

Designing Ferrite Dimension and Tolerances

PROCESS

Ferrites are Ceramic. A press-able powder is prepared with binders and lubricants. The powder is compaction pressed in a mold under pressure. The green core is then fired where it shrinks approximately 20%. The finishing consists of flat grinding the mating surface, Backwall or tumbling the sintered core.

MOLDED DIMENSIONS

Molded dimensions are started in the press and finalized in sintering. The density of the compact and firing variables result in:

- Linear dimension to +/-2%
- Toe in/out 0.010" per inch length

These tolerances account for lot to lot, and firing to firing variations, the variation on a given lot may be tighter.

FINISHED DIMENSIONS

Flat grinding requires a reference plane on the opposite side, the height can be made with tighter tolerances. In a core that requires a gap, the gapped portion is referenced off the top surface.

- Heights 1 side ground +/- 0.010"
- Heights 2 side ground +/- 0.005"
- Gap Depth from mating surface +/- 0.001"

MIXED DIMENSIONS

A molded point/position using a ground surface as reference, will be considered a molded dimension.

TUMBLING

Tumbling breaks sharp edges, larger radii are designed into the compaction tooling.