

NILO[®] 48

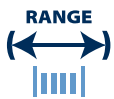
Key Features

- 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*



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

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.

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		
Si	-	0.30	W.Nr. 1.3926		
C	-	0.05	W.Nr. 1.3927		
Cr	-	0.25	UNS K94800		
P	-	0.025	AWS 092		
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	450 – 550	65 – 80	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.