

MP35N[®] NACE Nickel Cobalt Alloy

MP35N[®] NACE NICKEL COBALT ALLOY DATASHEET

MP35N[®] is a Multiphase[®] cobalt nickel-based superalloy, consisting of 35% Nickel and 35% Cobalt. MP35N[®] is produced using a 2-step melting process, the first step is a vacuum induction melted (VIM), this is then followed by vacuum arc remelted (VAR). This 2-step melt process ensures superior cleanliness and minimizes non-metallic inclusions and residual elements (such as carbon), that have deleterious effects on mechanicals and corrosion resistance. MP35N[®] NACE is produced specifically for use in sour gas (H₂S) service. It is produced by aging, to restrict hardness and limit the susceptibility to cracking in these environments.

Can be used in various industry/applications based on the desired condition and application use. Common industry/applications are: Sour Gas, Aerospace, Oil & Gas, Cryogenic, Medical & Dental equipment.

Product forms include round bar.

Standards

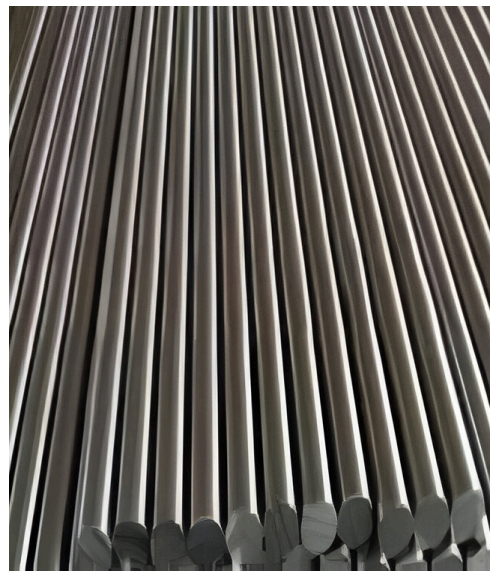
- UNS R30035
- NACE MR0175

Physical Properties

- Density: 0.304LB/in³ (8.43g/cm³)
- Melting Point: 2399–2620°F (1315–1440°C)
- Modulus of Elasticity: 34.0x10⁶psi (234 GPa)

Characteristics

- Excellent corrosion resistance.
- Superior strength and toughness.
- Non-Magnetic.



Chemical Composition

	C	Mn	S	P	Si	Cr	Ni	Mo	Ti	Fe
MIN	-	-	-	-	-	19.00	33	9	-	-
MAX	0.025	0.15	0.015	0.15	0.01	21.00	37	10.50	1.00	1.00

Note - Co: Remainder

Mechanical Properties

	Aging Temp °F (°C)	Aging Time	Tensile (min) KSI (Mpa)	Yield (min) KSI (Mpa)	Elongation (min) %	Reduction of Area (min) %	Hardness HRC (BHN)
≤2.00	1425 (773)	4 Hrs	190 (1310)	180 (1241)	10%	40%	51 (495)
≤2.00	1350 (732)	4 Hrs	210 (1447)	200 (1378)	10%	40%	51 (495)
≤2.00	1300 (704)	4 Hrs	220 (1516)	210 (1447)	10%	40%	51 (495)
>2.00–3.25	1425 (773)	4 Hrs	170 (1172)	160 (1103)	12%	40%	51 (495)
>2.00–3.25	1350 (732)	4 Hrs	175 (1206)	165 (1137)	12%	40%	51 (495)
>2.00–3.25	1300 (704)	4 Hrs	185 (1275)	175 (1206)	12%	40%	51 (495)

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SPECIALTY STEEL SUPPLY
19201 CIRCLE LAKE DR
PINEHURST, TX 77362
Call for a quote (281) 821-7111



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