

# DEF STAN 02-833 (NES833)

## Technical Datasheet



Service. Quality. Value.

### Bronze Alloy

#### Typical Applications

- Marine Valves
- Marine Pumps
- Marine Hardware
- Thrust Washers
- Worm Gears
- High Strength Fasteners
- Heavy duty Bushes & Bearings
- Wear Plates

#### Product Description

DEF STAN 02-833 is a nickel aluminium bronze similar to CA104. The main difference being that DEF STAN 02-833 has been manufactured in accordance with the MoD's Navy requirements. To improve the corrosion resistance of the material the standard states the nickel content must always exceed the iron content. Impact values are also taken on all sizes above 15mm diameter and the material is ultrasonically tested to ensure it meets the requirements of DEF STAN 02-729 Part 5 Issue 3 and to NDE02-05 latest revision.

#### Weldability

Good.

#### Related material specifications

- NES833

#### Key features

- Excellent corrosion and erosion resistance in Marine environments
- Good strength & toughness
- Excellent retention of properties at cryogenic temperatures
- Good resistance to shock loading
- High wear & abrasion resistance
- Excellent galling resistance

#### Availability

Round bar, hexagon.

#### Cut to size capability

There are thirty power saws within the Smiths group including a fully automated magazine feed CNC rod blanking line. We can economically cut from one off blanks to the largest production run for immediate or just in time deliveries.

#### Corrosion Resistance

Excellent

#### Machinability

Good / fair.

#### Chemical Composition (weight %)

	Cu	Al	Ni	Fe	Mn	Total Impurities	
min	Rem	8.50	4.50	4.00			
max	Rem	10.00	5.50	5.00	0.50	0.50	

#### Mechanical Properties

	6-15mm	15-25mm	25-100mm	>100mm
Diameter				
UTS	680 N/mm	680 N/mm	635 N/mm	620 N/mm
Proof Strength	325 N/mm	325 N/mm	295 N/mm	245 N/mm
Elongation	17%	17%	17%	17%
Impact Strength	-	24J	27J	23J

#### Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

##### UK Service Centres:

Smiths Belfast **02895 908 897**  
Smiths Biggleswade **01767 604 704**  
Smiths Birmingham **0121 728 4940**  
Smiths Bristol **0117 971 2800**  
Smiths Chelmsford **01245 466 664**  
Smiths Gateshead **0191 469 5428**  
Smiths Horsham **01403 261 981**

Smiths Leeds **0113 307 5167**  
Smiths Manchester **0161 794 8650**  
Smiths Norwich **01603 789 878**  
Smiths Nottingham **0115 925 4801**  
Smiths Redruth **01209 315 512**  
Smiths Verwood **01202 824 347**  
Main Office **0845 527 3331**

##### Quality & Testing:



[www.smithmetal.com](http://www.smithmetal.com) [info@smithmetal.com](mailto:info@smithmetal.com)

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