BRODER METALS GROUP MP35N™ - NACE

MP35N™ is a trademarked grade produced by Latrobe Speciality Steel, a subsidiary of Carpenter Technology in the USA, and the trademark is owned by SPS Technologies Inc.

This data sheet covers material produced for optimum corrosion resistance and to comply with the requirements of NACE MR0175.

MP35N in its NACE variant offers exceptional stress corrosion cracking (SCC) resistance for harsh environments such as hydrogen sulphide, salt water and other chloride environments, as well as resists attack from mineral acids (nitric, hydrochloric and sulphur). The material has exceptional resistance to crevice and stress corrosion cracking in sea water and other hostile environments.

NACE material is ideally suited for oil field equipment such as fasteners, springs, non-magnetic electrical components, instrument parts, valve components, high pressure door fittings, actuators, seals, shafts and other components.

Melting: MP35N™ is produced by vacuum induction melting followed by VAC-ARC remelting to provide exceptional control of chemistry and ingot solidification.

MP35N™ has a face centred cubic structure matrix of cobalt and nickel, in which chromium and molybdenum are soluble at elevated temperatures. The fcc structure persists upon cooling to room temperature and below. Thereafter the combination of cold work and ageing temperature determines that the maximum CRA properties are achieved.

ASTM Grain size is 4 or finer.

We hold stock from 12.7 mm (1/2") to 76.2 mm (3"), material can also be supplied as cold drawn tubing on a lead-time.

Diameter tolerance +/- 0.003" (0.076mm). Density 8.43 h/cm^3.

Other variants available include AMS 5844 (solution treated and cold drawn) and AMS 5845 (solution treated, cold drawn and aged) - see separate data sheet.

Chemistry

Co	Ni	Cr	Mo	C	Mn	Si	P	S	Fe	Ti	B
Balance (usually about 35%)	33 - 37%	19 - 21%	9 - 10.5%	0.025% max	0.15% max	0.15% max	0.015% max	0.01% max	1% max	1% max	0.15% max

+44 (0)114 232 9241

sales@broder-metals-group.com

www.broder-metals-group.com

BRODER METALS GROUP MP35N™ - NACE

Heat Treatment

Treatment	Temperature	Time	Cooling
Solution Treat	1900 -1925 deg F	4 – 8 hours	Air
Ageing Options NACE MR 0175			
	1300 deg F	4 hours min	Air
	1350 deg F	4 hours min	Air
	1425 deg F	6 hours min	Air

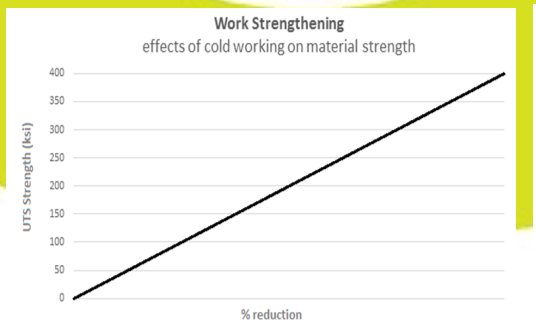
Mechanicals

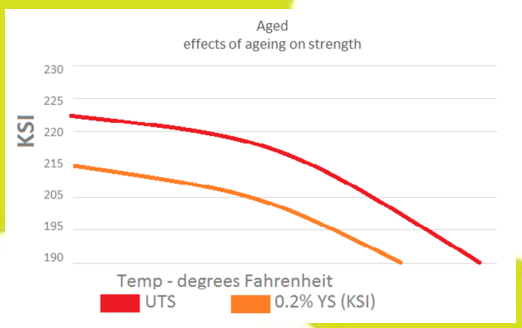
Spec (aging time / temp)	Guaranteed minimum properties				
Acc to NACE MR 0175	UTS (ksi)	YS (0.2%) ksi	Elong % (4D)	RA %	HRC (max)
Age 1300 deg F / Time 4 hours	220	210	10	40	51
Age 1350 deg F / Time 4 hours	210	200	10	40	51
Age 1425 deg F / Time 6 hours	190	180	10	40	51

Values are not provided for 1450 deg F / 4 hours. The above are only guaranteed up to 2” dia.

Mechanical Tests are conducted at room temperature in accordance with ASTM E8; hardness in accordance with ASTM E18; Macrotech in accordance with ASTM A604; Grain Size in accordance with ASTM E112.

Shear strength: bar sizes up to 1” (25.4 mm) can be guaranteed to a minimum shear strength of 150 ksi. Bar sizes of a diameter largest than 1” are considered capable of meeting the 150 ksi minimum shear strength value, but this is not guaranteed.





+44 (0)114 232 9241

sales@broder-metals-group.com

www.broder-metals-group.com