

Soft magnetic

IMPHY AFK 1

IMPHY AFK 1 is an iron-Cobalt soft magnetic alloy suitable for compact generators and motor laminations.

International standards

ASTM A 801, IEC404

Chemical composition

Elements (% weight)	Со	Cr	Mn	Fe
Typical value	27	0.5	0.3	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	8.0
Resistivity	μΩcm	20
CTE	0 - 100°C	10.3
Curie T°	°C	980
Saturation induction Bs	G	24000

Magnetic DC properties

	Hc (Oe)	B at 10⊖e	B at 250e	B at 1000e	B at 2000e
2h at 760°C	2.50	≥ 14700	≥17300	≥ 20200	≥ 21900
3h at 850°C	1.20	≥ 14700	≥17300	≥ 20200	≥21900

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	300	1000	900	2
2h at 760°C	-	600	350	17
3h at 850°C	-	510	250	13

Available Forms

IMPHY AFK 1 is delivered in cold rolled strip and is also available in wire rods, plates, bars and semis.

©June 2020, Aperam Alloys Imphy
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.

IMPHY® and AFK® are registered trademarks of Aperam Alloys Imphy

