

Controlled expansion

IMPHY N52

IMPHY N52 is an iron-nickel controlled expansion alloy suitable to soft glass sealing, with optimal chemical composition to obtain hermetic seals. Typical applications are hermetic feedtroughs, reed relays.

International standards

ASTM F30 - UNS N14052 - DIN 17745 - W 2.4478 - A54-301

Chemical composition

Elements (% weight)	Ni	Fe
Typical value	52	Bal

Standard delivery & dimensions available

Form	Strip - Sheet
Thickness	0.10 to 3.50 mm
Width	10 to 640 mm
Length	500 to 3500 mm
Temper	Annealed / Hard

Physical properties

Properties	Units	Values
Density	g/cm ⁻³	8.20
Resistivity at 20°	μohm.cm	44
Melting T°	°C	1425
Curie T°	°C	500
Specific heat	J/g °C	0.50
Thermal conductivity at 20°	W/m/°C	16.7
	30 to 450°C	30 to 550°C
Average linear CTE (10 ⁻⁶ /°C)	9.7 to 10.2	10.0 to 10.5

Mechanical properties (typical values)

Temper	Hardness Hv	Ultimate strength (MPa)	Yield strength (MPa)	Elongation %	Young modulus KN/mm ²
Annealed	140	540	270	30	165
Hard	220	740	710	5	

Available Forms

IMPHY N52 is delivered in cold rolled strip. Contact us for other specific formats.

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The data enclosed in this document are given as indicative values and correspond to our standard product.

Different specific requirements are subject to discussion and formal approval by Aperam Alloys Imphy. For further information or special request, please contact us.

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