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Specification for

**Oil resistant
compressed asbestos
fibre jointing**

British Standards Institution



Documents

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

Committee reference PEE/4/1 PEE/4 Draft for comment 70/37668

Co-operating organizations

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

British Mechanical Engineering Confederation
British Rubber Manufacturers' Association Ltd.
British Steel Industry
*Council of British Manufacturers of Petroleum
Equipment

Department of Trade and Industry
Gas Council
*Oil Companies' Materials Association

The scientific and industrial 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 standard:

Engineering Equipment Users' Association
Individual manufacturers



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Foreword

This British Standard is the second revision of BS 1832, and has been carried out under the authority of the Petroleum Equipment Industry Standards Committee.

Further consideration has been given to combining BS 1832 and BS 2815* and while it now appears that this may be possible, consideration has also been given to the publication of one British Standard to cover all jointing materials. Such projects are considered long term and it has therefore been decided to issue this revision of BS 1832 as an independent standard, in order that the standard may be published in a form reflecting current practice and knowledge, and also to publish the standard in metric dimensions.

The tensile strength test has been omitted from this revision as results are not considered to be of value in assessing quality or performance of this type of material. The more onerous stress relaxation test is considered to be of greater value. The pressure test between flanges has also been deleted, since experience has shown that the test is unreliable.

This revision maintains the principle that whenever possible the corresponding clauses and provisions of BS 1832 and BS 2815 are identical, thus providing for the maximum co-ordination between the two standards.

All dimensions in this standard are expressed in millimetres.

* BS 2815, 'Compressed asbestos fibre jointing'.

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British Standard Specification for

Oil resistant compressed asbestos
fibre jointing

Specification

1. Scope

1.1 This British Standard specifies the composition, quality and finish, density, and thickness of oil resisting compressed asbestos fibre jointing. It specifies tests for compressibility, resistance to oil and water, flexibility after accelerated ageing and stress relaxation.

1.2 Jointing with a reinforcement of wire mesh is not covered by this Standard because the effects of the wire on many of the properties of the material would nullify the results of the specified tests.

NOTE. The titles of the British Standards referred to in this standard are listed on the inside back cover.

2. Testing

The manufacturer shall perform all tests specified in this standard on each batch of materials (see 11.2) and the certificate of compliance specified in Clause 15 shall be interpreted as stating that these tests have been performed.

3. Composition

The jointing shall be prepared from well-opened chrysotile asbestos fibre thoroughly mixed with a suitable oil resistant bonding material. The asbestos content shall be not less than 70% by weight.

4. Quality and finish

The sheets of jointing shall be solid run (single ply), of uniform texture, smooth on both sides and free from local irregularities.

When agreed between the purchaser and the manufacturer or supplier, one or both surfaces shall be treated with graphite or other acceptable release agent.

5. Density

For the purposes of this British Standard the density is defined as the mass in grams per cubic centimetre as determined by mass, area and thickness. The density of the jointing, after conditioning as described in Appendix A, shall be not less than 1.65 and not more than 2.0.

6. Recommended thicknesses

6.1 The nominal thickness of the material shall be as specified in the contract or order. The recommended thicknesses are 0.25, 0.5, 0.75, 1.0, 1.5, 2.0 and 3.0 mm.

6.2 The maximum permissible variation of any sheet from the nominal thickness and the maximum permissible variation in thickness between any points not more than 250 mm apart shall be in accordance with Table 1.

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Table 1. Tolerance on thickness of sheets

Nominal thickness of sheet	Maximum permissible variation from nominal thickness	Maximum permissible variation between points not more than 250 mm apart
mm	mm	mm
Up to and including 0.5	± 0.05	0.05
Over 0.5 up to and including 1.0	± 0.10	0.10
Over 1.0 up to and including 2.0	± 0.15	0.10
Over 2.0	± 0.20	0.15

6.3 The thickness shall be measured with a ratchet micrometer that complies with the provisions of BS 870 and has an anvil of from 6 mm to 16 mm diameter. The reading shall be taken after three clicks of the ratchet.

7. Resistance to oil and water

7.1 Oil. The material shall be tested in oil in accordance with the method described in Appendix A and shall not show an absorption greater than the following:

25% as measured by the increase on the original mass;

25% as measured by the increase on the original thickness.

7.2 Water. The material shall be tested in water in accordance with the method described in Appendix A, and shall not show an absorption of more than 10% as measured by the increase on the original weight.

8. Compression

The material shall be tested in accordance with the method described in Appendix B and the depth of the impression on the material shall lie within the following limits.

Thickness	Depth of impression as a percentage of original thickness
mm	
0.75 and over	Minimum 6% Maximum 14%

NOTE. Figures for thicknesses under 0.75 mm have been omitted owing to the practical difficulty of making satisfactory measurements.

9. Flexibility after accelerated ageing

A sample of material shall be tested by the method described in Appendix C and this sample shall show no signs of cracking.

10. Stress relaxation test

The material shall be tested in accordance with the method described in Appendix D and the residual stress determined by three successive tests shall be not less than 23.0 N/mm²*. A method of test to determine maximum stress value and a method of calibration of stress relaxation test apparatus are given in Appendices E and F, respectively.

* 1 N/mm² = 1 MN/m².