

Cold Rolled Strip



AFK[®]18

1. Description, standards & chemical

AFK18 is an iron-Cobalt soft magnetic alloy suitable for compact generators and motor laminations.

International standards

ASTM A 801, IEC404

Chemical composition (% weight)

Typical value	Co	Fe
	18	Bal

2. Physical properties

Density (g/cm ³)	Resistivity (μ Ω.cm)	CTE 0-100°C	Curie T°C	Saturation Induction Bs (G)
7,9	30	10.5	940	23 000

3. Magnetic DC properties

	Hc (Oe)	B at 310e	B at 630e	B at 1250e
2h at 700°C	1,90	17 500	18 500	20 000
3h at 900°C	0,75	17 500	18 500	20 000

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

	f=50Hz B=1,5T	f=50 Hz B=1,7T	f=400 Hz B=1,5T	f=400 Hz B=1,7T
2h at 700°C	5.5	6.7	77	99
3h at 900°C	3.3	4.3	66	88

5. Mechanical properties (typical values)

	Hardness HV	Ultimate strength (MPa)	Yield strength (MPa)	Elongation %
Hard	310	850	800	2
2h at 700°C	185	470	355	19
3h at 900°C	175	380	210	31

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

- 2h @ 700°C, cooling 250°C/h under pure and dry hydrogen
- 3h @ 900°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 3.5 mm	10 to 320 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 requirements are subject to discussion and formal approval by Aperam Alloys Imphy. For further information or special request, please contact us.

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