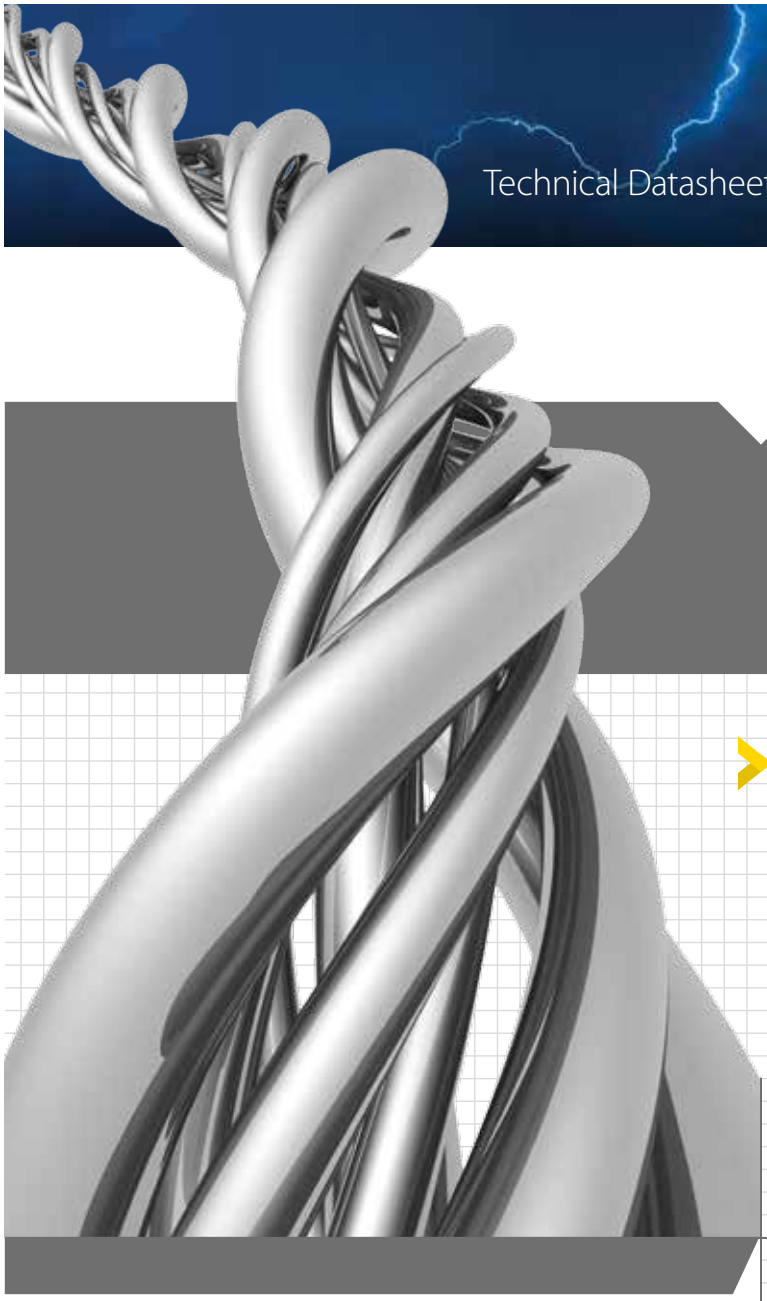
alloy wire international



HEATSEAL 29

Key Features

Having low expansion as it's temperature increases makes it an ideal heating element wire for heat sealing (plastic bag welding) over a long straight length

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

HEATSEAL 29 available in:-

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

Packaging

- Coils
- Spools
- Bars or lengths

Technical Datasheet **AWS 094 Rev.1**

HEATSEAL 29

alloy wire international

Chemical Composition			Designations	Key Features	Typical Applications
Element	Min %	Max %	AWS 094	Having low expansion as it's temperature increases makes it an ideal heating element wire for heat sealing (plastic bag welding) over a long straight length	Heat sealing (plastic bag welding) long lengths of plastic bags where low expansion of the wire is important to ensure straightness of the weld Examples include heat sealing plastic bags for bed mattress's
Fe	53.00 nominal				
Ni	29.00 nominal				
Co	17.00 nominal				
Mn	-	0.50			
Si	-	0.20			
C	-	0.04			
Al	-	0.10			
Mg	-	0.10			
Zr	-	0.10			
Ti	-	0.10			
Cu	-	0.20			
Cr	-	0.20			
Mo	-	0.20			

Density	8.16 g/cm^3	0.295 lb/in^3
Melting Point	1450 °C	2640 °F
Inflection Point	450 °C	840 °F
Thermal Conductivity	16.7 W/m• °C	116 btu•in/ft^2•h °F
Coefficient of Expansion	6.0 µm/m °C (20 – 100 °C) 4.6 – 5.2 µm/m °C (20 – 400 °C)	3.3 x 10^{-6} in/in °F (70 – 212 °F) 2.6 – 2.9 x 10^{-6} in/in °F (70 – 752 °F)

Heat Treatment of Finished Parts

The Heatseal 29 alloy is usually supplied and used in the annealed condition (residual cold work distorts the coefficients of thermal expansion). Annealing times may vary due to section thickness. Oxidizing time and temperature to be selected depending on required oxide thickness.

	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
	Anneal	850 – 1000	1560 – 1830	0.5	Air or water
To prepare for glass to metal sealing	Decarburization	900 – 1050	1650 – 1920	1	Air or water
If a metal oxide interface is required *(time and temperature depend on required oxide thickness)*	Oxidize	600 – 1000	1110 – 1830	1	Air

Properties				
Condition	**Approx. tensile strength**		**Approx. operating temperature**	
	N/mm^2	**ksi**	**°C**	**°F**
Annealed	450 – 550	65 – 80	up to +400	up to +750
Hard Drawn	700 – 900	102 – 131	up to +400	up to +750

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

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