

Plastics — Poly (methyl methacrylate) double- and triple-skin sheets — Test methods

ICS 83.140

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PRI/75, Plastics and rubber films and sheets, upon which the following bodies were represented:

- British Plastics Federation
- Her Majesty’s Stationery Office
- Institute of Trading Standards Administration
- Ministry of Defence
- Packaging and Industrial Films Association
- PIRA International

This British Standard, having been prepared under the direction of the Sector Board for Materials and Chemicals, was published under the authority of the Standards Board and comes into effect on 15 December 1996

© BSI 11-1998

The following BSI references relate to the work on this standard:
Committee reference PRI/75
Draft for comment 93/302918 DC

ISBN 0 580 26602 8

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
1 Scope	3
2 Normative references	3
3 Definitions and abbreviations	3
4 Composition of materials	4
5 Characteristics	4
6 Test methods	5
7 Condensate formation	7
Annex A (normative) Determination of luminous transmittance of PMMA double- and triple-skin sheets	11
Annex B (normative) Bending test to examine the chemical compatibility of PMMA with other materials	14
Annex ZA (normative) Normative references to international publications with their relevant European publications	16
Figure 1 — Example of a double-skin sheet	3
Figure 2 — Example of a double-skin sheet	4
Figure 3 — Example of a triple-skin sheet	4
Figure 4 — Examples of typical dimensions and mass per unit area of DSS	8
Figure 5 — Examples of typical dimensions and mass per unit area of TSS	8
Figure 6 — Curvature of sheet surface	9
Figure 7 — Curvature of edge in extrusion direction	10
Figure 8 — Three-point bending test	10
Figure A.1 — Integrating sphere for measuring light transmittance τ_A (determination of E_x)	13
Figure B.1 — Bending test for chemical compatibility	15
List of references	Inside back cover

National foreword

This British Standard has been prepared by Technical Committee PRI/75 and is the English language version of EN ISO 12017:1996 *Plastics — Poly(methyl methacrylate) double- and triple-skin sheets — Test methods*, published by the European Committee for Standardization (CEN). It is identical with ISO 12017:1995 published by the International Organization for Standardization (ISO).

EN 12017:1996 was produced as a result of international discussions in which the United Kingdom took an active part.

Cross-references

Publication referred to	Corresponding British Standard
EN 201420-2:1993 (ISO 140-2:1991)	BS EN 20140 <i>Acoustics. Measurement of sound insulation in buildings and of building elements</i> Part 2:1993 <i>Determination, verification and application of precision data</i>
EN ISO 140-3:1995 (ISO 140-3:1995)	BS EN ISO 140 <i>Acoustics. Measurement of sound insulation in buildings and building elements</i> Part 3:1995 <i>Laboratory measurement of airborne sound insulation of building elements</i>
ISO 2859-1:1989	BS 6001 <i>Sampling procedures for inspection by attributes</i> Part 1:1991 <i>Specification for sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection</i>
ISO 4892-2:1994	BS 2782 <i>Methods of testing plastics</i> Part 5 <i>Optical and colour properties, weathering</i> Method 540E:1995 <i>Methods of exposure to laboratory light sources. Xenon arc sources</i>

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 and ii, the EN title page, pages 2 to 16, 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.

ICS 83.140

Descriptors: See ISO document

English version

Plastics — Poly(methyl methacrylate) double- and triple-skin sheets — Test methods

(ISO 12017:1995)

Plastiques — Plaques de poly(méthacrylate de méthyle) à double et triple paroi — Méthodes d'essai
(ISO 12017:1995)

Kunststoffe — Poly(methyl methacrylat) Stegdoppel- und Stegdreifachplatten — Prüfverfahren
(ISO 12017:1995)

This European Standard was approved by CEN on 1996-07-12. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

© 1996 Copyright reserved to CEN members

1 Scope

This International Standard specifies the test methods for quality control of poly(methyl methacrylate) (PMMA) extruded double- and triple-skin flat sheets, obtained from colourless and coloured transparent, translucent and opaque grades of materials as defined in clause 4.

The minimum sheet width is 600 mm.

The main applications of these sheets are in building and agriculture (greenhouses).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 140-1:1990, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 1: Requirements for laboratories.*

ISO 140-2:1991, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 2: Determination, verification and application of precision data.*

ISO 140-3:1978, *Acoustics — Measurement of sound insulation in buildings and of building elements — Part 3: Laboratory measurements of airborne sound insulation of building elements.*

ISO 291:1977, *Plastics — Standard atmospheres for conditioning and testing.*

ISO 2818:1994, *Plastics — Preparation of test specimens by machining.*

ISO 2859-0:—¹⁾, *Sampling procedures for inspection by attributes — Part 0: Introduction to the ISO 2859 attribute sampling system.*

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection.*

ISO 4892-2:1994, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc sources.*

ISO 7823-2:1989, *Plastics — Poly(methyl methacrylate) sheets — Types, dimensions and characteristics — Part 2: Melt-calendered extruded sheets.*

ISO 8302:1991, *Thermal insulation — Determination of steady-state thermal resistance and related properties — Guarded hot plate apparatus.*

ISO/CIE 10526:1991, *CIE standard colorimetric illuminants.*

3 Definitions and abbreviations

For the purposes of this International Standard, the following definitions and abbreviations apply.

3.1

double-skin sheet (DSS)

a sheet having two parallel external skins, differently spaced and jointed by ribs of different shapes (see examples in Figure 1 and Figure 2)

3.2

triple-skin sheet (TSS)

a sheet having two external and an internal skin which is parallel and properly spaced by ribs from the external one (see an example in Figure 3)

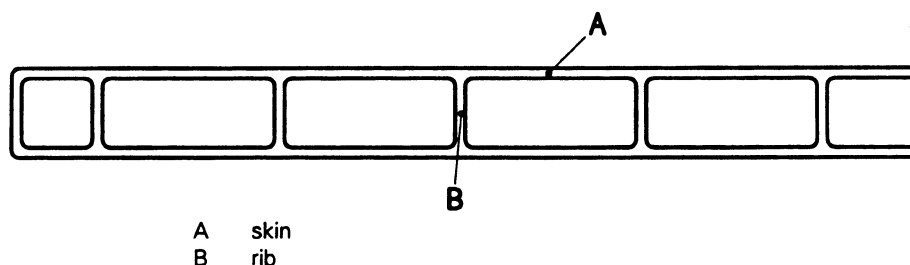


Figure 1 — Example of a double-skin sheet

¹⁾ To be published.