Cold Rolled Strip

1. Description, standards & chemical

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 (% weight)

	Ni	Fe
Typical value	48	Bal

2. Physical properties

Density (g/cm³)	Melting T° (°C - °F)	Curie T° (°C - °F)	Thermal expansion (10^{-6}.°K^{-1})	Resistivity (µΩcm)	Thermal conduction (W/°Km)	Specific heat (J.Kg^{-1}.°K^{-1})
8.2	1425 - 2597	450 - 842	8	45	13	500

3. Magnetic properties *

Conditions	Thickness (mm - ")	Saturation induction (G - T at 10 Oe ≈ 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	µmax: 200 000	-
Alternat. Current	0,35 - 0.0138	15000 - 1,50	-	µ5z: 12 500	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).*

4. Mechanical properties (typical values)

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

5. Standard delivery & dimensions available

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

** Depending on thickness, width & temper*

The data enclosed in this document are only 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.

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

Tel + 33 3 86 21 30 00
Fax + 33 3 86 21 31 00
nickel.alloys@aperam.com
www.aperam.com/alloys-imphy