Material properties (continued)

Preferred application			Inductors for line attenuation		Special type
Material			K 10	M 13	N 22
Base material			NiZn	NiZn	MnZn
Color code (adjuster)			—	—	red
	Symbol	Unit			
Initial permeability (T = 25 °C)	μ_i		800 ± 25 %	2300 ± 25 %	2300 ± 25 %
Meas. field strength Flux density (near saturation) (f = 10 kHz)	H B_S (25 °C) B_S (100 °C)	A/m mT mT	5000 320 240	1200 280 135	1200 370 260
Coercive field strength (f = 10 kHz)	H_c (25 °C) H_c (100 °C)	A/m A/m	40 25	12 8	18 14
Optimum frequency range		MHz	0,1 … 1	0,001 … 0,1	0,001 … 0,2
Relative loss factor at f_{min} at f_{max}	tan δ/μ_i	10^{-6} 10^{-6}	< 15 < 60	< 5 < 20	< 2 < 20
Hysteresis material constant	η_B	10^{-6}/mT	< 5	< 4	< 1,4
Curie temperature	T_C	°C	> 150	> 105	> 145
Relative temperature coefficient at 25 ... 55 °C at 5 ... 20 °C	α_F	10^{-6}/K	 — —	 3,0 … 5,0 5,0 … 7,5	 — —
Mean value of α_F at 25 ... 55 °C		10^{-6}/K	10,0	3,7	0,9
Density (typical values)		kg/m^3	5000	5200	4700
Disaccommodation factor at 25 °C	DF	10^{-6}	—	—	4
Resistivity	ρ	Ωm	10^5	10^5	1
Core shapes			Ring, Double aperture	Ring, Double aperture	Ring, P core half, Double aperture
Other material properties (graphs) see page			59	60	61