ULTIBRON™ -NB

Technical Datasheet

Ultra High Strength Bronze Service. Quality. Value.

Typical Applications

- Aircraft landing gear
- Shafts & pumps
- Gears
- Ship building components
- Marine shafts and bolting
- Valve components
- Thrust washers in high performance IC engines
- Mechanical seals
- Subsea hydraulic & electrical connectors

Key features:

- Very high mechanical properties
- High wear resistance
- Outstanding corrosion resistance in marine applications
- No loss of impact strength down to minus 196 °C
- Hydrogen embrittlement resistance
- Outstanding anti-galling properties
- Good thermal and electrical conductivity
- Very low magnetic permeability
- Excellent biofouling resistance

Product Description

ULTIBRON™ -NB by Smiths Metal Centres Ltd - our own brand of extra high strength copper nickel alloy which also offers outstanding corrosion resistance. ULTIBRON™-NB, also often referred to as a nickel bronze, benefits from the addition of aluminium, manganese and iron to give the alloy a microstructure with an exceptional suite of material characteristics. This high performance alloy boasts a mechanical strength exceeding that of nickel aluminium bronze and this is achieved in the 'as supplied' condition to the benefit of the user. The overall property combination makes the material highly suitable for use in a diverse range of extreme environments, particularly in the marine, offshore oil and gas and aerospace markets.

Related material specifications

- Manufactured in accordance with DTD900-4805
- DIN 2.1504
- Cu15Ni3Al

Corrosion Resistance

Outstanding corrosion resistance in marine environments which is superior to aluminium bronzes and both 90/10 and 70/30 cupronickels.

Availability

Round bar

Weldability

Good weldability

Machinability

Good

Chemical Composition (weight %)

	Ni	Al	Fe	Mn	Cr	Zn	Sn	Mg	Si	Pb	Cu
Min	13.00	2.00	0.60	0.10							
Max	16.00	3.00	1.50	0.50	0.50	0.30	0.20	0.10	0.10	0.05	Bal

Mechanical Properties (minima)

	Ø ≤50mm dia	50mm < Ø ≤80mm dia.	80mm < Ø
0.2% Proof Stress	630 N/mm²	600 N/mm²	555 N/mm²
Ultimate Tensile Strength	830 N/mm²	780 N/mm²	770 N/mm²
Elongation	10%	10%	10%
Hardness	240 HB	225 HB	225 HB

UK Service Centres:

Smiths Belfast	02895 908 897	Smiths Leeds	0113 307 5167
Smiths Biggleswade	01767 604 704	Smiths Manchester	0161 794 8650
Smiths Birmingham	0121 728 4940	Smiths Norwich	01603 789 878
Smiths Bristol	0117 971 2800	Smiths Nottingham	0115 925 4801
Smiths Chelmsford	01245 466 664	Smiths Redruth	01209 315 512
Smiths Gateshead	0191 469 5428	Smiths Verwood	01202 824 347
Smiths Horsham	01403 261 981	Main Office	0845 527 3331

Quality & Testing:

bsi ISO 9001 Quality Management Systems CERTIFIED

UKAS TESTING 1930

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