



NIMONIC® 90

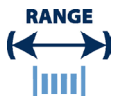
Key Features

- High stress rupture strength and high creep resistance at high temperatures
- Good resistance to high-temperature corrosion and oxidation
- Age hardenable
- ^^High temperature dynamic applications

IMPORTANT

We will manufacture to your required mechanical properties.

key advantages to you, our customer



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



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



DELIVERY
3
WEEKS
Delivery:
within 3 weeks



Wire to your spec



E.M.S. available



HOW CAN I HELP?
Technical support

NIMONIC® 90 available in:-

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

Packaging

- Coils
- Spools
- Bars or lengths





Chemical Composition			Specifications	Key Features	Typical Applications
Element	Min %	Max %	AMS 5829 BS HR 501 BS HR 502 BS HR 503 BS 3075 NA 19 ISO 15156-3 (NACE MR 0175) NCK 20TA Designations W.Nr. 2.4632 W.Nr. 2.4969 UNS N07090 AWS 030	High stress rupture strength and high creep resistance at high temperatures Good resistance to high-temperature corrosion and oxidation Age hardenable ^^High temperature dynamic applications	Aerospace fasteners
Ni	BAL				
Cr	18.00	21.00			
Fe	-	1.50			
Ti	2.00	3.00			
Mn	-	1.00			
Si	-	1.00			
C	-	0.13			
Al	1.00	2.00			
Co	15.00	21.00			
S	-	0.015			
Cu	-	0.20			
B	-	0.02			
Pb	-	0.002			
Zr	-	0.15			
Ag	-	0.0005			
Bi	-	0.0001			

Density	8.18 g/cm ³	0.296 lb/in ³
Melting Point	1370 °C	2500 °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	82.5 kN/mm ²	11966 ksi
Modulus of Elasticity (Annealed + Aged) (Spring Temper + Aged)	213 kN/mm ² 227 / 240 kN/mm ²	30894 ksi 32924 / 34810 ksi

Heat Treatment of Finished Parts					
Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Annealed	Age Harden	750	1380	4	Air
Spring Temper	Age Harden	650	1200	4	Air
Spring Temper	Age Harden	600	1100	16	Air

Properties				
Condition	Approx. tensile strength		Approx. operating temperature depending on load^^ and environment	
	N/mm ²	ksi	°C	°F
Annealed	<1000	<145	-	-
Annealed + Aged	1200 – 1400	174 – 203	up to 550	up to 1020
Spring Temper	1200 – 1500	175 – 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