THERMOSETTING VALUE OF ELECTRICAL TAPE

Application

This procedure is used to evaluate the thermosetting properties of electrical tape.

Apparatus Required

Oven

Mechanical convection, maintained at 250 +/- 5 F.

Roller

Rubber covered steel roller, 3.25 +/- 0.1 inch in diameter and 1.75 +/- 0.05 inch in width, covered with rubber approximately 1/4 inch in thickness, having a durometer hardness of 80 +/- 5. The weight of the roller proper which applies pressure to the specimen shall be 4.5 +/- 0.1 lb. It shall be so constructed that the weight of the handle is not added to the weight of the roller during use.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Select three specimens approximately 12 inches long from each sample roll.

2. Each specimen shall then be cut into two equal lengths and positioned on a smooth and level steel surface so that the ends of the strips form a 1/2 x 1/2 inch overlapped adhesive to adhesive splice. Care shall be taken to insure that the actual contact area of the splice conforms to these dimensions within 1/64 inch.

3. The splice shall then be pressure bonded by passing the 4.5 lb roller over it, once in each direction, along the length of the specimen, at a rate of approximately 2 inches/s.

4. Place the assembly in the oven at 250 +/- 5 F in a horizontal position for 2 h.

5. At the end of 2 h, a weight of 1 kg, or other specified load, including the clamp, shall be attached to the free end of one of the test strips.

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6. The assembly shall be suspended vertically inside the oven by means of the hanger so that there is a specified shear force acting upon the splice and the heat exposure continued until the splice fails.

7. The time required for the specified shear force to separate the splice shall be recorded for each of the three specimens.

8. Report the average time for the three samples as the thermosetting value of the tape.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.

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