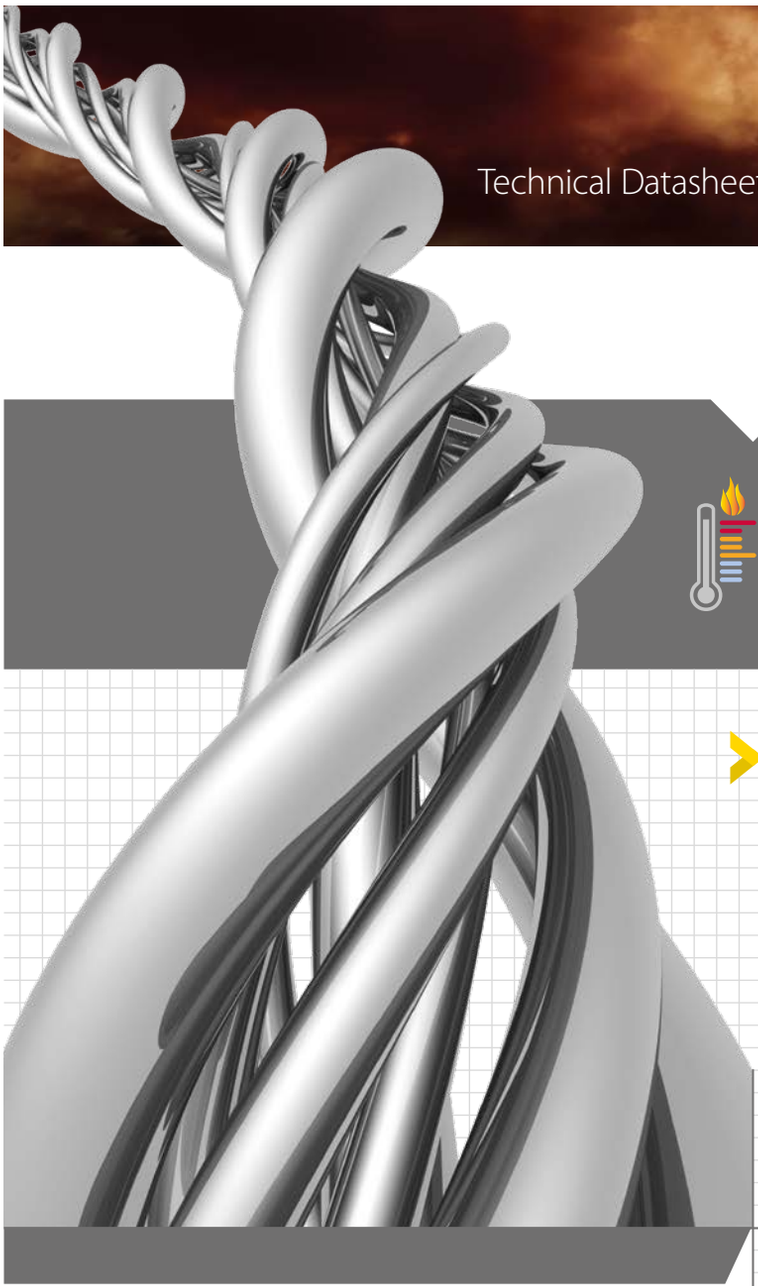
alloy wire® international



INCONEL® 718

Key Features

Good creep rupture strength at high temperatures

Higher strength than Inconel X-750

Better mechanical properties at lower temperatures than Nimonic 90 and Inconel X-750

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

INCONEL® 718 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 013 Rev.1**

INCONEL® 718

alloy wire international

Chemical Composition		
Element	Min %	Max %
C	-	0.08
Mn	-	0.35
Si	-	0.35
P	-	0.015
S	-	0.015
Cr	17.00	21.00
Ni	50.00	55.00
Mo	2.80	3.30
Nb/Cb	4.75	5.50
Ti	0.65	1.15
Al	0.20	0.80
Co	-	1.00
Ta	-	0.05
B	-	0.006
Cu	-	0.30
Pb	-	0.0005
Bi	-	0.00003
Se	-	0.0003
Fe	BAL	

Specifications

AMS 5662
AMS 5663
AMS 5832
AMS 5962
ASTM B637
GE B5OTF14/15
GE B14H89
ISO 15156-3
(NACE MR 0175)

Designations

W.Nr. 2.4668
UNS N07718
AWS 013

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Typical Applications

Gas Turbines
Rocket Motors
Space Craft
Nuclear Reactors
Pumps

Density	8.19 g/cm^3	0.296 lb/in^3
Melting Point	1336 °C	2437 °F
Coefficient of Expansion	13.0 µm/m °C (20 – 100 °C)	7.2 x 10^{-6} in/in °F (70 – 212 °F)
Modulus of Rigidity	77.2 kN/mm^2	11197 ksi
Modulus of Elasticity	204.9 kN/mm^2	29719 ksi

Heat Treatment of Finished Parts

Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
No. 1 Temper or Spring Temper	Anneal Age Harden Total Age	980 720 620	1800 1330 1150	1 8 18	Air Furnace Air
No. 1 Temper or Spring Temper *(for ISO 15156-3 / NACE MR 0175)*	Anneal Age Harden	1010 790	1850 1455	2 6	Air Air
No. 1 Temper or Spring Temper	Age Harden Total Age	720 620	1330 1150	8 18	Furnace Air

Properties

Condition	Approx. tensile strength		Approx. operating temperature depending on load^^ and environment	
	N/mm^2	ksi	°C	°F
Annealed	800 – 1000	116 – 145	-	-
No. 1 Temper	1000 – 1200	145 – 175	-	-
Spring Temper	1300 – 1500	189 – 218	-	-
No. 1 Temper + Annealed + Aged	1250 – 1450	181 – 210	-200 to +550	-330 to +1020
No. 1 Temper + Aged	1520 – 1720	220 – 250	Contact Alloy Wire Technical Dept.	
Spring Temper + Annealed + Aged	1250 – 1450	181 – 210	-200 to +550	-330 to +1020
Spring Temper + Aged	1700 – 1950	247 – 283	Contact Alloy Wire Technical Dept.	

The above tensile strength ranges are typical. If you require different please ask. **^^Dynamic applications** = *active/lively/changing*

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