

# इंटरनेट

# मानक

## Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10810-56 (1987): Methods of test for cables, Part 56: Accelerated aging by the air-pressure method [ETD 9: Power Cables]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



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

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



*Indian Standard***METHODS OF TEST FOR CABLES****PART 56 ACCELERATED AGEING TEST BY  
AIR PRESSURE METHOD**

**1. Scope** — Covers method of heat ageing test under air pressure for insulation and sheath of electric cables.

**2. Significance** — This method is intended for use in estimating the relative resistance of vulcanized rubber to age deterioration by assessment of change in tensile strength and elongation of materials by subjecting them to accelerating ageing under air pressure.

**3. Terminology**

**3.1 Variation** — Difference between the median value obtained after ageing and median value obtained without ageing expressed as a percentage of the latter.

**4. Apparatus** — As given in 4.1, in addition to those required for tensile strength and elongation at break of insulation and sheath in accordance with IS: 10810 ( Part 7 )-1984 'Methods of test for cables: Part 7 Tensile strength and elongation at break of thermoplastic and elastomeric insulation and sheath.'

**4.1 Air Pressure Chamber** — The chamber shall consist of a metal vessel designed to maintain an internal atmosphere of air under pressure with provisions for placing rubber specimens within it and subjecting the whole to controlled uniform temperature. Because of the superior temperature control and heat transfer, metal vessels completely immersed in a liquid medium are recommended for the purpose of referee tests. The apparatus shall conform to the following requirements:

- a) The size of the chamber is optional but shall be such that the specimens may be suspended in it vertically without undue crowding and without touching each other or the sides of the chamber. They shall not occupy more than one-tenth of the effective capacity of the chamber.
- b) The type of source of heat is optional, but shall be located outside the ageing chamber proper.
- c) The type of heating medium is optional. Steam, air or liquid media, known to be safe may be used.
- d) Automatic temperature control of the heating medium by means of thermostatic regulation shall be used.
- e) The pressure chamber shall be equipped with a reliable safety valve or rupture diaphragm set for release of over-pressure.

**5. Material** — Air, substantially free from oil and moisture.

**6. Test Specimen**

**6.1 Test specimen**, details given in 6 of IS: 10810 ( Part 7 )-1984 shall be applicable. Specimens shall be taken preferably from positions close to that from which specimens for test without ageing are taken.

**6.2 Number of Specimens** — Four in each case of insulation or sheath, in addition to those required for testing without ageing.

**7. Conditioning**

**7.1 Tests** are made not less than 24 hours after vulcanization. Conditioning before subjecting specimens to tensile strength and elongation at break shall be in accordance with IS: 10810 ( Part 7 )-1984.

**8. Procedure**

**8.1 Test for tensile strength and elongation at break** shall be carried out on four specimens ( without ageing ) of insulation or sheath in accordance with IS: 10810 ( Part 7 )-1984, if the results of that test are not available otherwise.

**8.2 Other four test specimens** shall be suspended without touching each other in the chamber which shall be filled with air at the specified pressure. The test specimen shall be kept in the chamber at the temperature and for the time specified in the relevant specification.

**8.3 At the end of ageing period**, the pressure shall be released gradually so as to reach atmospheric pressure in not less than 5 minutes, in order to avoid formation of pores in the test specimens.

Adopted 1 April 1987

© October 1987, BIS

Gr 1

**8.4 Test specimens shall, then, be taken out of the chamber and left at ambient temperature, avoiding direct sunlight, for at least 16 h. Test for tensile strength and elongation at break shall, then, be carried out in accordance with IS: 10810 ( Part 7 )-1984.**

[illegible]

**10.1 Tensile strength and elongation at break, before and after ageing, shall be calculated as given in IS: 10810 ( Part 7 )-1984.**

$$\mathbf{10.3 \text{ Elongation variation, percent} = \frac{E_1 - E_2}{E_1} \times 100}$$

### 11.1 Ageing Test Under Air Pressure

**Cable Type**\_\_\_\_\_

**Batch No./Lot No.** \_\_\_\_\_

Specimen No.	Tensile Strength Variation		Elongation Variation	
	Observed	Specified	Observed	Specified
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				

**Reprography Unit, BIS, New Delhi, India**