

Solventless polymerisable resinous compounds used for electrical insulation —

Part 2: Methods of test —

Section 2.1 Materials other than coating powders

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Cooperating organizations

The General Electrotechnical Engineering Standards Committee, under whose direction this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:

- British Approvals Service for Electric Cables Limited
- Associated Offices Technical Committee
- British Electrical and Allied Manufacturers' Association (BEAMA)
- British Radio Equipment Manufacturers' Association
- British Steel Corporation
- Department of Energy (Electricity)
- Electric Cable Makers' Confederation
- Electrical Contractors' Association
- Electrical Contractors' Association of Scotland
- Electrical Research Association
- Electricity Supply Industry in England and Wales*
- Electronic Components Industry Federation*
- Electronic Engineering Association
- Engineering Equipment Users' Association
- Health and Safety Executive
- Home Office
- Institution of Electrical Engineers
- Ministry of Defence*
- National Coal Board
- Oil Companies Materials Association
- Post Office*

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

- Adhesive Tape Manufacturers' Association
- British Industrial Ceramic Manufacturers' Association
- British Paper and Board Industry Federation (PIF)
- Department of Industry (British Calibration Service)
- Department of Industry (National Physical Laboratory)
- Electrical and Electronic and Insulation Association (BEAMA)
- Rotating Electrical Machines Association (BEAMA)
- Telecommunication Engineering and Manufacturing Association (TEMA)
- The Transmission and Distribution Association (BEAMA)

This British Standard, having been prepared under the direction of the General Electrotechnical Engineering Standards Committee, was published under the authority of the Executive Board and comes into effect on 31 October 1979

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The following BSI references relate to the work on this standard:
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National foreword

This British Standard, prepared under the direction of the General Electrotechnical Engineering Standards Committee, is identical with IEC Publication 455-2 “*Specification for solventless polymerisable resinous compounds used for electrical insulation*” Part 2:1977 “*Methods of test*” including Amendment No. 1 (1982) published by the International Electrotechnical Commission (IEC).

Terminology and conventions. The text of the International Standard has been approved as suitable for publication, without deviation, as a British Standard. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

In the introduction and in the scope clause, the words “This standard is one of the series which deals with” should be read as “BS 5664 deals with”; similarly, “The series will have the following three parts:” and “This Part 2 of the standard” should be read as “BS 5664 will have three Parts:” and “This Part 2 Section 2.1 of BS 5664” respectively.

The comma has been used in Figure 1, Figure 2 and Figure 4 as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Cross-references

International Standard^a Corresponding British Standard

IEC 216-1:1974	BS 5691 <i>Guide for the determination of thermal endurance properties of electrical insulating materials</i> Part 1:1979 <i>General procedures for the determination of thermal endurance properties, temperature indices and thermal endurance profiles</i> (Identical)
IEC 216-2:1974	BS 5691-2:1979 <i>List of materials and available tests</i> (Identical)
IEC 249-3:1973	BS 4584 <i>Metal-clad base materials for printed circuits</i> Part 11:1977 <i>Bonding sheet material for use in the fabrication of multilayer printed boards</i> (Identical)
IEC 426:1973	BS 5735:1979 <i>Test methods for determining electrolytic corrosion with electrical insulating materials</i> (Identical)
IEC 464-2:1974	BS 5629 <i>Insulating varnishes containing solvent</i> Part 2:1979 <i>Methods of test</i> (Identical)
ISO 37:1977	BS 903 <i>Methods of testing vulcanized rubber</i> Part A2:1971 <i>Determination of tensile stress-strain properties</i> (Technically equivalent)
ISO 48:1975	BS 903-A26:1969 <i>Determination of hardness</i> (Technically equivalent)
ISO 178:1975	BS 2782-3 <i>Mechanical properties</i> Method 335A:1978 <i>Determination of flexural properties of rigid plastics</i> (Identical)
ISO/R 181:1961	BS 2782:1970 <i>Methods of testing plastics</i> (Technically equivalent)
ISO/R 272:1968	BS 3692:1967 <i>ISO metric precision hexagon bolts, screws and nuts</i> (Technically equivalent)

International Standard ^a	Corresponding British Standard
ISO 1400:1975	BS 903 <i>Methods of testing vulcanized rubber</i> Part A26:1969 <i>Determination of hardness</i> (Technically equivalent)
ISO 1818:1975	BS 903-A26:1969 <i>Determination of hardness</i> (Technically equivalent)
ISO 2039:1973	BS 2782 <i>Methods of testing plastics</i> Part 3 <i>Mechanical properties</i> Method 365D:1978 <i>Determination by the ball indentation method</i> (Identical)
ISO 2114:1974	BS 2782-4 <i>Chemical properties</i> Method 432B:1976 <i>Determination of the acid value of unsaturated polyester resins</i> (Identical)
ISO 2554:1974	BS 2782 <i>Methods of testing plastics</i> Part 4 <i>Chemical properties</i> Method 432C:1978 <i>Determination of hydroxyl value of unsaturated polyester resins</i> (Identical)
ISO 3521:1976	BS 2782 <i>Methods of testing plastics</i> Part 6 <i>Dimensional properties</i> Method 644A:1979 <i>Determination of total volume shrinkage of polyester and epoxide casting resins</i> (Identical)

^a Undated in the text.

There are no corresponding British Standards for the following International Standards:

IEC 93, IEC 112, IEC 243, IEC 250, IEC 343, ISO/R 62, ISO 75, ISO/R 179, ISO/R 527, ISO/R 584, ISO/R 868, ISO/R 1158, ISO/R 1195, ISO 1675, ISO 2431, ISO 2535, ISO 2555, Draft ISO 2582, ISO 3001.

The technical committee has reviewed the provisions of the above standards and has decided that they are acceptable for use in conjunction with this standard. Related standards for some of the above are listed below:

IEC 112:1971	BS 3781:1964
IEC 243:1967	BS 2918:1957
IEC 250:1969	BS 2067:1953, BS 4542:1970
ISO/R 62:1958	BS 2782:1970
ISO 75:1974	BS 2782-1:Methods 121A, 121B, 121C:1976
ISO/R 179:1961	BS 2782-3:Method 351A:1977
ISO/R 527:1966	BS 2782-3:Methods 320A to 320F:1976
ISO 2431:1972	BS 3900-A6:1971

Additional information. Attention is drawn to the following.

- When stating the result, as required by **5.3**, it is recommended that the average of the three times that are taken to reach a penetration of only 0.5 mm be reported.
- Throughout when “crucibles” are mentioned, the covers should be understood as being included.
- In the first line of the second paragraph of **7.3**, “they” should be read as meaning “the crucibles and covers”.

- d) Only a weighing chair is mentioned in 11.1 as test apparatus required, but it should be noted that a drying chamber, desiccator, and analytical balance are required for the test procedure described in 11.2. These items can be as required by 7.1.
- e) When grinding the mixture, as required in 18.3, care should be taken to prevent overheating.
- f) When reporting the results, as required in 29.4, if there is an inflection in the curve of expansion against temperature, the coefficient above and below the point of inflection should be reported and also the temperature of the point of inflection.

NOTE *Textual error.* In 19.2 the symbols “ m_1 ”, “ m_2 ” and “ m_3 ” should be read as if printed in italic (sloping) type, i.e. m_1 , m_2 and m_3 .

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to vi, pages 1 to 12, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.