

**SPECIFICATION FOR
LOADED AND
UNLOADED EBONITE
FOR ELECTRICAL
PURPOSES**

BS 234 : 1971

THIS BRITISH STANDARD, having been approved by the Electrical Industry Standards Committee, was published under the authority of the Executive Board on 25 June, 1971.

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First published,	November 1925.
First revision,	June 1931.
Second revision,	May 1933.
Third revision,	December 1942 (War Emergency Edition).
Fourth revision,	September 1957.
Fifth revision,	June 1971.

SBN: 580 06613 4

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over 5000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook. The BS Yearbook may be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standards:

- BS 148. Insulating oil for transformers and switchgear.
- BS 358. Method for the measurement of voltage with sphere-gaps (one sphere earthed).
- BS 870. External micrometers.

AMD 4975

**Amendment No. 1
published and effective from 29 November 1985
to BS 234 : 1971**

**Specification for loaded and
unloaded ebonite for electrical purposes**

Obsolescence

Foreword. Insert the following paragraph at the end of the existing text:

‘Obsolescent (by Amendment No. 1)

The need for the material covered by this British Standard has been reviewed and it has been decided that, in the interests of rationalization, the standard should be declared as obsolescent. Its use for new designs is not recommended. The standard will be withdrawn in due course.’

- BS 903. Methods of testing vulcanized rubber.
Part C3. Determination of permittivity and power factor of insulating soft vulcanized rubber and ebonite.
Part D2. Plastic yield of ebonite at a specified temperature.
Part D4. Determination of cross-breaking strength of ebonite.
- BS 907. Dial gauges for linear measurement.
- BS 1610. Methods for the load verification of testing machines.
- BS 2067. Determination of power factor and permittivity of insulating materials (Hartshorn & Ward method).

British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following BSI references relate to the work on this standard:
Committee references ELE/16, ELE/16/53 and ELE/16/53/32
Draft for comment 67/32025

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CO-OPERATING ORGANIZATIONS

The Electrical Industry Standards Committee, under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- Associated Offices' Technical Committee
- Association of Consulting Engineers
- Association of Manufacturers of Domestic Electrical Appliances
- Association of Mining, Electrical and Mechanical Engineers
- Association of Supervisory and Executive Engineers
- *British Electrical and Allied Manufacturers' Association
- British Railways Board
- British Radio Equipment Manufacturers' Association
- Crown Agents for Oversea Governments and Administrations
- Department of Employment and Productivity
- Electric Cable Makers' Confederation
- Electrical Contractors' Association (Incorporated)
- Electrical Contractors' Association of Scotland
- *Electrical Research Association
- *Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales
- *Electronic Engineering Association
- Engineering Equipment Users' Association
- Institution of Electrical Engineers
- Lighting Industry Federation Limited
- *Ministry of Technology
- Ministry of Defence
- *Ministry of Defence, Army Department
- Ministry of Power
- Ministry of Public Building and Works
- Municipal Passenger Transport Association (Incorporated)
- National Inspection Council for Electrical Installation Contracting
- National Physical Laboratory (Ministry of Technology)
- Oil Companies Materials Association
- *Post Office
- Public Transport Association (Incorporated)
- South of Scotland Electricity Board

The Government and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the Committees entrusted with the preparation of this British Standard:

- Association of British Ebonite Manufacturers
- British Electro-Ceramic Manufacturers' Association
- British Plastics Federation
- British Rubber Manufacturers' Association
- Glass Textile Association
- Ministry of Defence, Navy Department
- Radio and Electronic Component Manufacturers' Federation
- Telephone Manufacturers' Technical Development Committee

BRITISH STANDARD SPECIFICATION FOR LOADED AND UNLOADED EBONITE FOR ELECTRICAL PURPOSES

FOREWORD

In this revision of BS 234 : 1957 the use of synthetic rubber and blends with natural rubber are permitted and another type of loaded ebonite has been included. The method of determination of cross-breaking strength has been amended to conform to Part D4 of BS 903* because the results obtained by the previous method could not be correlated with those obtained on other materials.

An impact test is not now considered necessary because the mechanical properties specified are sufficient to ensure a material of adequate quality.

SI units are used and no series of preferred thicknesses or diameters are given because no information is available on which a series could be based.

SPECIFICATION

1. GENERAL

1.1 SCOPE

This British Standard specifies ebonite in the form of sheets, rods, tubes and mouldings suitable for electrical purposes and composed substantially of good quality rubber and sulphur, with or without the addition of suitable compounding ingredients. The rubber may be natural or synthetic, or blends of these.

1.1.1 Types. Four types of ebonite are specified, as follows:

Types 1 and 2 Unloaded: black

Types 3 and 4 Loaded: usually supplied red or brown to distinguish them from Types 1 and 2.

1.1.2 Dimensions. Sheets are included in thicknesses from 1.5 mm to 50 mm but all thicknesses are not necessarily available in all the preferred sheet sizes.

Rods from 3 mm to 100 mm diameter are included, with preferred lengths.

Tubes of internal diameter from 3 mm to 50 mm and wall thickness from 1.5 mm to 6.5 mm are included but all wall thicknesses are not necessarily available with all internal diameters.

*BS 903, 'Methods of testing vulcanized rubber,' Part D4, 'Determination of cross-breaking strength of ebonite'.