

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)	Co	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 (Oe)	B at 310e	B at 630e	B at 1250e
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)	Elongation %
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.

