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Test Method for Measuring Diameter Over Core

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1.0 SCOPE

1.1 To document sample preparation, sample testing and test procedure for measurement of core diameter and core ovality of coaxial cables.

2.0 COMPLIANCE NOTATION

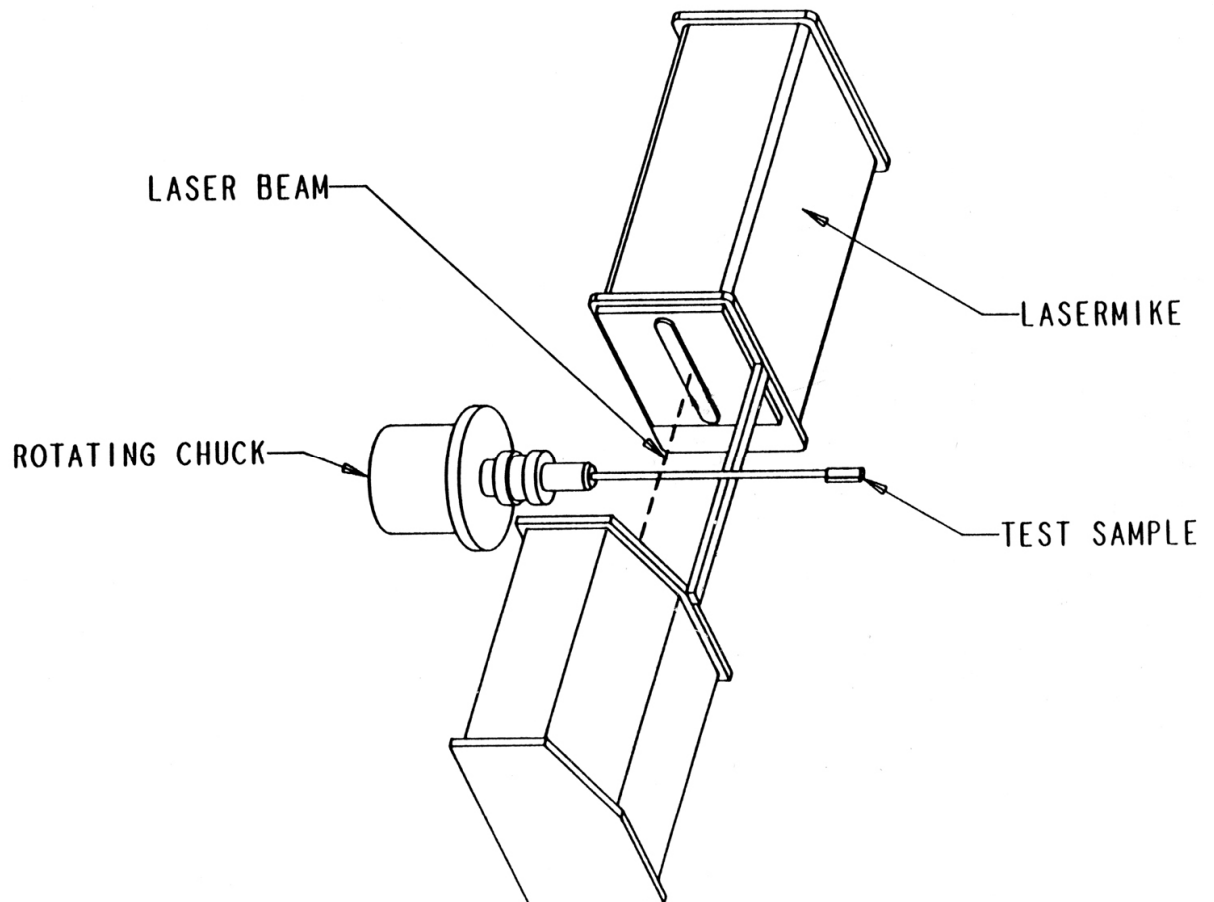
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3.0 DEFINITIONS

- 3.1 CORE DIAMETER: The outside diameter of the laminated tape, as-measured after the jacket and braid have been removed from the coaxial cable.
- 3.2 CORE OVALITY: The difference between the maximum core diameter and the minimum core diameter. This is the commonly used measurement in SCTE standards. However it may also be expressed in other ways such as a percentage variation.

4.0 EQUIPMENT

- 4.1 Optical micrometer. Optical micrometer make: LaserMike Model 182 or equivalent.
- 4.2 Printer (optional).
- 4.3 Wire cutters.
- 4.4 Rotating chuck, large O.D. chuck.



5.0 TEST SAMPLES

- 5.1 Cut a 6” sample of finished product.
- 5.2 Strip jacket and braid off five inches (5”) of the sample, while retaining the tape, dielectric and conductor. Special care must be exercised during removal of jacket and braid to avoid deforming the tape. Apply adhesive tape over the sample loose end to keep the tape on the core.

6.0 MEASUREMENT OR TEST METHOD

6.1 Test Equipment Setup. See Figure 1.

- 6.1.1. At the beginning of the test, set the optical micrometer to reach eight (8) readings per 360 degrees rotation. Refer to the optical micrometer operation manual for details.
- 6.1.2. Verify that the printer is connected to the optical micrometer printer ports, if available.
- 6.1.3. Verify the optical micrometer is set to display and/or output the average, standard deviation, maximum, minimum, and the difference between the maximum & minimum readings. Refer to optical micrometer operation manual for details.

6.2 Test Procedure

- 6.2.1. Insert the test specimen or sample jacketed-end inside the rotating chuck as far as possible.
- 6.2.2. Tighten the chuck jaws on the sample until the sample is firmly held in-place.
- 6.2.3. Verify that the sample is centered between the chuck jaws and is not cocked.
- 6.2.4. Verify the test sample and the laser beam intersect.
- 6.2.5. Push the “start” button or its equivalent.
- 6.2.6. The rotating chuck shall rotate through at least one full 360 degree rotation cycle at any user-defined rpm, in order to obtain the required 8 readings per 360 degree rotation. Let the sample come to a complete stop.
- 6.2.7. Test result should appear on the optical micrometer display. Record the average, maximum, minimum and difference, if available, or obtain a printout of the test results. Refer to the optical micrometer operation manual.