

Specification for

Insulating and sheathing materials for cables

Part 8. Cross-linked sheathing compounds having low emission of corrosive gases, and suitable for use in cables having low emission of smoke when affected by fire

Section 8.2 Ordinary duty oil-resisting types

IMPORTANT NOTE. This Section of BS 7655 is to be read in conjunction with BS 7655 : Part 0.

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Committees responsible for this British Standard

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Association of Consulting Engineers
British Approvals Service for Cables
British Cable Makers Confederation
British Plastics Federation
British Railways Board
British Rubber Manufacturers' Association Ltd.
British Telecommunications plc
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Foreword

This Section of BS 7655 has been prepared by Subcommittee GEL/20/3. It specifies the ordinary duty oil-resisting cross-linked sheathing compound having low emission of corrosive gases, and suitable for use in cables having low emission of smoke when affected by fire.

This Section of BS 7655 supersedes BS 7655 : Section 2.5 : 1993 which is withdrawn.

Test methods are specified in this Section of BS 7655 by reference to the latest edition of standards in which they appear. A dated reference to the most recent edition of the relevant standard for each test method is given in Part 0, which is to be read in conjunction with this Section.

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 and ii, pages 1 and 2, an inside back cover and a back cover.

Specification

1 Scope

This Section of BS 7655 specifies the requirements for the cross-linked sheathing compound listed in table 1. The relevant test methods are given in BS EN 60811 and BS 6425 : Part 1.

NOTE. Requirements for smoke emission, which are based on tests on cables and not individual materials, are given in the relevant cable standard.

This Section is to be read in conjunction with BS 7655 : Part 0, which contains essential provisions for the application of this Section of BS 7655.

Table 1. Types of cross-linked sheath having low emission of corrosive gases, and suitable for use in cables having low emission of smoke when affected by fire

| Type | Maximum cable operating temperature °C | General application |
|-------|--|-----------------------------|
| LRS 1 | 85 | Ordinary duty oil-resisting |

2 References

2.1 Normative references

For the purposes of this Section of BS 7655, the requirements of 2.1 of BS 7655 : Part 0 apply with regard to normative references.

The latest editions of the standards giving test methods are listed in the most recent edition of BS 7655 : Part 0.

2.2 Informative references

For the purposes of this Section of BS 7655, the requirements of 2.2 of BS 7655 : Part 0 apply with regard to informative references.

3 Definitions

For the purposes of this Section of BS 7655 the definitions given in clause 3 of BS 7655 : Part 0 apply.

4 Requirements

The requirements specified for each compound listed in table 2 shall be met when the compound is tested using the test methods listed against each particular requirement.

NOTE. For cross-references to the latest editions of the test method standards see table 2 of BS 7655 : Part 0.



* 2 *

| Table 2. Test requirements | | | |
|---|--|---------------|-------------------------------------|
| Test | Test methods in accordance with BS EN 60811 unless otherwise stated | | Requirements for sheath type |
| | Section | Clause | LRS 1 |
| <i>Properties in the state as manufactured</i> | 1-1 | 9.2 | |
| Minimum tensile strength (N/mm ²) | | | 8 |
| Minimum elongation at break (%) | | | 150 |
| <i>Properties after ageing in air oven</i> | 1-2 | 8.1 | |
| Temperature (°C) | | | 120 ± 2 |
| Duration (h) | | | 7 × 24 |
| Maximum variation for tensile strength (%) | | | 30 |
| Maximum variation for elongation at break (%) | | | 30 |
| <i>Properties after ageing in air bomb</i> | 1-2 | 8.2 | |
| Temperature (°C) | | | 127 ± 2 |
| Duration (h) | | | 40 |
| Maximum variation for tensile strength (%) | | | 50 ¹⁾ |
| Maximum variation for elongation at break (%) | | | 50 ¹⁾ |
| <i>Hot set test</i> | 2-1 | 9.2 | |
| Temperature (°C) | | | 200 ± 3 |
| Duration (min) | | | 15 |
| Mechanical stress (N/mm ²) | | | 0.2 |
| Test requirements | | | |
| Maximum elongation under load (%) | | | 100 |
| Maximum elongation after unloading (%) | | 25 | |
| <i>Mineral oil immersion test</i> | 2-1 | 10 | |
| Temperature (°C) | | | 100 ± 2 |
| Duration (h) | | | 24 |
| Maximum variation for tensile strength (%) | | | 40 |
| Maximum variation for elongation at break (%) | | | 40 |
| <i>Halogen gas emission test</i> | BS 6425 : Part 1 | | |
| Maximum value (%) | | | ≤ 0.5 |

¹⁾ Only a reduction in values is subject to verification.

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