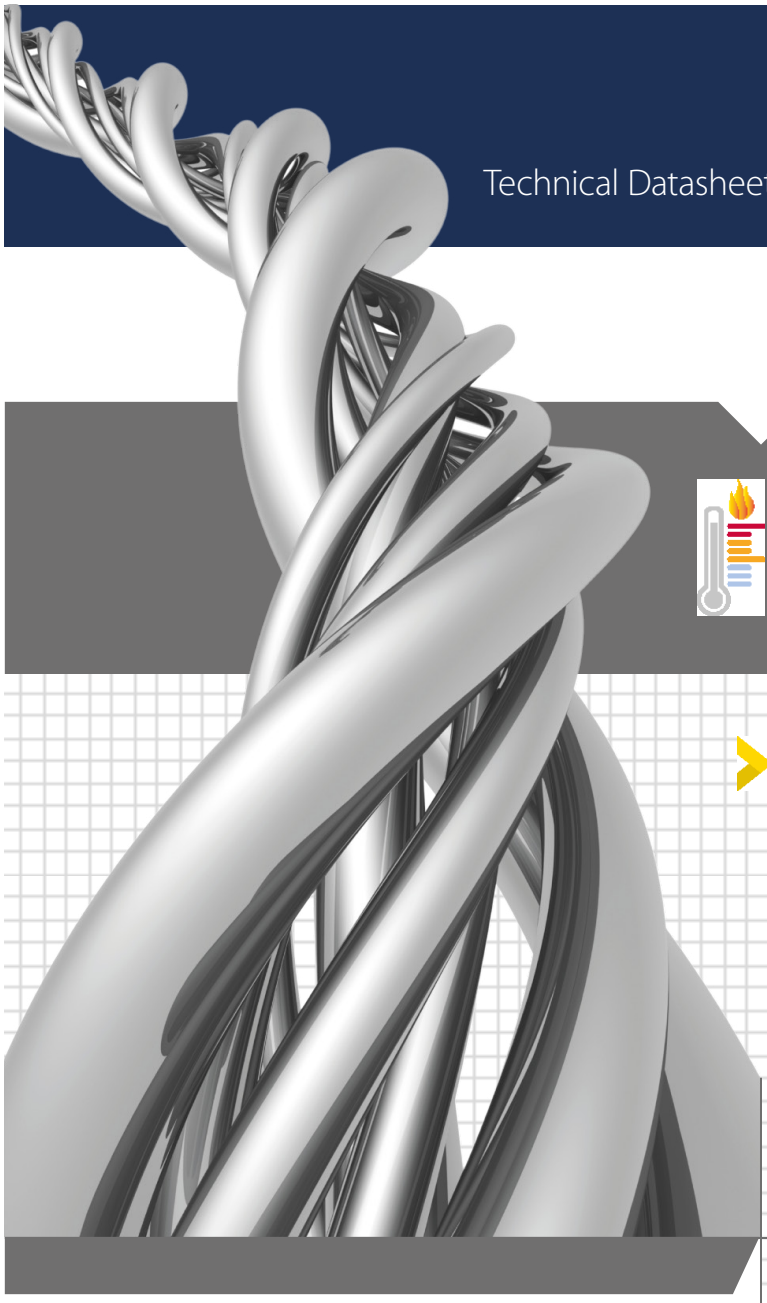


NIMONIC® 80A

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- Largely superseded by Nimonic 90 & Inconel X-750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*

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

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

DELIVERY 3 WEEKS
Delivery: within 3 weeks

Wire to your spec

E.M.S available

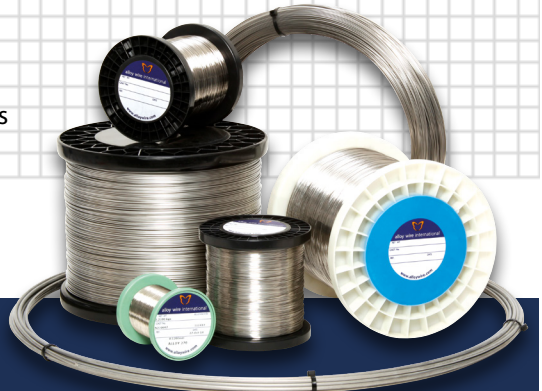
HOW CAN I HELP?
Technical support

NIMONIC® 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.

Technical Datasheet **AWS 031 Rev.2**

NIMONIC® 80A

alloy wire international

Chemical Composition		
Element	Min %	Max %
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	

Specifications

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

Key Features

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Typical Applications

Gas turbine components

Nuclear industry Fasteners

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 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	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*

Narrowboat Way, Hurst Business Park, Brierley Hill, West Midlands, DY5 1UF, UK
t +44 (0)1384 262022 e sales@alloywire.com w alloywire.com