

1R15 ADDITIONAL PRESTRESSING ANCHORAGE

- Performance and reliability
- Easy to install
- Prestressing load transferred at slab edge

INNOVATIVE SOLUTION FOR ADDITIONAL PRESTRESSING REINFORCEMENT

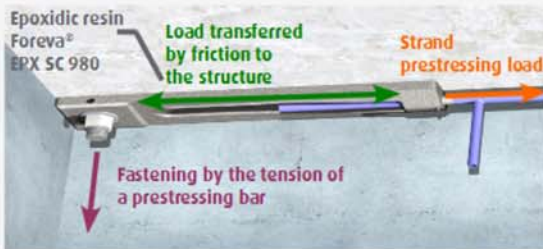
Technical data sheet reference: FT En R II 1 3



FREYSSINET
SUSTAINABLE TECHNOLOGY

DESCRIPTION

The Freyssinet 1R15 anchorage is used to strengthen structures by additional post-tension. It anchors one strand by a barrel and 3 pieces wedge and is well suited for thin elements like slabs and webs.



The Freyssinet 1R15 anchorage is clamped against the facing support by means of a prestressed (fixing) bar which crosses or is anchored in the structure. The interface between the anchorage and the bush hammered concrete surface is covered by a layer of epoxy resin (Foreva® Epx SC980). Thus the prestressing force of the strand is transferred to the structure by friction improved by bonding (resin).

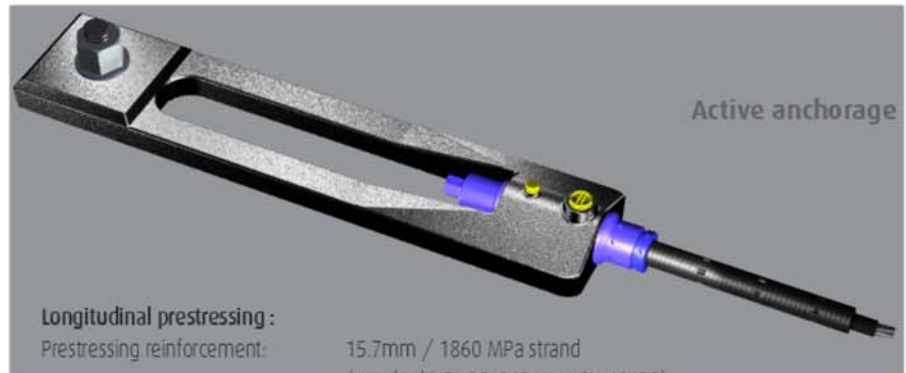
The elongated shape of the anchorage allows its positioning close to the edge of the element to be strengthened. The stressing of the strand is ensured by means of a monostrand tensioning jack equipped with a curved nose.

ADVANTAGES

Compared to traditional solutions such as concrete blisters or steel saddles, the 1R15 anchorage provides multiple advantages:

- The performance and the reliability of an industrial production process anchorage (cast iron),
- Prestressing load transferred directly to the support,
- A compact solution,
- An adjustable protection level according to the requirements of the project,
- An easy and fast installation,
- No concrete or mortar to cast on site,
- A tensioning method using a single monostrand jack,
- A very competitive solution in comparison with traditional solutions.

TECHNICAL CHARACTERISTICS



Longitudinal prestressing :

Prestressing reinforcement:	15.7mm / 1860 MPa strand (standard NFA 35-045 or pr EN 10138)
Prestressing load:	80% x 279 kN max.
Strand protection:	5 available options (details on next page)

Active anchorage:

Anchorage size:	725 (L) x 150 (l) x 78 (h) mm
Mass:	22 kg
3-wedge anchorage system in a single strand pot anchorage (barrel).	

Passive anchorage:

Anchorage size:	470 (L) x 150 (l) x 78 (h) mm
Mass:	16,4 kg
3-wedge anchorage system in a single strand pot anchorage.	

Connection to the structure (fixation):

Prestressing bar:	FREYSSIBAR® Ø 26.5mm, 1030 MPa (standard prEN 10138)
Bar tensioning force:	415 kN
Minimum fixing bar force:	248 kN min after losses (instantaneous and differed)
Interface resin:	Foreva® EPX 980 or equivalent
Concrete compressive strength:	20 MPa min on cylinder



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PERFORMANCE

The 1R15 anchorage and its fitting have been tested in order to ensure the reliability and the performance for additional prestressing applications.

INSTALLATION

The installation is usually done according to the following sequence:

- Coring of the existing structure to allow the placing of a fixing bar
- Sandblasting/ bushing of the surface area where the anchorage will be positioned.
- Placing of the 1R15 anchorage on a bed of epoxidic resin type Foreva® EPX SC 980. Threading of the bar
- Fixing bar stressing after hardening of the resin (48 hours).
- Protection of the prestressing bar.
- Installation of the additional prestressing strand.
- Stressing of the prestressing strand using a monostrand jack equipped with a curved nose adaptation.
- Final protection of the strand and of the anchorage.

Note: Depending on the project requirements either 2 active anchorages at both ends or 1 active and 1 passive at each end of the strand can be used.



VARIOUS PROTECTION OPTIONS

Additional unbonded prestressing solutions using the 1R15 anchorages may include different options, depending of the strand used and the project requirements as the aggressivity of the environment, the durability, etc.

- Bare strand
- Protected strand (galvanised steel)
- Greased and coated strand
- Bare strand contained in an HDPE duct injected with a soft (wax) or stiff (cement grout) product after tensioning.
- Greased and coated strand inside an HDPE duct injected with cement grout before tensioning for a triple layer protection.

The anchorage itself is fitted with the necessary accessories that ensure an efficient level of protection for the exposed parts of the cable, it is covered by a protective coating (Rilsan type) on its external faces.



Greased and coated strand in HDPE duct option

PRODUCTION AND DISTRIBUTION

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