Cold Rolled Strips

AFK 502R

AFK 502R is an Iron-Cobalt soft magnetic alloy suitable for compact generators, motor and transformer laminations.

International standards

ASTM A 801, IEC404

Chemical composition

Elements (% weight)	Co	V	Fe
Typical value	49	2	Bal

Physical properties

Density (g/cm³)	Resistivity (µΩ.cm)	CTE 0-100°C	Curie T°C	Saturation Induction Bs (G)
8.12	40	10	900	24000

Magnetic DC properties

	Hc (Oe)	B at 10Oe	B at 20Oe	B at 50Oe	B at 100Oe
2h at 760°c	1.50	≥ 20500	≥ 21500	≥ 22500	≥ 22800
3h at 850°c	0.90	≥ 21000	≥ 21500	≥ 22500	≥ 22800

Magnetic AC properties Magnetic losses (W/kg)

	f=50Hz B=1,5T	f=50 Hz B=2T	f=400 Hz B=1,5T	f=400 Hz B=2T
2h at 760°c	3	5	44	84
3h at 850°c	2.3	3.8	42	73.6

Mechanical properties*

	Hardness HV	Hardness HRC	Ultimate strength (MPa)	Yield strength (MPa)	Elongation %	Young modulus KN/nm²
Hard	400	33 - 47	1200	800	2	215
2h at 760°c	-	-	600	390	5	-
3h at 850°c	-	-	450	290	4	-

All values declared are typical values measured on rings 36x25mm of 0.34mm material thickness after:
- 2h @ 760°C, cooling 250°C/h under pure and dry hydrogen
- 3h @ 850°C, cooling 250°C/h under pure and dry hydrogen

Standard delivery & dimensions available

Form*	Strip - Sheet
Thickness (mm / ")	0.10 to 1.50 mm
Width (mm / ")	10 to 230 mm
Length (mm / ")	500 to 3500 mm
Temper	Hard

** Depending on thickness, width & temper*

Available Forms

IMPHY AFK 502R is delivered in cold rolled strip.
Contact us for other specific formats.

www.aperam.com
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YouTube

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