RIGHTON BLACKBURNS
METALS AND PLASTICS

EXPERTISE COLLABORATION INTEGRITY

Copper Alloys

DEFSTAN 02-835 (NES835) Bar & Forgings

Datasheet Updated
05 August 2021

RANGE

Product Form	Imperial Sizes	Metric Sizes
Round Bar DEFSTAN 02-835	1 1/4" - 6 1/2"	65mm - 135mm

SPECIFICATIONS

Commercial	NES835
EN	DEF STAN 02-835

An advanced precipitation hardenable copper nickel with improved mechanical properties over 90/10 and 70/30.

CHEMICAL COMPOSITION

DEFSTAN 02-835
Rod and Forgings

Element	% Present
Nickel (Ni)	13.50 - 16.50
Iron (Fe)	0.70 - 1.20
Manganese (Mn)	3.50 - 5.50
Aluminium (Al)	1.00 - 2.00
Chromium (Cr)	0.00 - 0.50
Carbon (C)	0.00 - 0.05
Lead (Pb)	0.00 - 0.02
Magnesium (Mg)	0.00 - 0.05
Phosphorous (P)	0.00 - 0.01
Silicon (Si)	0.00 - 0.15
Sulphur (S)	0.00 - 0.15
Tin (Sn)	0.00 - 0.10
Zinc (Zn)	0.00 - 0.20
Copper (Cu)	Balance

ALLOY DESIGNATIONS

- DEF STAN 02-835
- NES835
- NES 835
- DEF STAN 835

SUPPLIED FORMS

Bar Grades 1 and 2. Forgings Class 1, 2 and 3.

- Bar
- Forgings
- Rod

APPLICATIONS

- Critical marine fasteners
- Gears
- Shafts
- Subsea components
- High integrity components
- Stampings

CHARACTERISTICS

- High strength
- Excellent corrosion and biofouling resistance
- Low magnetic permeability
- High impact strength retained down to cryogenic temperatures
- Spark resistance
- Very good anti galling properties
- Good resistance to impingement
- Resistance to hydrogen embrittlement

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MECHANICAL PROPERTIES

DEFSTAN 02-835
Rod Up to 125mm

Property	Value
Proof Stress	430 Min MPa
Tensile Strength	725 Min MPa
Elongation A50 mm	18 Min %

DEFSTAN 02-835
Forgings Up to 125mm

Property	Value
Proof Stress	400 Min MPa
Tensile Strength	725 Min MPa
Elongation A50 mm	18 Min %

DISCLAIMER

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