

CW354H (BS EN 12163)

Smiths Advanced Metals

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For marine applications

CW354H is a Euro Norm standard copper-nickel bar product produced to BS EN 12163.

The alloy is an equivalent specified material to copper-nickel 70/30, which, as the name suggests, contains 70% copper and 30% nickel. Iron and manganese are also added in minute quantities in the alloying mix, improving strength and corrosion resistance.

Material Characteristics

CW354H is renowned for improved performance compared to 90/10 copper-nickel alloy, particularly in harsher application environments such as high-velocity water. Strength is also marginally superior while promoting good toughness. Like all copper-nickel alloys, CW354H offers excellent corrosion resistance with additional attractive characteristics, including good pitting and bio-fouling resistance (although 90/10 copper nickel offers superior resistance).

The product also has a moderately high melting point and low electrical conductivity and provides excellent mechanical properties at low temperatures.

Benefits

- Excellent corrosion resistance
- Improved strength
- Good pitting and biofouling resistance



Key Applications

- Pump and valve components
- Above and subsea pipework
- Propeller bore sleeves

*Chemical Composition (weight %)

	Cu	Ni	Mn	Fe	C	S	P	Pb	Co	Sn	Zn	Others
min.	Bal	30.00	0.50	0.40								
max.	Bal	32.00	1.50	1.00	0.05	0.05	0.02	0.02	0.10	0.05	0.50	0.20

* Properties as per BS EN 12163

*Physical & Mechanical Properties

Density	8.94 g/cm ³
Melting Point	1170-1240°C
Elastic modulus	150 GPa
Condition: R340	
UTS	340MPa min
0.2% Proof	120MPa min
Elongation	30% min
Condition: H080	
Hardness	80-110 HBW

* Properties as per BS EN 12163

Commercial Applications

CW354H is ideal for commercial applications in the marine sector, including above-sea and subsea operations.

Heat exchangers, propeller bore sleeves, subsea pipes and pump/valve components all utilise CW354H copper-nickel alloy. We stock CW354H in solid round bars in close incremental sizes. We also provide bar-cutting services via our bulk central warehouse in Biggleswade.

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