

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)	Co	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 10Oe	B at 25Oe	B at 100Oe	B at 200Oe
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)	Elongation %
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.

