Specification for Soft Magnetic Material

Material: **kOr 057**

Nominal data:

	Symbol	Unit		Conditions	
Chemical composition		at%	~$Co_{80}Mo_2(Si,B)_{18}$		
Saturation flux density (saturation induction)	B_{sat}	mT	570 480	H > 10 A/m H > 10 A/m	25°C 100°C
Curie temperature	T_c	°C	225		
Resistance	ρ	µΩm	1,4		
Density	d	g / cm^3	7,6		
Saturation magnetostriction	λ_S	ppm	<0,3	annealed	
Initial Permeability[1)]	μ_i		100.000 - 200.000 N/A	for F-loop for Z-loop	25°C
Tape thickness[2)]	d	µm	18		
Tape width	b	mm	5 - 20		
Filling factor (stacking factor)	FF	%	>80		
recommended max. storage and operational temperature		°C	85		

Remarks:

1) Initial Permeability depends on annealing and finishing. Given values refer to toroidal cores without gaps or cuts annealed in transverse field.

A_L-values are calculated according to $A_L = \mu_r \mu_0 \frac{A_{Fe}}{l_{Fe}}$

(A_L in mH, A_{Fe} in mm^2, l_{Fe} in mm, $\mu_0 = 4\pi \cdot 10^{-7}$ Vs/Am)

A_{Fe} and l_{Fe} depend on the core dimensions and are indicated in the core datasheets.

2) Effective tape thickness, calculated from length, width and density of a tape sample.
Geometrical tape thickness (measured with a tape stack using a gauge) is higher by 10% - 15% due to roughness.

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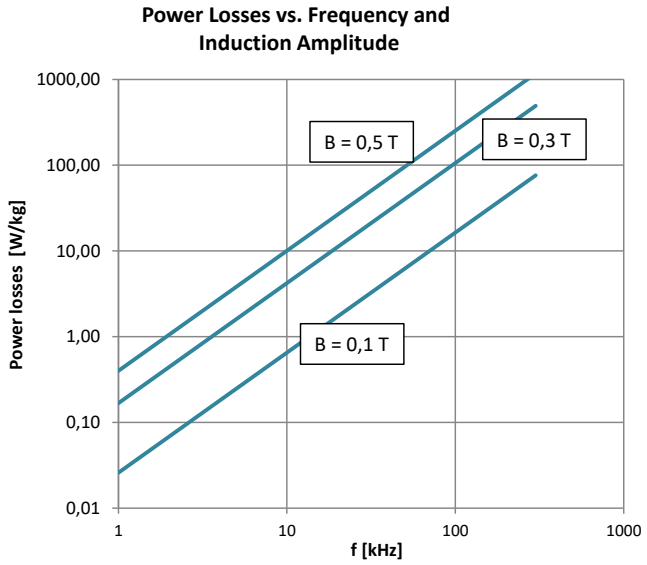
Cores with rectangular hysteresis loop (Z-loop), for MagAmp application or similar

	Symbol	Unit		Conditions
coercivity	H_c	mA/cm	3	25°C, static, 0,5 A/cm
remanence ratio (squareness)	B_r/B_S		0,9	25°C, static, 0,5 A/cm
			0,95	25°C, 5 kHz, 0,5 A/cm



Notes:

Typical losses are given for toroidal cores
in plastic housing,
excited with sinusoidal voltage of an amplitude
corresponding to the indicated peak induction.