

Soft magnetic

IMPHY AFK 18

IMPHY AFK 18 an iron-Cobalt soft magnetic alloy suitable for compact generators and motor laminations.

International standards

ASTM A 801, IEC404

Chemical composition

Elements (% weight)	Со	Fe
Typical value	18	Bal

Standard delivery & dimensions available

Form	Strip - Sheet	
Thickness	0.10 to 3.5 mm	
Width	10 to 320 mm	
Length	500 to 3500 mm	
Temper	Hard	

Physical properties

Properties	Units	Values
Density	g/cm ⁻³	7.9
Resistivity	μΩcm	30
CTE	0 - 100°C	10.5
Curie T°	°C	940
Saturation induction Bs	G	23000

Magnetic DC properties

	Hc (○e)	B at 310e	B at 63⊖e	B at 125⊖e
2h at 700°C	1,90	17500	18500	20000
3h at 900°C	0,75	17500	18500	20000

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

Mechanical properties (typical values)

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

Available Forms

IMPHY AFK 18 is delivered in cold rolled strip and is also available in wire rods, bars and semis.

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The data enclosed in this document are 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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