



NIMONIC[®] 80A



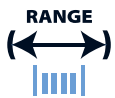
Key Features

- Largely superseded by Nimonic 90 & Inconel X-750
- Still specified for nuclear applications due to low cobalt content
- Age hardenable
- ☑ High temperature dynamic applications

IMPORTANT

We will manufacture to your required mechanical properties.

key advantages to you, *our customer*



0.025mm to 21mm
(.001" to .827")



Order 3m to 3t
(10 ft to 6000 Lbs)



Delivery:
within 3 weeks



Wire to your spec



E.M.S available



Technical support

NIMONIC[®] 80A available in:-

- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

Packaging

- Coils
- Spools
- Bars or lengths



*Trade name of Special Metals Group of Companies.

NIMONIC® 80A



Chemical Composition			Specifications	Key Features	Typical Applications
Element	Min %	Max %	ASTM B637 BS 3076 NA 20 BS HR 1 BS HR 601 Designations W.Nr. 2.4952 W.Nr. 2.4631 UNS N07080 AWS 031	Largely superseded by Nimonic 90 & Inconel X-750 Still specified for nuclear applications due to low cobalt content Age hardenable ☑ High temperature dynamic applications	Gas turbine components Nuclear industry Fasteners
C	0.04	0.10			
Si	-	1.00			
Mn	-	1.00			
S	-	0.015			
Ag	-	0.0005			
Al	1.00	1.80			
B	-	0.008			
Bi	-	0.0001			
Co	-	2.00			
Cr	18.00	21.00			
Cu	-	0.20			
Fe	-	1.50			
Pb	-	0.002			
Ti	1.8	2.70			
Ni	BAL				

Density	8.19 g/cm ³	0.296 lb/in ³
Melting Point	1365 °C	2490 °F
Coefficient of Expansion	12.7 µm/m °C (20 – 100 °C)	7.1 x 10 ⁻⁶ in/in °F (70 – 212 °F)
Modulus of Rigidity	85 kN/mm ²	12328 ksi
Modulus of Elasticity	222 kN/mm ²	32199 ksi

Heat Treatment of Finished Parts					
Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Annealed	Age Harden	700	1290	16	Air
Spring Temper	Age Harden	600	1110	16	Air

Properties				
Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm ²	ksi	°C	°F
Annealed	800 – 1000	116 – 145	-	-
Annealed + Aged	1200 – 1400	174 – 203	up to 550	up to 1020
Spring Temper	1300 – 1500	189 – 218	-	-
Spring Temper + Aged	1500 – 1800	218 – 261	up to 350	up to 660

The above tensile strength ranges are typical. If you require different please ask.

☑ Dynamic applications = active/lively/changing