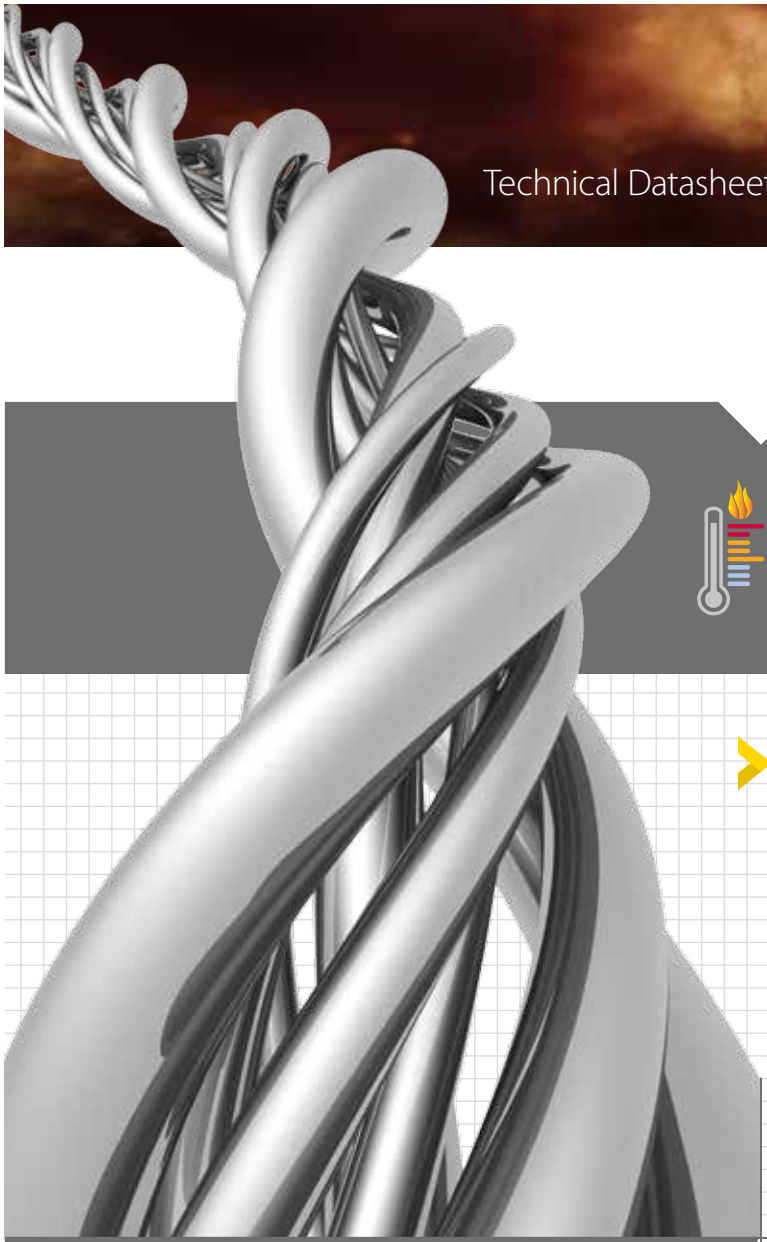
Technical Datasheet **AWS 170 Rev.1**

alloy wire international



WASPALOY

Key Features

- Very high strength at elevated temperatures
- Strength is generally comparable to that of Rene 41 and generally superior to Inconel 718
- 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

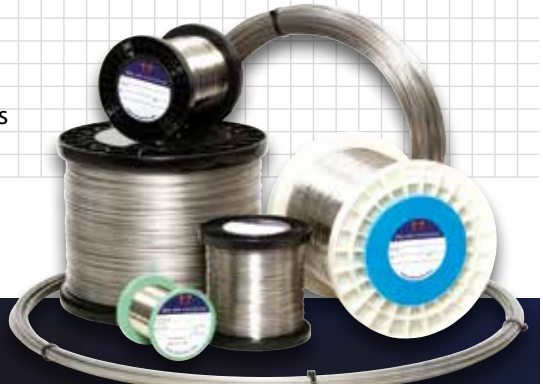
HOW CAN I HELP?
Technical support

WASPALOY available in:-

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

Packaging

- Coils
- Spools
- Bars or lengths



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Chemical Composition		
Element	Min %	Max %
C	0.02	0.10
Mn	-	0.10
Si	-	0.10
P	-	0.010
S	-	0.010
Cr	18.00	21.00
Co	12.00	15.00
Mo	3.50	5.00
Ti	2.75	3.50
Al	1.20	1.60
B	0.003	0.010
Zr	-	0.04
Fe	-	2.00
Cu	-	0.10
Ni	BAL	

Specifications

AMS 5544
AMS 5706
AMS 5708
AMS 5828
ASTM B637

Designations

W.Nr. 2.4654
UNS N07001
AWS 170

Key Features

Very high strength at elevated temperatures

Strength is generally comparable to that of Rene 41 and generally superior to Inconel 718

Age hardenable

High temperature dynamic applications

Typical Applications

Gas turbine engine parts
Aerospace components
Springs and fasteners

Density	8.16 g/cm^3	0.295 lb/in^3
Melting Point	1330 °C	2425 °F
Coefficient of Expansion	12.2 µm/m °C (20 – 100 °C)	6.8 x 10^{-6} in/in °F (70 – 212 °F)
Modulus of Rigidity	81 kN/mm^2	11750 ksi
Modulus of Elasticity	211.0 kN/mm^2	30600 ksi

Heat Treatment of Finished Parts

Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Annealed	Stabilize Age Harden	843 760	1550 1400	4 16	Air Air
Spring Temper	Anneal Stabilize Age Harden	1050 843 760	1920 1550 1400	4 4 16	Air Air Air

Properties

Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm^2	ksi	°C	°F
Solution Annealed	800 – 1100	116 – 159	-	-
Solution Annealed + Aged	1300 – 1500	189 – 218	up to +550	up to +1020
Spring Temper	1300 – 1600	189 – 232	-	-
Spring Temper + Annealed + Aged	1300 – 1500	189 – 218	up to +550	up to +1020

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

Dynamic applications = *active/lively/changing*

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