

Cold Rolled Strips

IMPHY SUPRA 50 - SUPRA 50SP

IMPHY SUPRA50 /SUPRA50SP is an iron-nickel soft magnetic alloys with maximum saturation induction and high permeability. Main applications are relays, gas safety, sensors, watches, shieldings.

International standards

ASTM A 753, DIN 17405, IEC 404, JIS C 2531

Chemical composition

Elements (% weight)	Ni	Fe
Typical value	48	Bal

Physical properties

Density (g/cm ³)	Melting T° (°C - °F)	Curie T° (°C - °F)	Thermal expansion (10 ⁻⁶ .°K ⁻¹)	Resistivity (μΩ.cm)	Thermal conduction (W/°Km)	Specific heat (J.Kg ⁻¹ .°K ⁻¹)
8.2	1425 - 2597	450 - 842	8	45	13	500

Magnetic properties*

Conditions	Thickness (mm - ")	Saturation induction (G - T at 10Oe ≈ 800 A/m)	Coercive force (Oe - A/m)	Permeability	Losses (W/kg) 400Hz - 1T
Direct Current	0,35 - 0.0138	15000 - 1,50	0.035 - 2,8	μ _{max} : 200000	-
Alternat. Current	0,35 - 0.0138	15000 - 1,50	-	μ _{5z} : 12500	0,15

* Typical values measured on rings sample thickness. 0,350.0138/ « after heat treatment at 1150°C /2102 °F in pure & dry Hydrogen cooling rate: not critical, 50 to 100°C/hour).

Mechanical properties*

Temper	Hardness HV	Grain size	Tensile strength (MPa - KSI)	Yield strength (MPa - KSI)	Elongation %
Annealed	140	9	500 - 72	280 - 41	35
Hard	250	-	900 - 130	1030 - 149	3

* Typical values for material to be tested in accordance with NF EN 10002, NF EN ISO 6507, NFA 04102

Standard delivery & dimensions available

Form*	Coil - Sheet
Thickness (mm / ")	0.10 - 3.5 / .004 - .138
Width (mm / ")	10 - 640 / 0.4 - 25.2
Length (mm / ")	500 - 3500 / 19.7 - 137.8
Temper	Annealed / Hard

* Depending on thickness, width & temper

Available Forms

IMPHY SUPRA50 /SUPRA50SP is delivered in cold rolled strip. Contact us for other specific formats.

©April 2025, Aperam Alloys Imphy
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.

IMPHY® is a registered trademark of Aperam Alloys Imphy



www.aperam.com
nickel.alloys@aperam.com



Aperam Alloys Imphy
B.P. 1
Avenue Jean Jaurès
F- 58160 Imphy

Aperam Alloys Imphy