

BBR VT CONA CMS

Strand-based structural strengthening system

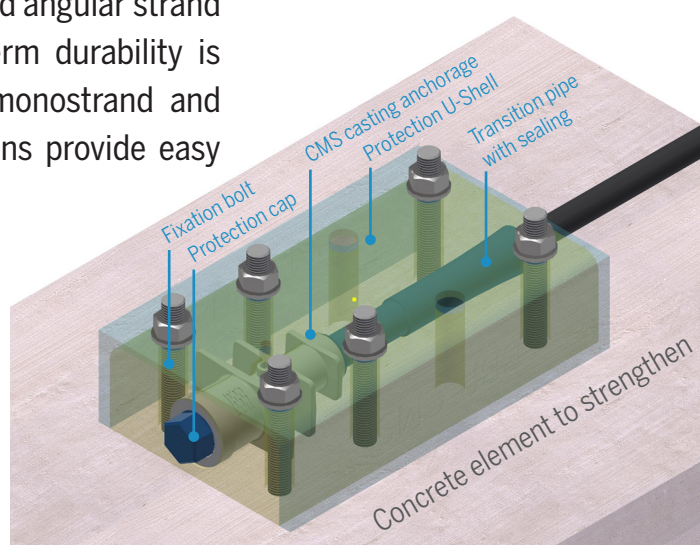


The CONA CMS System is a compact, external post-tensioning solution designed for near-surface structural strengthening, offering superior durability over existing solutions. Featuring a ready-to-mount blister with high-strength cement grout and steel shielding, it uses reliable, cost-effective 7-wire prestressing strands, making it adaptable to various applications, including complex geometries with post-tensioning force deviations.

Its robust anchorage, secured by bolts and epoxy glue, minimizes structural intrusion. Also suitable for low-strength concrete, the system allows large tolerance for screw positioning and angular strand deviations with minimal surface treatment. Long-term durability is ensured with dual anti-corrosion barriers on the monostrand and encapsulated anchorage, while exchangeable solutions provide easy inspection and maintenance.

Core specification

Tensioning force	up to 223 kN
Stressing method	Single hydraulic jack
Dimensions	300x180x75 mm
Weight	14 kg
Fixation method	Epoxy and bolts (embedded or through-thickness)
Deviation tolerance	>5°
Corrosion protection	Encapsulation up to 3.5 bar



Applications

- External post-tensioning for structural strengthening and retrofitting—ideal for bridges, buildings, and infrastructure requiring increased load capacity or extended service life.
- External and internal post-tensioning for new construction and specialized engineering applications, including 3D-printed concrete elements, where compact tendon systems and installation flexibility are essential.



A9 Motorway Bridge (France)



Ready-to-mount blister



Anchoring



A Global Network of Experts
www.bbrnetwork.com

Features and benefits

Mechanical performance

- Prestressing force: up to 223 kN per unit, compatible with 0.5" or 0.6" 7-wire prestressing steel strands
- Reliable and robust anchorage fixation using a combination of mechanical bolts and epoxy glue, using either 2xM20 through-element bolts or 6xM12 embedded screws
- Designed for concrete elements with low compressive strength (~25 MPa)

Durability

- Superior corrosion resistance: two layers of anti-corrosion barrier using greased monostrand across full tendon length
- Encapsulated anchorage and transition zones with sealing performance up to 3.5 bars and 0.5 bars at a 5° inclination.

Ease of installation and flexibility

- Supplied as a ready-to-mount blister requiring minimal surface treatment, minimizing onsite preparation and installation time
- Multiple fixation options with minimum intrusion into the existing structure
- Large tolerance capacity for screw positioning and angular strand deviation, improving onsite adaptability
- Stressing performed using standard hydraulic jacks, ensuring simplicity and efficiency

Available tendon sizes

Type of strands*

in	05		06	
mm	12.5	12.9	15.3	15.7
mm ²	93	100	140	150
MPa	1,860	1,860	1,860	1,860

Tendon sizes

Strands	Characteristic ultimate resistance of tendon [kN]			
01	173	186	260	279

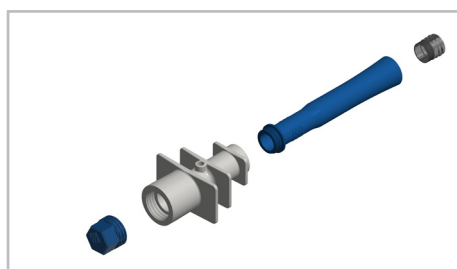
* 1,770 MPa tensile strength strand is also available

List of tests

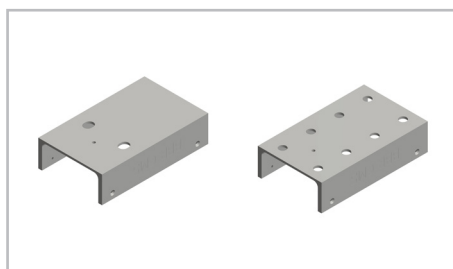
Test	Condition	Result
Static tensile test ^a	Without Deviation	Passed
Static tensile test ^b	Without Deviation	Passed
Static tensile test ^a	Deviation 5°	Passed
Load transfer test ^a	Fixation by 6xM16 bolts (embedded)	Passed
Load transfer test ^a	Fixation by 2xM20 bolts (through-thickness)	Passed
Sealing test ^a	Without Deviation	Passed
Sealing test ^a	Deviation 5°	Passed

^a: using D15.7mm 1860MPa strand

^b: using D15.2mm 1860MPa strand



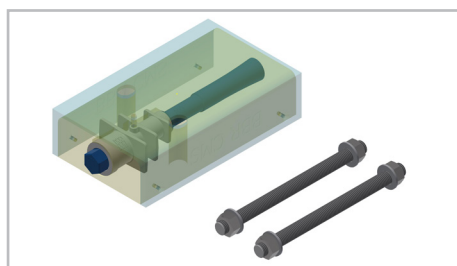
Components



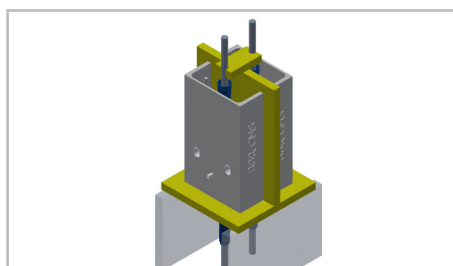
Components



Strengthening along the side



Ready-to-mount blister



Purchase option: assembled mold set



Strengthening from underneath