

NES 835

Smiths Advanced Metals

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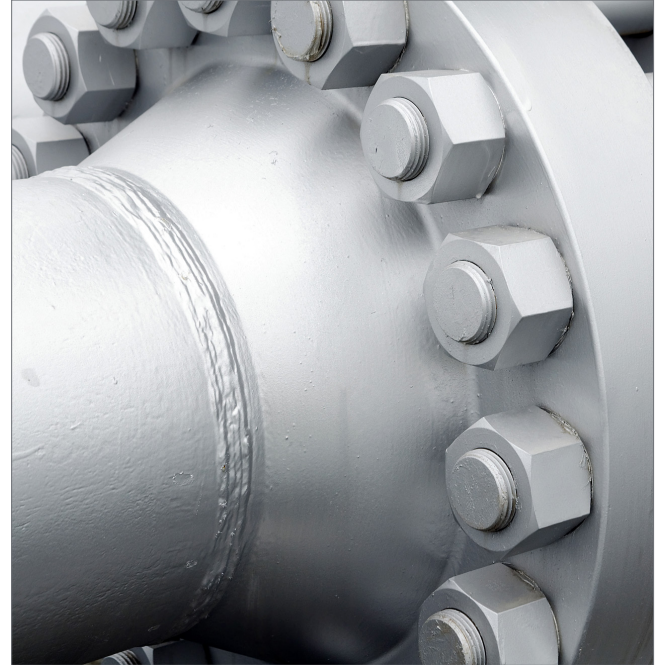
High Mechanical Strength

Precipitation-hardenable copper nickel

NES 835 is a precipitation-hardenable copper-nickel. This alloy is a hot-forged engineering material, containing 14.5% nickel, 4.5% manganese and small additions of iron and aluminium.

This grade provides high mechanical strength with excellent corrosion and biofouling resistance. Although developed primarily for offshore and marine applications, **NES 835** is suitable for high strength critical components in a broader range of industries, including petrochemical, automotive and general engineering. NES835 is not susceptible to hydrogen embrittlement and offers high impact strength. NES 835 is produced to the specific requirements of the Ministry of Defence DEF STAN 02-835; we also supply bars with a diameter greater than 15mm with ultrasonic inspection complying with DEF STAN 02-729 Part 5.

We stock **NES 835** in a variety of incremental sizes for immediate supply.



Grades / Specifications

- DEF STAN 02-835
- UNS C72420
- DGS357

Key Applications

- Above sea and subsea components
- Critical marine fasteners
- Marine and Naval applications

Chemical Composition (weight %)

	P	C	S	Mg	Si	Zn	Sn	Pb	Cr	Mn	Al	Fe	Ni	Impurities	Cu
min.										3.50	1.0	0.70	13.50		Bal
max.	0.01	0.05	0.15	0.05	0.15	0.20	0.10	0.02	0.50	5.50	2.0	1.20	16.50	0.30	Bal

As per DEF STAN 02-835

Physical Properties

Density	8.80 gm/cm ³ @ 20°C
Melting point	1040 - 1060°C
Electrical Resistivity	5.8 μΩ.m @ 15°C
Thermal Conductivity	20 W/mK

Mechanical Properties (Rods and Sections 15mm - 125mm (incl.))

Ultimate Tensile Strength	725 MPa
0.2% Proof Strength	430 MPa
Elongation	18%
Izod	40J

Properties as per DEF STAN 02-835

Benefits

- Excellent corrosion and biofouling resistance
- Spark resistant
- Very good anti-galling properties

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