



Kool M μ [®] MAX Powder Cores



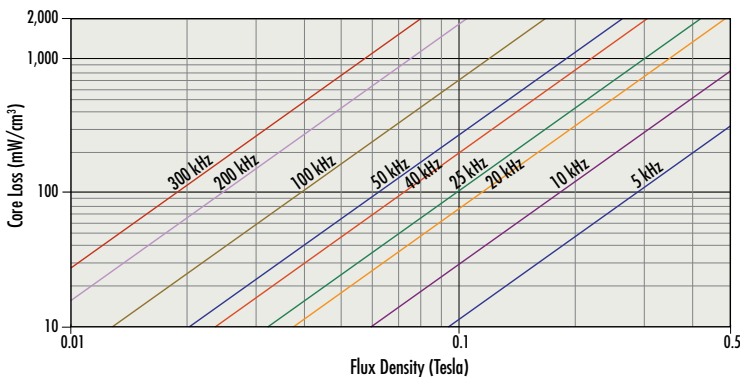
Kool M μ [®] MAX is the next generation of sendust cores from Magnetics[®]. We supercharged our low core loss Kool M μ material with 50% better DC bias performance for better power handling. Use of copper wire is minimized by maintaining inductance using less turns, resulting in savings in overall component cost. With its super low losses, Kool M μ MAX does not mimic the temperature rise problems found in iron powder cores. Improve inductor efficiency at a fraction of the cost of High Flux with Kool M μ MAX.

Toroids available in permeabilities 14 μ , 19 μ , 26 μ , 40 μ , 60 μ , 75 μ , and 90 μ and sizes 13.5mm OD through 134mm OD. Blocks, E cores and U cores available in permeabilities 26 μ , 40 μ , and 60 μ .

Material	Alloy Composition	DC Bias	Core Loss	Relative Cost	Saturation Flux Density (Tesla)	Curie Temp.	60 μ Maximum Usable Frequency
Edge	FeNi	Highest	Very Low	High	1.5	500°C	20 MHz
High Flux	FeNi	High	Moderate	High	1.5	500°C	3 MHz
XFlux [®]	FeSi	High	High	Low	1.6	700°C	3 MHz
Kool Mμ[®] MAX	FeSiAl	Moderate	Low	Medium	1.0	500°C	15 MHz
Kool M μ [®] Hf	FeSiAl	Moderate	Lowest	Medium	1.0	500°C	30 MHz
MPP	FeNiMo	Moderate	Very Low	Highest	0.8	460°C	6 MHz
Kool M μ [®]	FeSiAl	Moderate	Low	Lowest	1.0	500°C	5 MHz

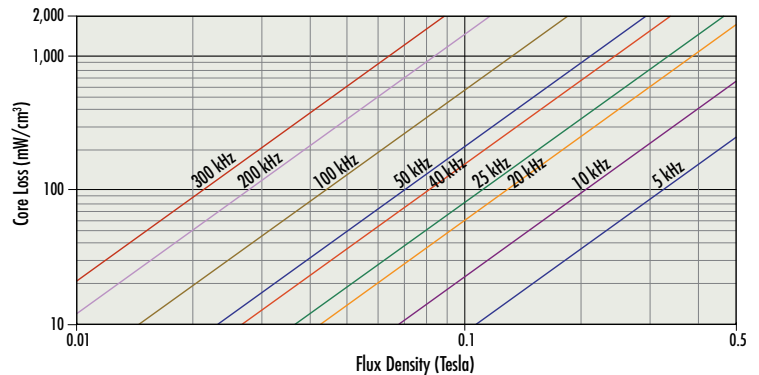
Core Loss Density 14 μ , 19 μ Toroids

P = a(B ^b)(f) ^c		
a	b	c
144.49	2.072	1.379



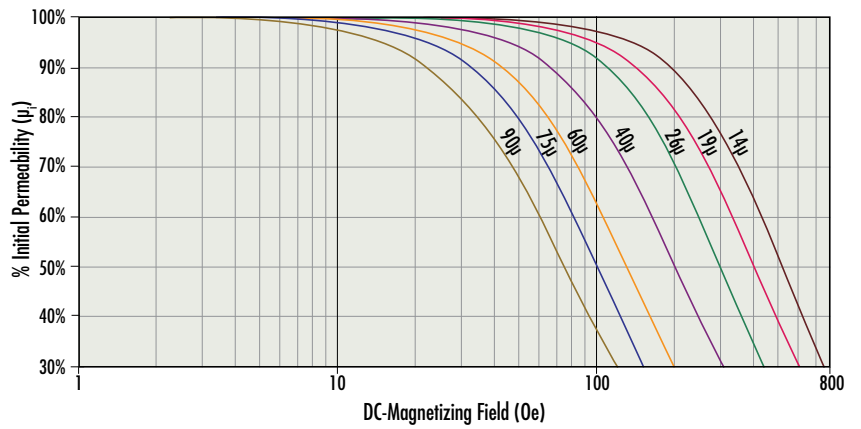
Core Loss Density 26 μ - 90 μ Toroids

P = a(B ^b)(f) ^c		
a	b	c
113.53	2.072	1.379



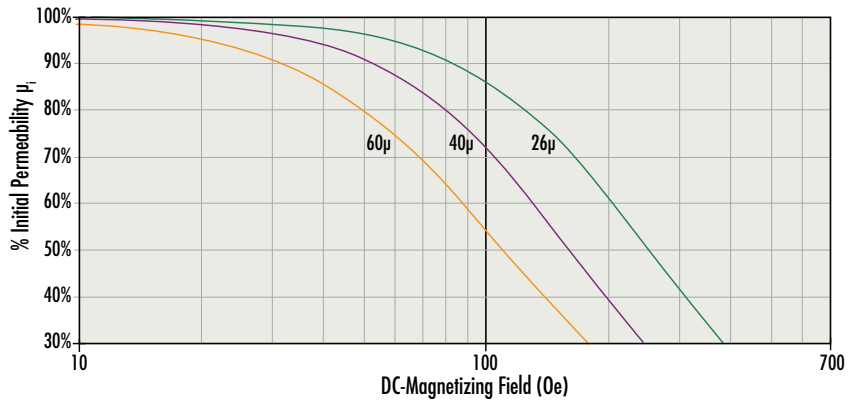
Permeability vs. DC Bias Toroids

$\frac{\mu}{\mu_i} \times 100 = \frac{1}{(a + bH^c)}$							
Perm	a	b	c	Perm	a	b	c
14 μ	0.01	8.27E-09	2.239	60 μ	0.01	5.92E-07	2.000
19 μ	0.01	3.14E-08	2.111	75 μ	0.01	1.00E-06	2.000
26 μ	0.01	3.44E-08	2.205	90 μ	0.01	3.88E-06	1.819
40 μ	0.01	2.50E-07	2.000				



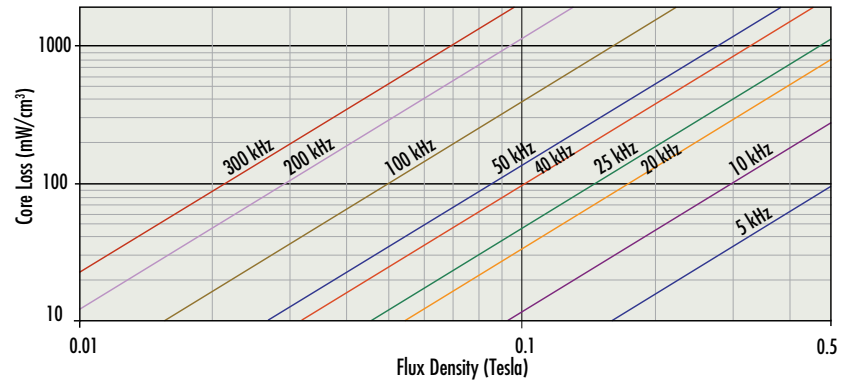
Permeability vs. DC Bias Shapes

$\frac{\mu}{\mu_i} \times 100 = \frac{1}{(a + bH^c)}$			
Perm	a	b	c
26 μ	0.01	1.600E-07	2.000
40 μ	0.01	3.906E-07	2.000
60 μ	0.01	2.575E-06	1.758



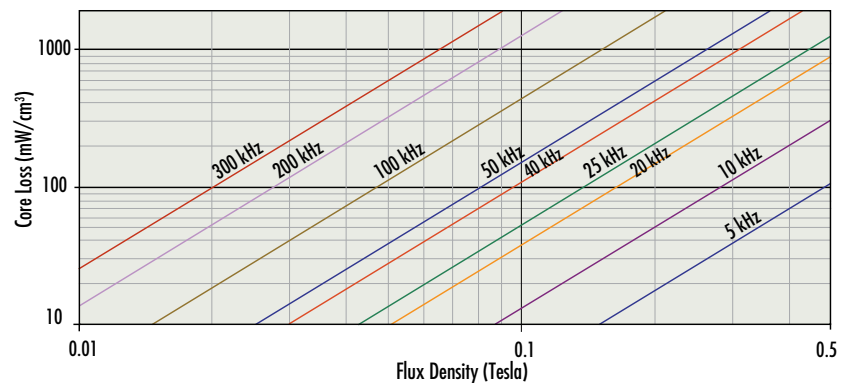
Core Loss Density 26 μ , 40 μ Shapes

$P = a(B^b)(f^c)$			
a	b	c	
32.22	1.988	1.541	



Core Loss Density 60 μ Shapes

$P = a(B^b)(f^c)$			
a	b	c	
36.25	1.988	1.541	



HEADQUARTERS

110 Delta Drive
Pittsburgh, PA 15238

(p) 1.412.696.1333
1.800.245.3984

magnetics@spang.com
www.mag-inc.com

MAGNETICS INTERNATIONAL

13/F 1-3 Chatham Road South
Tsim Sha Tsui, Kowloon, Hong Kong

(p) +852.2731.9700
+86.139.1147.1417

asiasales@spang.com
www.mag-inc.com