Material properties (continued)

Preferred application			Power transformers				
Material			N 27	N 67[5)]	N 87	N 72	N 41
Base material			MnZn	MnZn	MnZn	MnZn	MnZn
	Symbol	Unit					
Initial permeability (T = 25 °C)	μ_i		2000 ± 25 %	2100 ± 25 %	2200 ± 25 %	2500 ± 25 %	2800 ± 25 %
Flux density (H = 1200 A/m, f = 10 kHz)	B_S (25 °C) B_S (100 °C)	mT mT	500 410	480 380	480 380	480 370	490 390
Coercive field strength (f = 10 kHz)	H_c (25 °C) H_c (100 °C)	A/m	23 19	20 14	16 9	15 11	22 20
Typical frequency range		kHz	25 … 150	25 … 300	25 … 500	25 … 300	25 … 150
Hysteresis material constant	η_B	10^{-6}/mT	< 1,5	< 1,4	< 1,4	—	< 1,4
Curie temperature	T_C	°C	> 220	> 220	> 210	> 210	> 220
Mean value of α_F at 20 … 55 °C		10^{-6}/K	3	4	4	—	4
Density (typical values)		kg/m³	4750	4800	4800	4800	4800
Relative core losses (typical values)	P_V						
25 kHz, 200 mT, 100 °C		mW/g mW/cm³	32 155	17 80		16 80	35 180
100 kHz, 200 mT, 100 °C		mW/g mW/cm³	190 920	105 525	80 385	110 540	280 1400
300 kHz, 100 mT, 100 °C		mW/g mW/cm³		115 560	85 410		
500 kHz, 50 mT, 100 °C		mW/g mW/cm³					
1 MHz, 50 mT, 100 °C		mW/g mW/cm³					
Resistivity	ρ	Ωm	3	6	8	12	2
Core shapes			P, PM, ETD, EC, ER, E, U, Ring	RM, P, EP, ETD, ER, EFD, E, U, Ring	RM, TT, P, PM, ETD, EFD, E, ER, ELP	E, EFD	RM, P
Other material properties (graphs) see page			93	96	99	102	105

5) Not for new design