

# Thread Bar 500

Thread Bar 500 is a continuously threaded, high tensile bar ideally suited to harsh conditions due to its robust thread design and versatility in either mechanical or resin anchoring applications.



## Advantages

- No reduction in load capabilities as threads exceed the nominal bar diameter
- Robust thread design accepts harsh conditions without affecting threadability
- Increased bond strength achieved owing to large surface area of ribs
- Continuous thread enables retensioning in the event of 'scaling', as well as cutting of the bar at any point
- Thread profile offers excellent mixing capabilities in resins installation
- Thread profile is ideally suited to hot-dipped galvanising, whilst maintaining threadability of the system.

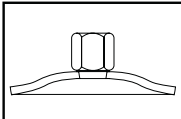

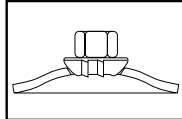

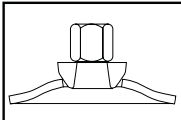

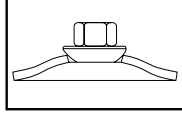

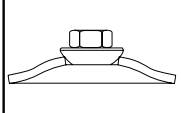

## TECHNICAL INFORMATION

Specifications	Steel grade	Nominal diameter (mm)	Nominal cross sectional area (mm <sup>2</sup> )	Max. diameter over ribs (mm)	Max. yield load (kN)
In accordance with SABS 920 1985		16	201	18.0	100
		20	314	22.5	152
		25	491	28.0	245

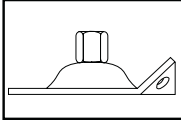

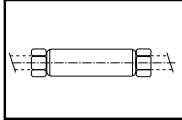

- Minimum ultimate load 15% greater than actual yield load.

## Anchor head applications

A wide choice of components offer a variety of anchor head designs to suit installation requirements.

Application	Description	Application	Description
	 Hexagon nut and plate washer		 Ribbed domnut and plate washer
	 Hexagon nut, spherical seat and plate washer		 Domnut and plate washer
	 Small domnut and plate washer		

## Special applications

Application	Description	Application	Description
	 Dog-eared plate washer Plate washers can be 'dog-eared', and grout holes provided on request.		 Coupler and lock nuts

## INSTALLATION HARDWARE

A range of hardware to accommodate spinning and tensioning activities in Thread Bar 500 installation is offered. The following stock items are available:

- TB 500-TENSIONER – Adaptor unit enabling tensioning of anchor nut by means of jackhammer. Socket head accommodates the anchor nut and the hexagon drive-shaft suits the jackhammer
- TB 500-SPINNER – Adaptor unit enabling spinning of bar for resin installations
- TB 500 'T' SPANNER – Manual tensioning unit with extended socket head allowing easy access to workplace. Provides tensioning capabilities in areas where jackhammer availability and time is limited.

### Mechanical anchoring

Expansion shells provide an efficient and simple means of point anchoring in hard rock conditions. Available in a range of sizes to accommodate borehole diameters used in the industry.

Expansion shells offer the following advantages:

- Application is simple and widely accepted
- Reliable anchoring is achievable in dry and wet boreholes
- Spring-loading the expansion shell prevents any slippage when tensioning anchor head
- Cementitious grouting by means of pumping over the bar or shot capsules, makes the installation permanent following the setting thereof.

### Resin anchoring

The relationship between borehole, capsule and bar diameters is critical in ensuring efficient and correctly installed bars. Correct installation will result in an anchor which offers the following advantages:

- Excellent bond between resin, bar and borehole
- Early load-bearing capabilities
- Upgrading of rock strength surrounding the borehole owing to resin penetration
- High level of corrosion protection.

The ribbed profile and coarse thread of the Thread Bar 500 provides excellent mixing capabilities when spinning through resin capsules. This can be further enhanced by deforming the leading end of the bolt into a 'kinked' profile as shown.

Recommended cement capsule diameters:	TB 500 diam. (mm)	Borehole diameter (mm)					
		28mm	30mm	32mm	36mm	38mm	40mm
	16	25	25	28	32	-	-
	20	-	25	25	28	32	-
	25	-	-	-	25	28	32

## Basic types of Thread Bar 500 installations



Thread Bar 500 anchored in cementitious pre-grouted borehole. Nut tensioned following setting of grout.



Thread Bar 500 point anchored by means of expansion shell and nut tensioned. Cementitious grouting by means of pumping over the bar or shot capsules.



Thread Bar 500 spun through borehole pre-filled with resin capsules. Nut tensioned following setting of resin.

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