

Cold Rolled Strip



1. Description, standards & chemical

PERMIMPHY R2 is nickel-iron soft magnetic alloy suitable for laminations used for recording head cores ... Its main properties are high wear resistance, reduced magnetic deterioration due to coating stresses / enhanced saturation induction.

International standards

DIN 17405, IEC 404, JIS C 2531

Chemical composition (% weight)

	Ni	Nb	Mo	Fe
Typical value	81	3.6	1	Bal

2. Physical properties

Density (g/cm ³)	Melting T° (°C - °F)	Curie T° (°C - °F)	Thermal expansion (10 ⁻⁶ .K ⁻¹)	Resistivity (μΩcm)	Thermal conduction (W/°K.m)	Specific heat (J.Kg ⁻¹ .K ⁻¹)
8.7	1450 - 2642	400 - 752	12	50	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	7700 - 0.77	0.017 - 1.36	130 000
AC 60Hz	0.34 - 0.0134	-	-	26 000

* 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)
Hard	350	-	1100 - 160	-	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 / ")	Temper
Coil	0.1 to 0.2 / .004 to .008	10 to 640 / .4 to 25.2	Hard

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.