

DEF STAN 02-835 (NES835)

Technical Datasheet



Service. Quality. Value.

Cupronickel - Copper Nickel Alloy

Typical Applications

- Oil & Gas, Marine and Naval applications
- Production of high integrity components
- Stampings
- Fasteners
- Machined items
- Above sea and subsea components
- Critical marine fasteners

Product Description

DEF STAN 02-835 (NES835) is an advanced precipitation-hardenable copper nickel. The alloy is an improved version of 90/10 and 70/30 with excellent corrosion resistance and high mechanical strength. Designed specifically for the Oil & Gas, Marine and Naval market, DEF STAN 02-835 (NES835) also offers a good resistance to impingement, very good anti-galling properties, and a freedom from hydrogen embrittlement and high impact strength. With high ductility, the alloy is easily welded, machined and fabricated.

Chemical Composition (weight %)

	Cu	Ni	Mn	Al	Fe
Min	Rem				
Max	Rem	14.50	4.50	1.70	1.00

Key features:

- Advanced precipitation-hardenable copper-nickel
- Improved mechanical properties over 90/30 and 70/30
- Excellent corrosion resistance
- Resistance to hydrogen embrittlement.
- Designed specifically for use in Oil & Gas, Marine and Naval applications

Related material specifications

- NES 835
- DEF STAN 02-835
- UNSI C72420
- DGS 357

Corrosion Resistance

Excellent. Developed specifically for Oil & Gas, Marine and Naval applications. Resistant to hydrogen embrittlement.

Weldability

Good.

Availability

Bar and forgings

Mechanical Properties

	≤ 15mm dia	15 ≤ 125mm dia	>125mm dia	Value
Ultimate Tensile Strength	725	725	710	N/mm ²
0.2% Proof Strength	430	430	400	N/mm ²
Elongation	18	18	18	%

Physical Properties

Density	8.53	g/cm ³
Melting Range	1030 - 1085	°C
Modulus of elasticity	152,000	N/mm ²
Thermal conductivity	25	20°C; W/m°K
Electrical resistivity	0.35	microhm/m

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Quality & Testing:



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