IS 10810-34 (1984): Methods of test for cables, Part 34: Measurement of thickness of metallic sheath [ETD 9: Power Cables]

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(Reaffirmed 2001)

Indian Standard

METHODS OF TEST FOR CABLES

PART 34 MEASUREMENT OF THICKNESS OF METALLIC SHEATH

[Ref : Doc : ETDC 59 (2240)]
Power Cables Sectional Committee, ETDC 59; Panel for Methods of Tests for Cables, ETDC 59/P1

1. Scope — Covers mthod for measurement of thickness of metallic sheath of electric cable.

2. Significance — The metallic sheath is provided in paper insulated cables to prevent any ingress of moisture to paper insulation and also to provide a path for earth fault currents. The above two factors have a bearing on the cross-sectional area of the sheath which is proportional to the thickness. This test is carried out to check whether the sheath has the designed thickness.

3. Terminology — *See* IS : 1885 (Part 32) - 1971 'Electrotechnical vocabulary : Part 32 Cables, conductors and accessories for electricity supply'.

4. Apparatus — A micrometer screw gauge fitted with rachet head, least count 0·01 mm. The moveable nose of the micrometer shall have plane circular face for flat samples and ball point for ring form samples, whereas the fixed nose shall have ball point only.

5. Material — No material other than test specimen is required.

6. Test Specimen — 50 to 75 mm long piece of metallic sheath cut and pulled out from the cable after discarding a minimum length of 150 mm.

6.1 The test specimen shall be cut open and reasonably flattened with the help of wooden or plastic hammer. For higher diameter the test specimen may be in the form of a ring.

7. Conditioning — The test specimen shall be cleaned to remove extraneous coatings, if any, without damaging, denting of scratching it.

8. Procedure — The thickness of the sheath shall be determined at six points approximately equidistant around the circumference of the ring sample or along the surface of the flat sample to ensure that the minimum thickness is measured.

9. Tabulation of Observation

Sample No.	*Thickness, t* mm
1.	
2.	
3	
4.	
5.	
6.	

10. Calculation

$$\text{Average thickness} = \frac{\Sigma t}{6}$$

11. Report

11.1 *Reference specification* _____

Sample No.	*Cable Description*	*Observed Thickness*		*Specified Thickness*	
		Average	Minimum	Nominal	Minimum

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

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Gr 1

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