

Temporary Freyssibar anchor



FREYSSINET
SUSTAINABLE TECHNOLOGY

- Reliable
- Easy installation

Retaining walls, slope stabilization, anchoring

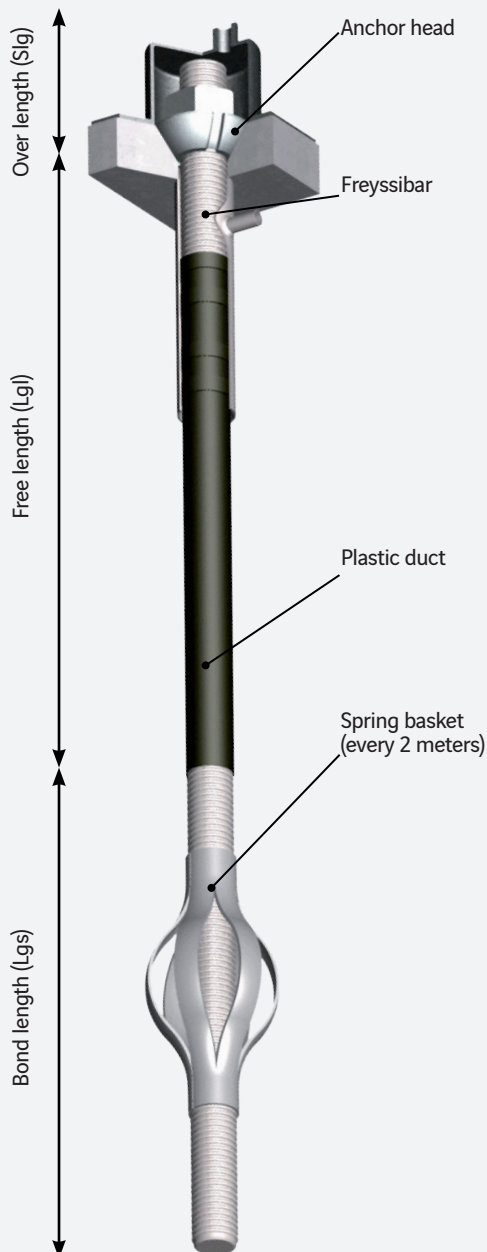
Technical data sheet reference n°: FT En C IX 1 2 2

The system

Temporary Freyssibar anchors are used for short service lives and soils with a low aggressive nature.

The anchor comprises a post-tensioning bar and accessories contained in a bore hole (anchor body) and an external part (anchor head) that connects to the structure.

The anchor body is bonded to the ground by injecting a cement-based grout. The grout is injected through an additional injection system.



Prestressing bar

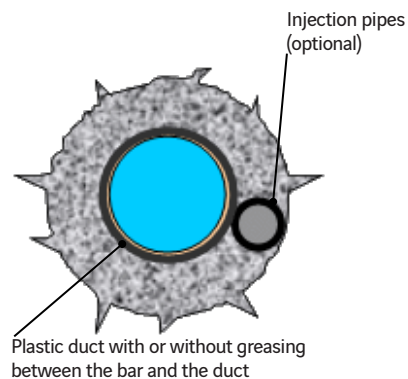
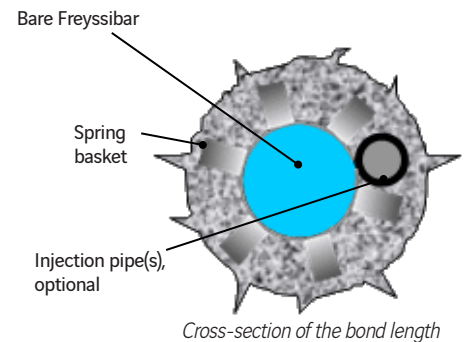
The main element of this anchor is a post-tensioning bar, called a Freyssibar, whose mechanical characteristics comply with European standard EN 10138 "Prestressing steels".

Characteristics	Unit	Nominal diameter (mm)				
		26.5	32	36	40	50
Steel grade	MPa	1,030	1,030	1,030	1,030	1,030
Nominal	mm ²	552	804	1,018	1,257	1,964
Linear mass	kg/m	4.56	6.66	8.45	10.41	16.02
Characteristics value of maximum force: F_{pk}	kN	568	828	1,048	1,295	2,022
Characteristics value of 0.1% proof force: $F_{p0.1\%}$	kN	461	672	850	1,049	1,640
Thread pitch	mm	6	6	6	8	8
Average Young's modulus	GPa	170	170	170	170	170
Minimum elongation at break	%	3.5	3.5	3.5	3.5	3.5

Anchor body

The bond length comprises a bare Freyssibar, equipped with one spring basket every 2 meters, that ensures a minimum grout coating of 10 mm around the bar.

The injection of the bore hole can be done through one or several injection pipes installed beside the Freyssibar.



Along the free length, the Freyssibar is covered by a plastic duct. Anchors with a medium service life can be achieved by greasing the bar in the sheath along the free length.

	Nominal diameter (mm)				
	26.5	32	36	40	50
Bare bar	26.5	32	36	40	50
Over the bond length (mm)	28.8	34.5	38.6	43.4	53.2
Over the free length (mm)	40	50	50	63	63

External anchor diameter (mm)

Transportation

On delivery, bars are packed in bundles for easy handling.

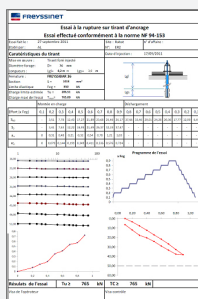
Installation

The spring baskets and injection system are fitted to the Freyssibar anchor before it is introduced into the bore hole. The couplings can be done before or during installation of the anchor.



Tensioning and testing

Specific hire equipment is available for tensioning and testing the anchors. Freyssinet also offers on-site technical assistance for tensioning and testing. Where tensioning and testing are performed by Freyssinet, a report is issued for each anchor to confirm compliance with the applicable standard.



Example of report

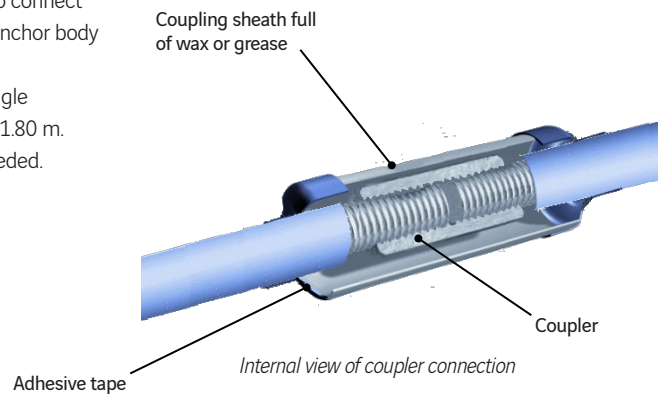
Quality insurance

A mill certificate of the Freyssibar system can be delivered upon request.

Coupling

The coupling is used to connect several prefabricated anchor body elements together.

The length of every single element is limited to 11.80 m. It can be reduced if needed.



Ext. D (mm)	Nominal diameter (mm)				
	26.5	32	36	40	50
	90	90	90	100	100

Coupling sheath diameters, without injection pipes.

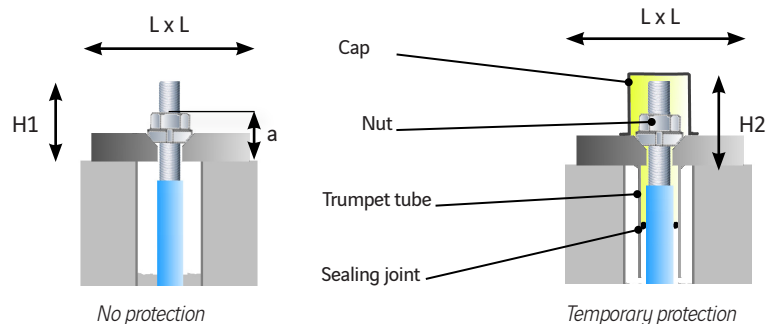
Anchor head

Anchor head without protection:

For short life time anchors, anchor head without any corrosion protection can be used. It is then composed of a bearing plate and a nut.

Anchor head with temporary protection:

A joint is placed on the smooth sheath. Then the plate, whose trumpet tube is filled with wax, is fitted. The nut is fitted, and tensioning is performed. After cutting off the extra over-length, the cap is fixed onto the plate, with a seal, and filled with wax. If a long cap is used, the over-length behind the nut enables the load in the anchor to be measured or adjusted.



	Nominal diameter (mm)				
	26.5	32	36	40	50
LxL (mm)	180 x 180	200 x 200	200 x 200	220 x 220	250 x 250
H1 (mm)	140	160	180	200	230
a (mm)	73	82	92	107	127
H2 short (mm)	110	115	120	145	160
H2 long (mm)	235	240	245	250	255

Outer dimensions of the anchor heads