

# Permanent strand anchor type B2



**FREYSSINET**  
SUSTAINABLE TECHNOLOGY

- CE anchor head
- High pressure injection
- Reliable

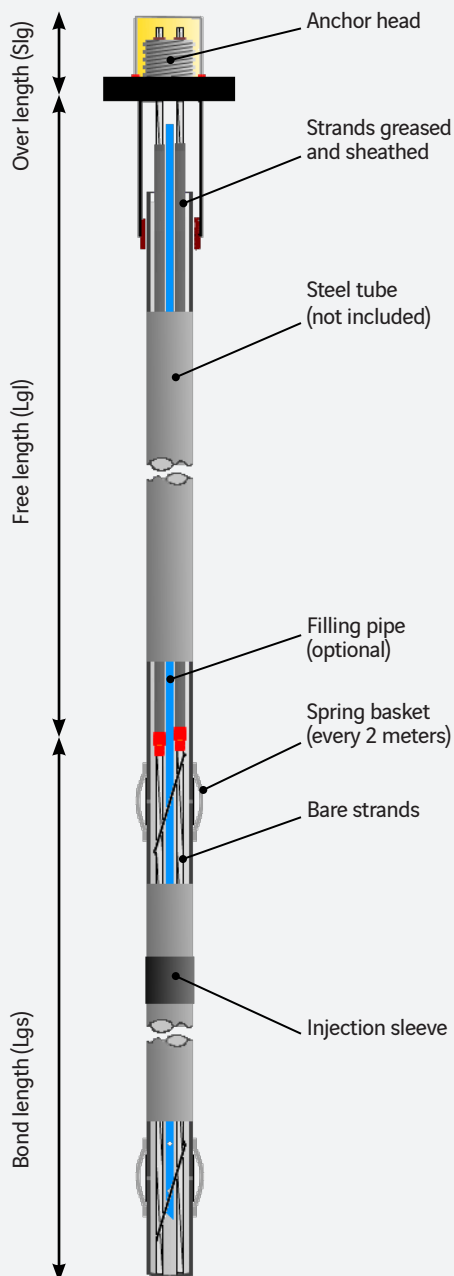
**Retaining walls, slope stabilization, anchoring**

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

## The system

The strand anchor comprises a part 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 a metal sleeved grouting pipe.



## Tendon

The Freyssinet strand anchor comprises a bundle of prestressing strands.

Type	Yield strength (N/mm <sup>2</sup> )	Ultimate strength (N/mm <sup>2</sup> )	Cross section (mm <sup>2</sup> )	Strand Weight (kg/m)	Ultimate load Fpk (kN)	Yield load Fp0.1% (kN)	Young modulus (kN/mm <sup>2</sup> )
2T15.3	2x0.6"	1640	1860	280	2.18	520	458
3T15.3	3x0.6"			420	3.27	780	687
4T15.3	4x0.6"			560	4.36	1040	916
5T15.3	5x0.6"			700	5.45	1300	1145
6T15.3	6x0.6"			840	6.54	1560	1374
7T15.3	7x0.6"			980	7.63	1820	1603
8T15.3	8x0.6"			1120	8.72	2080	1832
9T15.3	9x0.6"			1260	9.81	2340	2061
10T15.3	10x0.6"			1400	10.9	2600	2290
11T15.3	11x0.6"			1540	11.99	2860	2519
12T15.3	12x0.6"			1680	13.08	3120	2748
13T15.3	13x0.6"			1820	14.17	3380	2977
2T15.7	2x0.62"			1640	1860	300	2.36
3T15.7	3x0.62"	450	3.54			837	738
4T15.7	4x0.62"	600	4.72			1116	984
5T15.7	5x0.62"	750	5.90			1395	1230
6T15.7	6x0.62"	900	7.08			1674	1476
7T15.7	7x0.62"	1050	8.26			1953	1722
8T15.7	8x0.62"	1200	9.44			2232	1968
9T15.7	9x0.62"	1350	10.62			2511	2214
10T15.7	10x0.62"	1500	11.80			2790	2460
11T15.7	11x0.62"	1650	12.98			3069	2706
12T15.7	12x0.62"	1800	14.16			3348	2952
13T15.7	13x0.62"	1950	15.34			3627	3198

Stronger tendons are available upon request. The service load depends on the applicable standard.



Tie-back reinforced wall

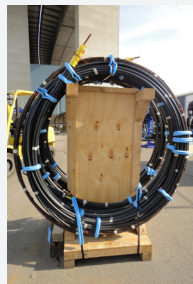
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## Transportation

On delivery, anchors are generally wound. They can be hung on a recoverable metallic frame,



or on a lost wooden support or pallet, best solution for transport in containers or on long distance.



## Installation

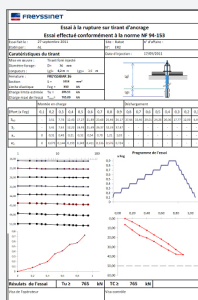
An uncoiler can be sent to the site to allow the anchors to be quickly and safely installed.



Freyssinet uncoiler

## 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

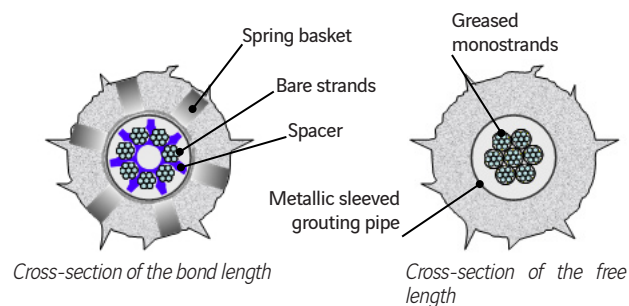
## Quality insurance

A conformity certificate is sent with each delivery.

## Anchor body type B2

Across the free length, the strands are individually covered by a PE sheath and greased. The anchor body B2 is a pack of individual strands designed to be introduced into a steel sleeved grouting pipe. Delivered separately, this tube is first bonded in the ground and then washed internally. Generally, spring baskets over the bond length ensure a minimum grout coating of 10 mm around the sleeved grouting pipe. The grout is injected into the metal sleeved grouting pipe and bonded by a cement grout filling. The anchor B2 can include a filling pipe when the filling of the metallic tube has to be done after introduction.

	Anchor B2		Steel tube
	Free length (mm)	Bond length (mm)	
2T15	40	44	2" (53.9x60.3)
3T15	43	47	
4T15	48	51	
5T15	54	56	2 1/2" (69.7x76.1)
6T15	59	60	
7T15	59	60	3" (82.5x88.9)
8T15	69	72	
9T15	77	73	3 1/2" (94.4x101.6)
10T15	79	75	
11T15	80	77	4" (107.1x114.3)
12T15	80	77	
13T15	90	88	



Diameter of the anchor (without filling pipe) and metallic sleeved grouting pipe recommendations. A larger tube than the one recommended can be used if needed (long anchors, low inclination...).

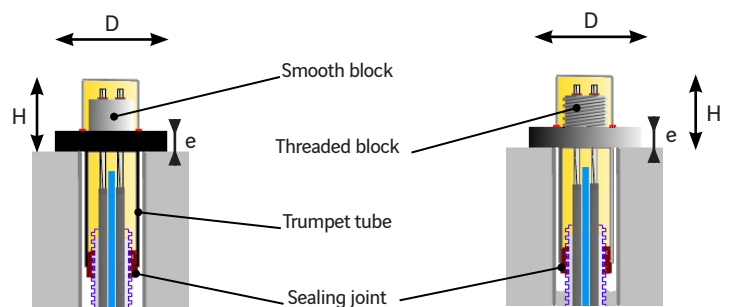
## Anchor heads

The anchor head consists of a bearing plate with a welded trumpet tube, an anchor block, jaws and cap. The trumpet and the cap are filled with grease or wax. For re-tensionable anchor heads, the block is threaded on the outside (to adjust or measure the tensile load). A joint creates a seal between the trumpet tube and the sleeved grouting pipe.

External dimensions of the anchor head

	e (mm)	D (mm)	H (mm)
2 to 4T15	30	220	110
5 to 7T15	35	220	130
8 and 9T15	35	240	185
10 to 13T15	50	240	200

Note: The stated dimensions correspond to a maximum recess diameter of 170mm. The strength of the concrete bearing surface must be checked separately. If needed, those dimensions can be adapted on request.



Standard anchor head

Re-tensionable anchor head