Cold Rolled Strip

1. Description, standards & chemical

SUPERMIMPHY LLS is nickel-iron soft magnetic alloy suitable for ring cores or strip wound cores used for sensors, transformers, Ground Fault Interruptors ... It has low decreasing magnetic properties under mechanical stress.

International standards

DIN 17405, IEC 404, JIS C 2531

Chemical composition (%weight)

	Ni	Mo	Fe
Typical value	81	6	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})
8.7	1450 - 2642	420 – 752	12	60	19	460

3. Magnetic properties *

Conditions	Thickness (mm - ")	Saturation induction (G - T at 10 Oe ≈ 800 A/m)	Coercive force (Oe - A/m)	Permeability (at 5 mOe ≈ 0.4 A/m)
DC	0.34 - 0.0134	6600 - 0.66	0.005 - 0.4	300000
AC 60Hz	0.34 - 0.0134	-	-	70000

** Typical values measured on rings sample th. 0.34mm / 0.0134" after heat treatment at 1170°C / 2138°F in pure & dry Hydrogen after proper cooling*

4. Mechanical properties *

Temper	Hardness (HV)	Grain size	Tensile strength (MPa - KSI)	Yield strength (MPa - KSI)	Elongation (%)	Young's modulus (MPa - KSI)
Annealed	160	8	650 - 94	280 - 41	35	210000 - 30450
Hard	320	-	1050 - 152	1030 - 149	3	230000 - 33350

** 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 / ")	Temper
Coil	0.1 to 1 / .004 to .04	10 to 640 / .4 to 25.2	Hard - Soft

** 0.2mm / 0.0079" thickness is commonly produced*

The data enclosed in this document are only given as indicative values and correspond to our standard product. Different specific requirement are subject to discussion and formal approval by Aperam Alloys Imphy. For further information or special request, please contact us.

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