

EIA RS-260

EIA STANDARD

Tape-Wound Toroidal Cores

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(Reaffirmed March 1970)



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Engineering Department

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TAPE-WOUND TOROIDAL CORES

(From Standards Proposal No. 680 formulated under the cognizance of EIA Working Group P-3.2.2 on Wound Toroidal Cores, and Committee P-3 on Inductive Components)

1. MATERIAL

1.1 Thickness

Nominal thicknesses to be 1, 2, 4, 6, and 14 mils for alloys other than silicon iron. For silicon iron alloys, nominal thicknesses to be 1, 2, 4, and 12 mils in accordance with EIA Standard RS-217-A (Wound Cut Cores).

2. STANDARD CORE SIZES

2.1 The standard sizes for toroidal tape-wound cores were selected in accordance with AIEE Publication Number 430 (April 1958).¹ This standard lists 11 low-gain core sizes and 10 high-gain core sizes, along with 9 other sizes. Table I lists these sizes.

3. STANDARD CASE SIZES

3.1 Table I lists the minimum I.D., maximum O.D., and maximum height for a complete core enclosed in an aluminum case for the *standard* sizes. These dimensions do not include coatings applied to the case for insulation.

3.2 If it becomes necessary to design new aluminum cases, the recommended formulae presented in Table II shall be used. These formulae are applicable only when the core dimensions are within the following:

$$\frac{0.6}{1} \leq \frac{\text{ID/OD}}{h/b} \leq \frac{0.85}{3.2}$$

where:

ID = inside diameter of core
OD = outside diameter of core
h = height of core (tape width)
b = buildup dimension of core

4. TEST METHODS

4.1 The standard methods of test shall be in accordance with proposed core test methods in AIEE Publication Number 432 (January 1959).¹ All tests shall be made at a temperature of 25°C (−5°C + 10°C).

4.2 The constant-current-flux-reset-method as proposed in the above shall be the recommended preferred test method.

4.3 A match for a specified set of cores is defined as the ratio in percent of the difference between the largest and the smallest value in the set.

$$\text{Percent Match} = \frac{L - S}{S} \times 100$$

¹ Available from the American Institute of Electrical Engineers, 345 East 47th Street, New York, New York.