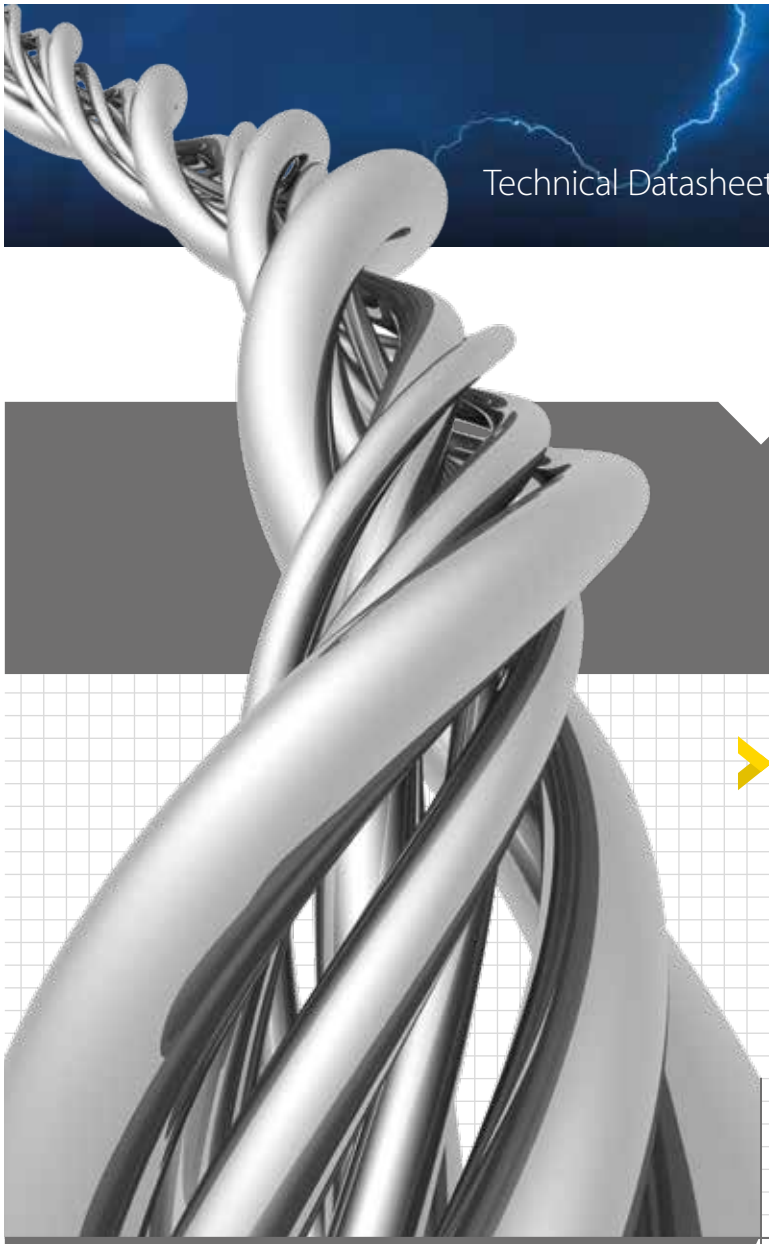
alloy wire® international



NILO® 48

Key Features

Coefficient of thermal expansion designed to match that of soft lead and soda-lime glasses

High inflection point

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

NILO® 48 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 092 Rev.2**

NILO® 48

alloy wire international

Chemical Composition			Specifications	Key Features	Typical Applications
Element	Min %	Max %	ASTM F30	Coefficient of thermal expansion designed to match that of soft lead and soda-lime glasses High inflection point	Industrial thermostats that operate at temperatures up to 450 °C (840 °F) Glass to metal seals
Ni	48.00 nominal				
Fe	BAL		**Designations**		
Mn	-	0.80	W.Nr. 1.3922 W.Nr. 1.3926 W.Nr. 1.3927 UNS K94800 AWS 092		
Si	-	0.30			
C	-	0.05			
Cr	-	0.25			
P	-	0.025			
S	-	0.03			
Al	-	0.10			

Density	8.2 g/cm^3	0.296 lb/in^3
Melting Point	1450 °C	2640 °F
Inflection Point	460 °C	860 °F
Thermal Conductivity	16.7 W/m• °C	116 btu•in/ft^2•h °F
Coefficient of Expansion	8.5 µm/m °C (20 – 100 °C) 8.3 – 9.3 µm/m °C (20 – 300 °C)	4.7 x 10^{-6} in/in °F (70 – 212 °F) 4.6 – 5.2 x 10^{-6} in/in °F (70 – 572 °F)

Heat Treatment of Finished Parts

The Nilo alloys are 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.

Type	Temperature		Time (Hr)	Cooling
	°C	°F		
Anneal	850 – 1000	1560 – 1830	0.5	Air or water

Properties

Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm^2	ksi	°C	°F
Annealed	<600	<87	up to +450	up to +840
Hard Drawn	700 – 900	102 – 131	up to +450	up to +840

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

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