GENERAL MATERIAL PROPERTIES

Material Mix No.	Reference Permeability (μ_0)	Material Density (g/cm³)	Relative Cost	Color* Code
-2	10	5.0	2.7	Red/Clear
-8	35	6.5	5.0	Yellow/Red
-14	14	5.2	3.6	Black/Red
-18	55	6.6	3.4	Green/Red
-19	55	6.8	1.7	Red/Green
-26	75	7.0	1.0	Yellow/White
-30	22	6.0	1.4	Green/Gray
-34	33	6.2	1.5	Gray/Blue
-35	33	6.3	1.4	Yellow/Gray
-40	60	6.9	1.0	Green/Yellow
-45	100	7.2	2.6	Black/Black
-52	75	7.0	1.2	Green/Blue

* All Micrometals color codes are protected by US Trademark law. Formal registration numbers have been issued for the -8, -18, -26 and -52 color codes by the United States Patent and Trademark office.

CORE LOSS COMPARISON (mW/cm³)

PERMEABILITY WITH DC BIAS

Material Mix No.	60 Hz @5000G	1kHz @1500G	10kHz @500G	50kHz @225G	100kHz @140G	500kHz @50G	HDC = 50 Oersteds %μ_0	HDC = 50 Oersteds $\mu_{effective}$
-2	19	32	32	28	19	12	99	10.0
-8 **	45	64	59	48	32	15	91	31.9
-14	19	32	32	29	21	17	99	14.0
-18	48	72	70	63	46	37	74	40.7
-19	31	60	72	71	54	49	74	40.7
-26	32	60	75	89	83	139	51	38.3
-30	37	80	120	149	129	129	91	20.0
-34	29	61	87	100	82	78	84	27.7
-35	33	73	109	137	119	123	84	27.7
-40	29	62	93	130	127	223	62	37.2
-45	26	49	60	69	61	92	46	46.0
-52	30	56	68	72	58	63	59	44.3

** Revised since last issue.

MATERIAL APPLICATIONS

Typical Application	-2	-8	-14	-18	-19	-26	-30	-34	-35	-40	-45	-52
Light Dimmer Chokes						X				X	X	
60 Hz Differential-mode EMI Line Chokes						X				X	X	X
DC Chokes: <50kHz or low Et/N (Buck/Boost)						X	X	X	X	X	X	
DC Chokes: ≥50kHz or higher Et/N (Buck/Boost)		X	X	X	X		X	X	X			X
Power Factor Correction Chokes: <50kHz						X	X	X	X	X		
Power Factor Correction Chokes: ≥50kHz	X	X	X	X	X		X	X	X			
Resonant Inductors: ≥50kHz	X		X									

MATERIAL DESCRIPTION

-2/-14 Materials The low permeability of these materials will result in lower operating AC flux density than with other materials with no additional gap-loss. The -14 Material is similar to -2 Material with slightly higher permeability.

-8 Material This material has low core loss and good linearity under high bias conditions. A good high frequency material. The highest cost material.

-18 Material This material has low core loss similar to the -8 Material with higher permeability and a lower cost. Good DC saturation characteristics.

-19 Material An inexpensive alternate to the -18 Material with the same permeability and somewhat higher core losses.

-26 Material The most popular material. It is a cost-effective general purpose material that is useful in a wide variety of power conversion and line filter applications.

-30 Material The good linearity, low cost, and relatively low permeability of this material make it popular in large sizes for high power UPS chokes.

-34/-35 Materials An inexpensive alternate to the -8 material for applications where high frequency core loss is not critical. Good linearity with high bias.

-40 Material The least expensive material. It has characteristics quite similar to the very popular -26 Material. Popular in large sizes.

-45 Material The highest permeability material. A high permeability alternate to -52 Material with slightly higher core losses.

-52 Material This material has lower core loss at high frequency and the same permeability as the -26 Material. It is very popular for high frequency choke designs.

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