

Cold Rolled Strip



1. Description, standards & chemical

AFK502R is an Iron-Cobalt soft magnetic alloy suitable for compact generators, motor and transformer laminations.

International standards

ASTM A 801, IEC404

Chemical composition (% weight)

Typical value	Co	V	Fe
	49	2	Bal

2. Physical properties

Density (g/cm ³)	Resistivity (μ Ω.cm)	CTE 0-100°C	Curie T°C	Saturation Induction Bs (G)
8.12	40	10	900	24 000

3. Magnetic DC properties

	Hc (Oe)	B at 100e	B at 200e	B at 500e	B at 1000e
2h at 760°C	1.50	≥ 20 500	≥ 21 500	≥ 22 500	≥ 22 800
3h at 850°C	0.90	≥ 21 000	≥ 21 500	≥ 22 500	≥ 22 800

4. Magnetic AC properties: Magnetic losses (W/kg)

	f=50Hz B=1,5T	f=50 Hz B=2T	f=400 Hz B=1,5T	f=400 Hz B=2T
2h at 760°C	3	5	44	84
3h at 850°C	2.3	3.8	42	73.6

5. Mechanical properties

	Hardness HV	hardness HRC	Ultimate strength (MPa)	Yield strength (MPa)	Elongation %	Young modulus KN/mm ²
Hard	400	33 - 47	1 200	800	2	215
2h at 760°C	-	-	600	390	5	-
3h at 850°C	-	-	450	290	4	-

All values declared are typical values measured on rings 36x25mm of 0.34mm material thickness after:

- 2h @ 760°C, cooling 250°C/h under pure and dry hydrogen
- 3h @ 850°C, cooling 250°C/h under pure and dry hydrogen

6. Standard delivery & dimensions available

Form	Thickness	Width	Length	Temper
Strip - Sheet	0.10 to 1.50 mm	10 to 230 mm	500 to 3 500 mm	Hard

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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