

इंटरनेट

मानक

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“पुराने को छोड़ नये के तरफ”

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IS 10810-19 (1984): Methods of test for cables, Part 19:
Bleeding and blooming test [ETD 9: Power Cables]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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*Indian Standard***METHODS OF TEST FOR CABLES****PART 19 BLEEDING AND BLOOMING TEST**

1. Scope — Covers a method to determine the migration or oozing characteristics of pigment added to the thermoplastic insulation or sheath of electric cable when in contact with permeable medium.

2. Significance — In electric cables, distinctive colours are given to thermoplastic insulation for easy identification of cores. It is, therefore, not desirable that the colour from one core gets transferred to another core. Similarly, it is not desirable that the colour from the sheath migrates and stains the cores or any outside media with which the cable comes in contact. This test checks whether the colouring of the thermoplastic insulation/sheath is stable and the pigment does not migrate and stain a medium in contact with it.

3. Terminology

3.1 Bleeding and Blooming — The tendency of pigments to migrate or ooze out from thermoplastic material into a medium in contact with it.

4. Apparatus

4.1 Oven — An electrically operated and thermostatically controlled heating cabinet (oven) with natural replacement of air.

4.2 Circular metal mandrel between 25 mm and 50 mm diameter.

5. Materials

5.1 Transparent PVC Indicator Compound Sheet/Tape — Of approximate thickness 0.25 mm having the following composition:

	<i>Parts by Weight</i>
Polyvinyl chloride	100
Di-2-ethylhexyl phthalate	66.6
Lead stearate	1.5
Cadmium stearate	1.5

5.2 Double Acid Washed, Retentive, Very Low Ash Filter Papers — Suitable filter papers are Whatman No. 44, Barcham Green No. 88 and equivalent types.

6. Test Specimen**6.1 Test Assembly for Cables up to 6 mm Outside Diameter**

6.1.1 The test assembly shall consist of a mandrel between 25 and 50 mm in diameter to which the following are applied in successive layers.

6.1.2 A sheet or lapped tape of transparent PVC indicator compound as described in 5.1.

6.1.3 A sample of the core or sheathed cable under test, wound helically under slight tension for at least six close turns and with the ends firmly secured to the mandrel.

6.1.4 A strip of filter paper described in 5.2, covering about half the circumference of the cable turns.

6.1.5 A tape of PVC indicator compound, of composition shown in 5.1, wound under slight tension over the filter paper and turns of cable and secured to the mandrel to maintain tension.

6.2 Test Assembly for Cables Above 6 mm Outside Diameter, Sector Shaped Cores and for too Rigid Conductors

6.2.1 The preparation of test assembly given in 6.1 is suitable for cables up to about 6 mm outside diameter. If the cable is too large or has too rigid a conductor to maintain intimate contact between the cable and the indicator compounds, when wound on the mandrel, the test assembly described in 6.2.2 shall be used.

6.2.2 The sample of the core or sheathed cable, approximately 300 mm long shall be wrapped over 225 mm of its length with a tape of PVC indicator compound of the composition given in 5.1. The tape shall be applied with a slight tension and an overlap of 30 to 70 percent, the ends being bound to the cable to maintain tension. For 75 mm of this length the indicator compound shall be separated from the cable by a layer of filter paper, as described in 5.2.

6.3 Number of Specimens — One specimen of each colour.

7. Conditioning — No special pre-conditioning of the test specimen is required.

8. Procedure

8.1 The test specimen assembly prepared as described in 6 shall be stored in an air oven at a temperature of $50 \pm 1^\circ\text{C}$ for 72 hours.

8.2 At the end of this period, the assembly shall be stripped down and the portion of indicator compound tape which has been in contact with specimen shall be compared with the adjacent portions. The filter paper, if not already coloured, shall be rubbed on the specimen with hand using light pressure and examined again for stains. In both the cases, observation shall be made for any appreciable sign of transference of colour.

9. Tabulation of Observations

<i>Colour of Specimen</i>	<i>Appreciable Transference of Colour in Either Case (Yes or No)</i>
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10. Calculations — No calculation is involved.

11. Report

11.1 Bleeding and Blooming Test for Insulation and Sheath:

- a) Cable Type,
- b) Batch No./Lot No., and
- c) Cable No./Drum No.

11.2 Results:

Reference to Specification _____

Transference of colour observed: Yes/No.

11.3 Conclusion — Specimen meets/does not meet the requirements of the specification.