

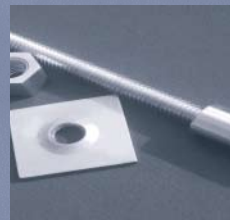
Macalloy 650 Stainless Fully Threaded Bar Systems



EXPERIENCE



INNOVATION



QUALITY

Macalloy 650 Stainless specification

Macalloy Ltd has been the leader in the design, manufacture and supply of threaded bar systems since 1948. The Macalloy 650

Stainless has been introduced to complement the existing carbon steel Macalloy 500 range, enabling customers to purchase

from one source both stainless and carbon systems for their threaded bar requirements.

Macalloy 650 stainless bar can be used as an alternative to end threaded stainless re-bar. The thread form complies with a Type 2 deformation in accordance with BS4449 and BS6744.

If necessary it can be end threaded only, rather than be supplied fully threaded.

Table 1: Mechanical properties of Macalloy 650 Stainless

Bar diameters mm	Minimum ultimate tensile strength N/mm	Minimum 0.2% proof stress N/mm
16 to 40	800	650

The System

The Macalloy 650 Stainless is a high strength continuously threaded bar system. It is available from stock in diameters 16 to 40mm. Fittings come as standard across the range, standard lengths are 6 metre.

Quality Assurance

Macalloy is a quality assured company holding CARES accreditation to BS EN ISO 9001:2000. The Macalloy 650 Stainless System is manufactured under a testing system in accordance with this quality regime.

Table 2: Range and Characteristic Loads of Macalloy 650 Stainless

Bar reference mm	Major diameter mm	Stress area mm	Mass per metre Kg/m	Thread pitch load mm	Minimum falling load mm	Minimum 0.2% proof kN
16	17.6	167	1.50	5	133	108
20	21.8	261	2.37	5	209	170
24	25.3	380	3.17	6	304	247
27	28.9	495	4.10	6	395	312
32	36.2	778	6.40	6	622	506
36	40.2	978	8.20	6	782	636
40	45.3	1199	10.10	8	959	780

Steel Quality

Macalloy 650 Stainless has a minimum guaranteed yield stress after threading of 650N/mm². It is available as standard in grade 304, grade 316 stainless steel.

Threads

The coarse thread is rolled directly onto the bar, of a form specially designed to give speed and ease of assembly. The thread gives the minimum anchorage strengths as given in table 2. The bond value of the coarse thread when cast into concrete, or grouted into a preformed hole, complies with the requirements for

a class 2 deformed bar (BS 8110: 1997).

The threads are rolled on the bars in the factory with stringent controls on tolerance and form. Load is transferred from bar to fittings over the full circumference of the bars allowing the use of compact fittings.

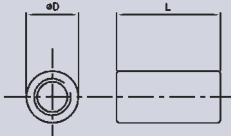
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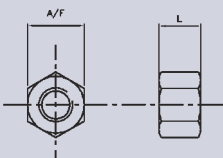
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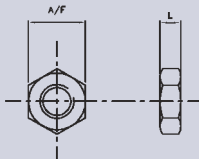
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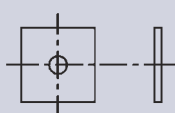
Macalloy 650 Stainless accessories

Table 3: Macalloy 650 Stainless Accessories

Couplers		Nominal Diameter	16	20	24	27	32	36	40
	Ref No.	650SC16	650SC20	650SC24	650SC27	650SC32	650SC36	650SC40	
	Length (L) mm	52.0	70.0	76.0	84.0	90.0	100	110	
	Outside (D) mm Diameter	28.6	35.0	38.1	44.5	57.2	63.5	69.8	

Full Nuts		Nominal Diameter	16	20	24	27	32	36	40
	Ref No.	650SN16	650SN20	650SN24	650SN27	650SN32	650SN36	650SN40	
	Length (L) mm	22.0	30.0	33.0	37.0	41.0	46.0	51.0	
	Outside (D) mm Diameter	25.4	32.0	38.1	44.5	56.4	60.3	69.4	

Lock Nuts		Nominal Diameter	16	20	24	27	32	36	40
	Ref No.	650SLN16	650SLN20	650SLN24	650SLN27	650SLN32	650SLN36	650SLN40	
	Length (L) mm	11.0	15.0	16.5	18.5	20.0	23.0	25.0	
	Outside (D) mm Diameter	25.4	32.0	38.1	44.5	56.4	60.3	69.4	

Flat Plates		Nominal Diameter	16	20	24	27	32	36	40
	Ref No.	650SP16	650SP20	650SP24	650SP27	650SP32	650SP36	650SP40	
		100 x 100 x 8	125 x 125 x 10	150 x 150 x 10	150 x 150 x 10	215 x 215 x 15	245 x 245 x 20	260 x 260 x 30	

For sizes between 33mm and 48mm please contact our sales department.

Also available within the Macalloy 650 Stainless Steel range are dished plate washers, pattress plates, lantern spacers and hemispherical load nuts. Full details available upon request.

Site Stressing

Hydraulic jacking equipment is available to apply load to the bars. Jacks are provided with gauges calibrated against a certified load cell to register the force exerted on the bars. In addition, load cells are available to give an independent check on the accuracy of the pump gauge if necessary.

Hand and air operated pumps are available to drive the full range of jacks. Our site service team is also available to provide on-site stressing and training.

Other Stainless Systems from Macalloy

Macalloy is also able to offer a metric end threaded stainless steel ribbed bar complete with full strength nuts and couplers in diameters M16 to M40. Please contact our sales team for a quotation.

A further stainless bar offered by Macalloy is the high strength Macalloy S1030 system with a yield stress of 835N/mm² and an ultimate stress of 1030N/mm². Details of this system can be found in our Macalloy Post Tensioning brochure.

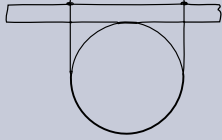
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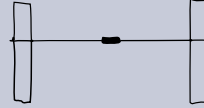
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Applications of Macalloy 650 Stainless

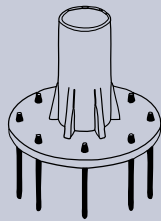
Possible applications: Coastal defence, Rail Track Bridge and Highways



Pipe supports– U-bolts



Shuttering or building ties



Holding down bolts



Rockbolts, soil nails, ground anchors and micropile reinforcement

Other products within the Macalloy range include:

Macalloy 500 Reinforcing Bar

Macalloy S460 Stainless Steel Tendons

Macalloy 17MHS Tie Bar Systems

Macalloy 1030 Post Tensioning System

Macalloy 460 Carbon Steel Tendons

Macalloy Guy Linking Architectural Ties

Macalloy Ltd Local Representative:

This publication provides the technical details currently used by Macalloy in the manufacture of its components. The company reserves the right to amend technical details as and where necessary in line with its policy of continuous development.



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