

## HEATSEAL 29

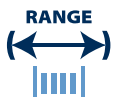
### Key Features

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*



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



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



Delivery:  
within 3 weeks



Wire to your spec



E.M.S available



Technical support

### HEATSEAL 29 available in:-

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

### Packaging

- Coils
- Spools
- Bars or lengths



# HEATSEAL 29



Chemical Composition			Designations	Key Features	Typical Applications
Element	Min %	Max %			
Fe	53.00 nominal		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
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			

<b>Density</b>	8.16 g/cm <sup>3</sup>	0.295 lb/in <sup>3</sup>
<b>Melting Point</b>	1450 °C	2640 °F
<b>Inflection Point</b>	450 °C	840 °F
<b>Thermal Conductivity</b>	16.7 W/m* °C	116 btu*in/ft <sup>2</sup> *h °F
<b>Coefficient of Expansion</b>	6.0 µm/m °C (20 – 100 °C) 4.6 – 5.2 µm/m °C (20 – 400 °C)	3.3 x 10 <sup>-6</sup> in/in °F (70 – 212 °F) 2.6 – 2.9 x 10 <sup>-6</sup> 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 <i>(time and temperature depend on required oxide thickness)</i>	Oxidize	600 – 1000	1110 – 1830	1	Air

### Properties

Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm <sup>2</sup>	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.