Society of Cable Telecommunications Engineers

ENGINEERING COMMITTEE
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Test Method for Measuring Diameter Over Core

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1. SCOPE

1.1 To document sample preparation, sample testing and test procedure for measurement of min, max, average core diameter of finished goods coaxial cable.

2. DEFINITIONS

2.1 CORE DIAMETER: The outside diameter of the laminated tape, as measured after the jacket and braids have been removed from the coaxial cable.

2.2 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 be expressed in other ways such as percentage variation.

3. EQUIPMENT

3.1. Optical micrometer: LaserMike Model 182 or equivalent

3.2. Printer (optional).

3.3. Wire cutters.

3.4. Rotating chuck, large O.D. chuck.

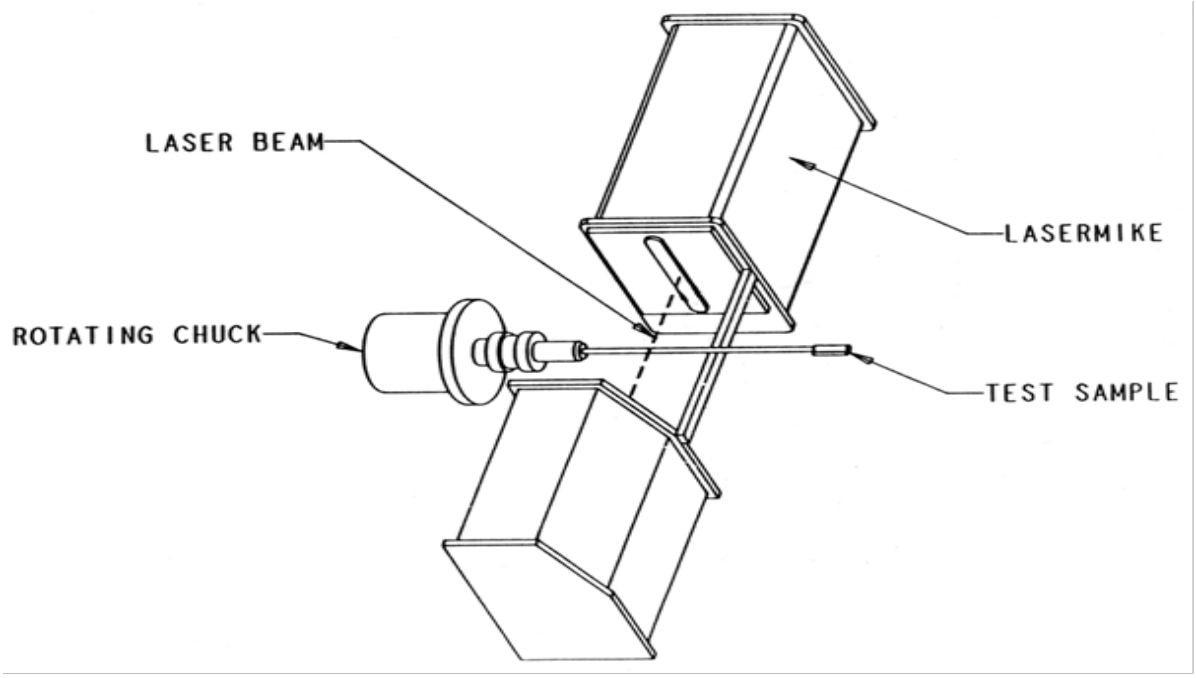

Figure 1 – Test Set-up

4. TEST SAMPLES

4.1. Cut a 4” sample of finished product.

4.2. Strip jacket and braid off of the sample, leaving on the tape, core and conductor. Special care must be exercised during removal of jacket and braid to avoid deforming the LST tape.

4.3. Using a razor blade or a prep tool remove 5/16” of the core from the center conductor.

5. MEASUREMENT OR TEST METHOD

5.1 Test Equipment Setup. See Figure 1.

5.1.1 At the beginning of the test, set the optical micrometer to reach one hundred-twenty (120) readings per 360 degrees rotation at 0.5 RPM. Refer to the optical micrometer operation manual for details.

5.1.2 If available, verify that the printer is connected to the micrometer printer port.

5.1.3 Verify the laser micrometer is set to display or output the average, maximum and minimum diameter. The unit may also be programmed to display difference between the maximum & minimum readings. Refer to Laser Micrometer operation manual for details.

6. Test Procedure

6.1 Insert the center conductor into the rotating chuck as far as possible. It is important to ensure a straight test specimen.

6.1.1 Verify that the CUT is centered in the chuck jaws and the sample is straight.

6.1.2 Verify the test sample is at proper position to the laser beam.

6.1.3 Push the “start” button or its equivalent.

6.1.4 Wait for the rotating chuck to complete its cycle and let the sample come to a complete stop.

6.1.5 Test result should appear on the laser 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.