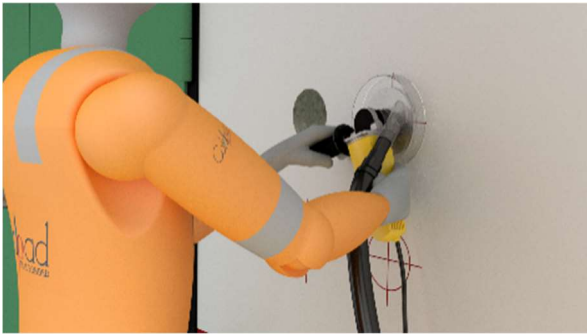


Installation Bell



Pre Heating Bell

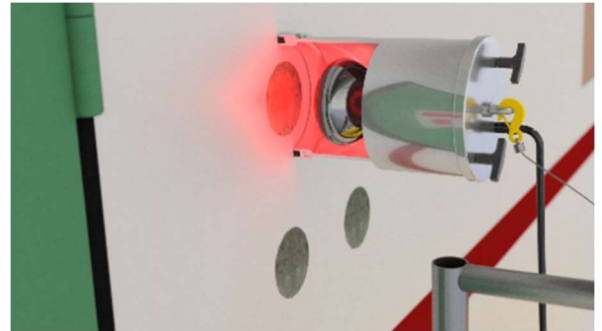
INSTALLATION SEQUENCE



Localized surface preparation

approx. 1 mm thickness
Use of anti-dust system

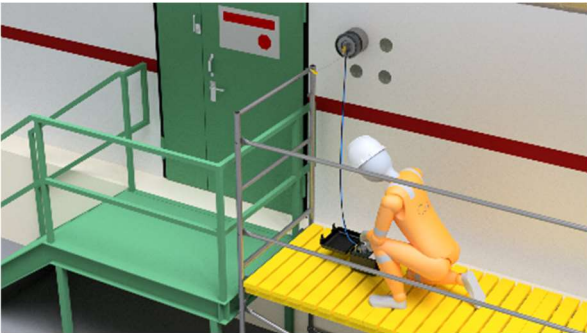
1



Temperature control of concrete

Self-supporting tool and
temperature below 100°C

2



Bonding

Self-supporting tool
Automated installation process

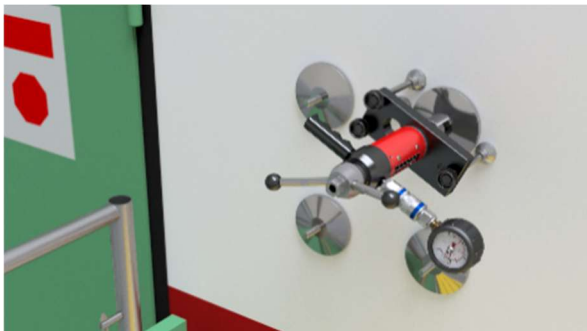
3



C-HAWK

Total autonomy &
Full traceability

4



Proof load test

Proof load test

5



Installation of the outfitting

Fixing the outfitting

6