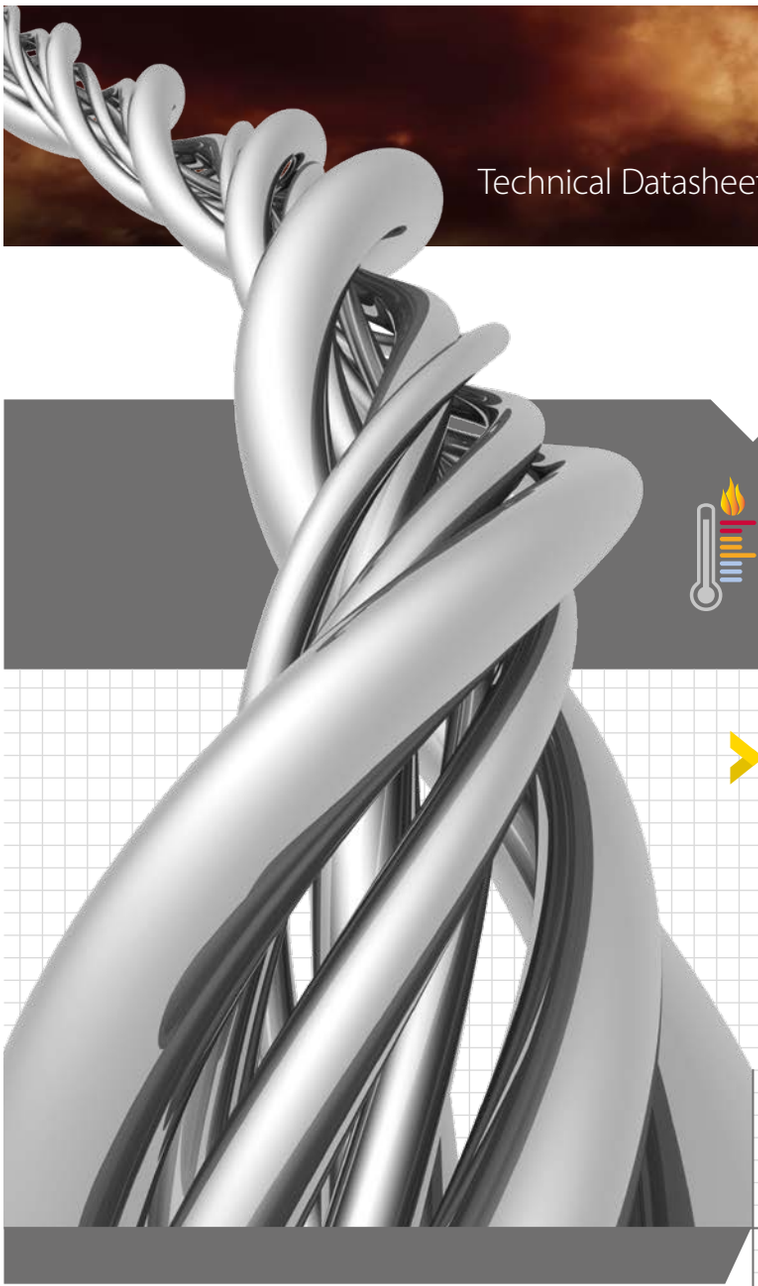
Technical Datasheet **AWS 170 Rev.1**

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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WASPALOY

alloy wire international

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

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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 depending on load^^ and environment	
	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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