

DEF STAN 02-879 (Annex B, Grade 1)

Smiths Advanced Metals

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For marine & chemical applications

DEF STAN 020-879 is a copper-nickel alloy - the British standard equivalent specification for copper-nickel 70/30.

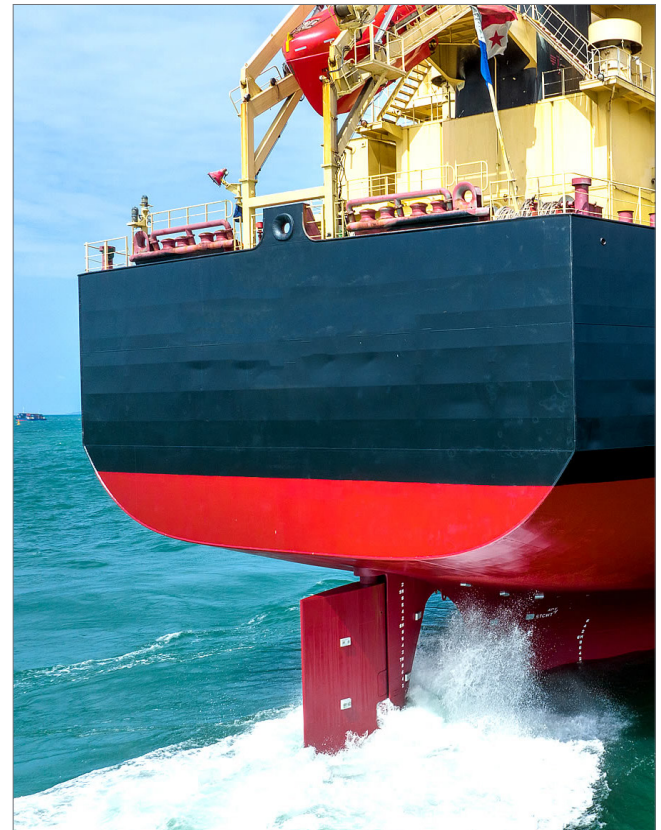
The alloy offers the same benefits and characteristics but with a subtle difference. The production process includes tighter chemistry / mechanical property controls and a specified impact value. The specification supersedes DEF STAN 02-780 and NES 780.

The alloy consists of a 70/30 mix of copper and nickel, respectively, with slight traces of iron and manganese. Compared to copper-nickel alloy 90/10, the engineering material offers better capabilities in more hostile operating environments, including high-velocity water. Our material combines good strength (slightly better than 90/10) with good toughness and offers excellent corrosion resistance. Pitting resistance is also superior, particularly in marine environments.

The alloy offers good resistance to biological fouling making the product highly suitable for above-sea and subsea applications, including piping and fittings, pump components and valves. DEF STAN 02-879 is readily weldable and straightforward to fabricate and cold work.

Benefits

- Good strength and toughness
- Produced with tighter controls
- Excellent corrosion resistance



Key Applications

- Flanges, pumps and valves
- Propeller sleeves
- Pipework and fixings

*Chemical Composition (weight %)

	Cu	Ni	Mn	Fe	C	Al	S	B	P	Pb	Si	Bi	Others
min.	Bal	29.00	0.50	0.60									
max.	Bal	32.00	1.50	1.00	0.06	0.03	0.02	0.02	0.01	0.01	0.05	0.002	0.30

* As per DEF STAN 02-879 Annex B

*Physical & Mechanical Properties

Density	0.323 lb/in ³ at 68°F
Tensile Strength (MPa, min)	350
Yield Strength 0.2% (MPa, min)	130
Elongation (%)	36

* As per DEF STAN 02-879 Annex B (cross sections 28-180mm²)

Engineering Applications

The alloy finds use in market sectors including above-sea and subsea, marine, naval, power generation, nuclear, chemical and petrochemical.

The material should be considered for applications requiring excellent corrosion resistance (particularly in salt water) where good levels of strength and toughness are a prerequisite. We specialise in the supply of copper-nickel alloys for such applications.

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