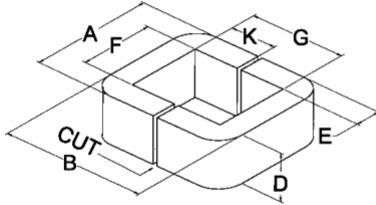


Core Mechanical Tolerances



C-Core

Customizable To Meet Your Needs

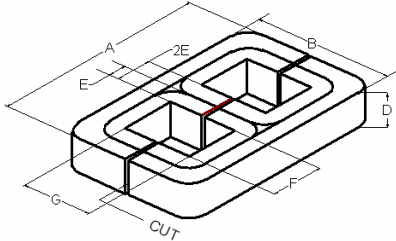
- Custom sizes
- Custom shapes
- Multiple cuts
- Special air gap cuts
- Tighter tolerances
- Low noise applications
- Diamond-lapped mating surfaces
- Special high temperature heat stabilization processes
- Special edge chamfering
- Epoxy coating
- Special stack resistance requirements
- Special part marking
- Custom assemblies
- Custom grinding & machining
- Small Planar-type geometries
- Call for more details about these and other possibilities

Mechanical Tolerances for Cut C-Cores, per EIA Standard RS-217		
Core Dimension	Material Thickness (inches)	Allowable Tolerances (inches)
A = Outside Core Width	All	+0.031 max when $A \leq 1.500$ +0.047 max when $1.500 < A \leq 2.500$ +0.062 max when $2.500 < A \leq 3.500$ +0.094 max when $A > 3.500$
B = Outside Core Height	0.0005, 0.001, 0.002	+0.062 max when $B \leq 2.000$ +0.188 max when $2.000 < B \leq 4.000$ +0.375 max when $B > 4.000$
	0.004 through 0.014	+0.062 max when $B < 3.000$ +0.156 max when $3.000 \leq B \leq 4.000$ +0.188 max when $4.000 < B \leq 6.000$ +0.375 max when $6.000 < B \leq 12.000$ +0.438 max when $B > 12.000$
D = Core Strip Width	All *	+0.031, -0 when $D \leq 1.000$ +0.047, -0 when $1.000 < D \leq 2.812$ +0.062, -0 when $D > 2.812$ <i>+0.094, -0 when $E > 2.500$</i>
E = Core Leg Buildup	0.0005 through 0.004	± 0.016 when $E \leq 0.250$ +0.031, -0.016 when $0.250 < E \leq 1.000$ ± 0.031 when $E > 1.000$
	0.007 through 0.014	± 0.016 when $E < 0.250$ +0.031, -0.016 when $0.250 \leq E < 0.562$ ± 0.031 when $E \geq 0.562$
F = Inside Window Width	All	-0.016 minimum
G = Inside Window Width	All	-0.016 minimum
K = Cut Dimension	All	$G \div 2$ if $G < 3.750$, ± 0.062 1.687 if $G \geq 3.750$, ± 0.062
R = Inside Window Corner Radius (Reference Only)	0.0005 through 0.004	0.031 when $F \ \& \ G \leq 2.000$
	0.007 through 0.014	0.062 when $F \ \& \ G \leq 2.000$
	All	0.125 when F or $G > 2.000$ and $F \ \& \ G \leq 5.000$ 0.156 when $F > 5.000$
Maximum Core Tilt	All	0.031 when $B < 3.500$ 0.062 when $B \geq 3.500$
A & B dimensions are held to a maximum tolerance only, negative tolerances are controlled by the F, G, & E dimensions. F & G dimensions are held to a minimum tolerance only, positive tolerances are controlled by the A, B & E dimensions.		
* Nanocrystalline tolerance on the D dimension is \pm the stated positive tolerance to accommodate material shrinkage during the annealing process. Other tolerances may be different depending on core geometry. Contact our engineering department for more details.		

➤ **MK Magnetics will gladly manufacture cores to your specific dimensional and physical requirements such as: non-standard mechanical tolerances, multiple cuts, or diamond lapped for low excitation or low noise**



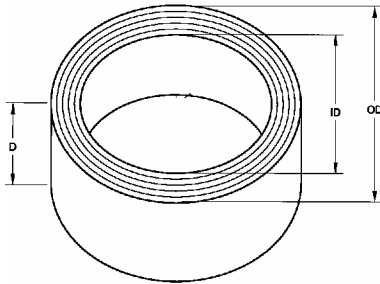
Core Tolerances Continued



E-Core

Customizable To Meet Your Needs

- Same as C-cores



Toroid

Customizable To Meet Your Needs

- Cut in half
- Diamond lapped if cut in half
- Epoxy coated
- Gapped to meet your inductance requirements
- Air gapped for Hall sensors
- Chamfered or radiused ID & OD
- Special stack resistance requirements
- Nylon & Aluminum cased
- Call for more details about these and other possibilities

Standard Mechanical Tolerances for Cut E-Cores

Core Dimension	Material Thickness (inches)	Allowable Tolerances (inches)
A = Outside Core Width	0.001 through 0.004	+0.094 max when $A \leq 5.000$ +0.188 max when $5.000 < A \leq 10.000$ +0.312 max when $A > 10.000$
	0.007 through .014	+0.125 max when $A \leq 5.000$ +0.250 max when $5.000 < A \leq 10.000$ +0.375 max when $A > 10.000$
B = Outside Core Height	0.001, 0.002, 0.004	+0.094 max when $B \leq 5.000$ +0.156 max when $5.000 < B \leq 10.000$ +0.250 max when $B > 10.000$
	0.007 through 0.014	+0.125 max when $B \leq 5.000$ +0.188 max when $5.000 < B \leq 10.000$ +0.312 max when $B > 10.000$
D = Core Strip Width	All	+0.031, -0 when $D < 1.000$ +0.047, -0 when $1.000 \leq D < 2.000$ +0.062, -0 when $D \geq 2.000$ <i>+0.156, -0 when $2E > 2.000$</i>
2E = Core Leg Buildup	All	± 0.031 when $2E \leq 1.000$ +0.062, -0.031 when $1.000 < 2E \leq 2.000$ ± 0.062 when $2E > 2.000$
F = Inside Window Width	All	-0.016 minimum
G = Inside Window Height	All	-0.016 minimum
K = Cut Dimension	All	$G \div 2.000, \pm 0.062$
R = Inside Window Corner Radius (Reference Only)	0.0005 through 0.004	0.031 when $F \text{ \& } G \leq 2.000$
	0.007 through 0.014	0.062 when $F \text{ \& } G \leq 2.000$
	All	0.125 when F or $G > 2.000$ and $F \text{ \& } G \leq 5.000$ 0.156 when $F > 5.000$
Maximum Tilt	All	0.031 when $F < 2.500$ 0.062 when $F \geq 2.500$

A&B dimensions are held to a maximum tolerance only, negative tolerances are controlled by the F, G, & 2E dimensions. F&G dimensions are held to a minimum tolerance only, positive tolerances are controlled by the A, B & 2E dimensions.

Standard Mechanical Tolerances for Uncased Toroids

Core Dimension	Material Thickness (inches)	Allowable Tolerances (inches)
OD = Outside Core Width or Diameter	All	+0.031, -0.016 when $OD \leq 1.500$ ± 0.031 when $1.500 < OD \leq 2.500$ +0.062, -0.031 when $2.500 < OD \leq 3.500$ ± 0.062 when $3.500 < OD \leq 12.000$ +0.125, -0.062 when $12.000 < OD \leq 24.000$ ± 0.125 when $OD > 24.000$
ID = Inside Core Width or Diameter	All	± 0.016 when $ID \leq 2.500$ +0.031, -0.016 when $2.500 < ID \leq 3.500$ ± 0.031 when $3.500 < ID \leq 12.000$ +0.062, -0.031 when $12.000 < ID \leq 24.000$ ± 0.062 when $ID > 24.000$
D = Core Strip Width	All	+0.031, -0 when $D \leq 1.000$ +0.047, -0 when $1.000 < D \leq 2.812$ +0.062, -0 when $D > 2.812$
E = Core Buildup	All	± 0.016 when $E \leq 0.250$ +0.031, -0.016 when $0.250 < E \leq 1.000$ ± 0.031 when $E > 1.000$

For unimpregnated cores, measurements will be made with core shaped into the most favorable position because these cores are often flexible.

For epoxy coated (cased or encapsulated) cores add .040" to the maximum "OD" and "D" dimensions, subtract 0.040" from the minimum "ID" dimension. "E" dimension tolerance applies before coating only.