

## Broder Aerospace

### AMS5844 (with AMS5845 capability tests)

#### COMMON NAMES:

MP35N™

ATI 35N™

UNS R30035

#### FORM & USE:

This material is a high-strength, highly corrosion resistant alloy. It is used for applications requiring a combination of high strength, good tension-tension fatigue strength, toughness, ductility and exceptionally good corrosion resistance after ageing, but usage is not limited to such applications as the material's weight to strength ratio is very attractive. We stock round bars.



Note:

1. AMS5844 only covers bar material up to 44.4 mm dia. Above that size, properties are as achieved by the producing mill.
2. AMS5844 is solution annealed and cold drawn
3. AMS5845 is AMS5844 material that has been aged.

#### SIZES STOCKED:

11.75 mm dia to 50.8 mm dia. Other sizes can be offered on request.

#### GENERAL:

Machinists find that they prefer to machine in the AMS5844 condition and then age the component to achieve the AMS5845 capability results indicated.

#### CHEMISTRY:

C	Mn	Si	P	S	Cr	Ni	Mo	Ti	Fe	Co
<0.025	<0.15	<0.15	>0.015	0.010	19.00	33.00	9.00	<1.00	<1.00	Balance
					-	-	-			
					21.00	37.00	10.50			

#### MELT PRACTICE:

Multiple melted using vacuum induction melting followed by consumable electrode vacuum melting.

#### FINISH:

Solution heated treated and work strengthen (cold drawn)

#### HEAT TREATMENT:

Solution heat treated at 1038°C – 1052°C for 4-8 hours, and air cooled. Pyrometry is in accordance with AMS2750.

For AMS5845 capability testing, the sample piece is aged at 538°C to 649°C, for 4-4.5 hours and air cooled.

**MATERIAL PROPERTIES:**

Grain size: ASTM No. 4 or finer, measured in accordance with ASTM E112.

Microstructure: does not contain more than 2% free ferrite, as determined according to AMS2315

Tensile Properties:

	Minimum Tensile Strength Ksi	Minimum Yield strength at 0.2% Offset Ksi	Minimum Elongation in 2" or 4d %	Minimum Reduction of Area %	Hardness
Solution Heat Treated & work strengthened	-	-	-	-	>38 HRC
As AMS5845 – up to 44.4 mm dia					
Longitudinal direction	260	230	8	35	>44 HRC-

The AMS standard states that material shall not be rejected on hardness if the tensile properties are acceptable.

Tolerances are as per AMS2261.

Full material traceability, with anti-counterfeit measures, is maintained at all times, and full certification is provided, including producer's name and country where the material was melted.

For a quotation please telephone ++44 (0)114 232 9243, email [sales@broder-aerospace.com](mailto:sales@broder-aerospace.com) or use the quotation page on our website: <http://www.broder-aerospace.com>