

# Material Characteristics (1)

	Symbol	Unit	Measuring Conditions			Conventional Low Loss Materials			
			Freq.	Flux den.	Temp.	P4	P41	P42	P48
<b>Initial Permeability</b>	$\mu_i$		$\leq 10\text{kHz}$	0.25mT	25°C	2500 $\pm$ 25%	2400 $\pm$ 25%	1800 $\pm$ 25%	2500 $\pm$ 25%
<b>Amplitude Permeability</b>	$\mu_a$		25kHz	200mT	25°C	> 4500	> 4500	> 5000	> 5000
					100°C	> 4500	> 4500	> 5000	> 5000
<b>Power Loss</b>	Pv	KW/m <sup>3</sup>	25kHz	200mT	25°C	105	125	125	-
					100°C	55	50	50	-
			100kHz	200mT	25°C	630	650	750	550
					100°C	450	350	350	250
			300kHz	100mT	25°C	660	820	900	570
					100°C	430	500	500	330
			500kHz	50mT	25°C	380	400	450	250
					100°C	330	300	300	200
<b>Saturation Flux Density</b>	Bs	mT	10kHz	H = 1200A/m	25°C	480	495	520	515
					100°C	380	395	420	410
<b>Remanence</b>	Br	mT	10kHz	H = 1200A/m	25°C	135	170	230	150
					100°C	75	55	60	55
<b>Coercivity</b>	Hc	A/m	10kHz	H = 1200A/m	25°C	14	13	13	13
					100°C	9	6	8	6
<b>Hysteresis Material Constant</b>	$\eta_B$	10 <sup>-6</sup> /mT	10kHz	1.5-3.0mT	25°C	< 1.2	< 1	< 1	< 1
<b>Disaccommodation Factor</b>	D <sub>F</sub>	10 <sup>-6</sup>	10kHz	< 0.25 mT	25°C	< 2	< 2	< 2	< 2
<b>Curie Temperature</b>	T <sub>c</sub>	°C				$\geq 220$	$\geq 230$	$\geq 240$	$\geq 220$
<b>Resistivity</b>	$\rho$	$\Omega\text{m}$				5.50	4.00	8.00	5.00
<b>Density</b>	d	g/cm <sup>3</sup>				4.80	4.85	4.90	4.90

Note: Material characteristics are typical for a toroid core.

Product specification will differ from these data due to the influence of geometry and size.