

Specification for Soft Magnetic Material

Material: **kOr 122**

rev. 2

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Nominal data:

	Symbol	Unit	Conditions	
Chemical composition		at%	(Fe,Co,Ni) _{100-a-b-4} Cu ₁ Nb ₃ Si _a B _b	
Saturation flux density (saturation induction)	B _{sat}	mT	1220	H > 100 A/m 25°C
			1120	H > 100 A/m 100°C
Curie temperature	T _c	°C	600	
Resistance	ρ	μΩm	1,15	
Density	d	g / cm ³	7,4	annealed
Saturation magnetostriction	λ _S	ppm	2 - 4	annealed
Initial Permeability	μ _i		4.000 - 18.000	adjustable ¹⁾
Remanence	B _r	mT	40	static
Tape thickness ²⁾	d	μm	20	
Tape width	b	mm	3 - 50	
Filling factor (stacking factor)	FF	%	>80	b ≤ 25 mm
			>76	b > 25 mm
recommended max. storage and operational temperature		°C	150 - 200	depending on specification and operational conditions

Remarks:

1) Permeability μ can be adjusted in the range of about 4.000 and 18.000 (nominal value up to 10 kHz).

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

(A_L in mH, A_{Fe} in mm², l_{Fe} in mm, μ₀ = 4π·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.

Material data of specific product specifications may differ due to geometry and dimension.