INTERNATIONAL STANDARD

ISO 1288-5

First edition
2016-02-15

Glass in building — Determination of the bending strength of glass —

Part 5: Coaxial double ring test on flat specimens with small test surface areas

Verre dans la construction — Détermination de la résistance du verre à la flexion —

Partie 5: Essais avec doubles anneaux concentriques sur éprouvettes planes, avec de petites surfaces de sollicitation

Reference number
ISO 1288-5:2016(E)

© ISO 2016



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Symbols ... **1**

5 Principle of test method ... **2**

6 Apparatus ... **3**
6.1 Testing machine ... 3
6.2 Loading device ... 3
6.3 Measuring instruments ... 5

7 Sample ... **5**
7.1 Shape and dimensions of specimens ... 5
7.2 Sampling and preparation of specimens ... 6
7.2.1 Cutting and handling ... 6
7.2.2 Conditioning ... 6
7.2.3 Examination ... 6
7.2.4 Adhesive film ... 6
7.3 Number of specimens ... 6

8 Procedure ... **6**
8.1 Temperature ... 6
8.2 Humidity ... 6
8.3 Thickness measurement ... 6
8.4 Base plate ... 6
8.5 Positioning of specimen and loading ring ... 7
8.6 Load application ... 7
8.7 Location of the origin ... 7
8.8 Assessment of residual stresses ... 7

9 Evaluation ... **7**
9.1 Limitation of the evaluation ... 7
9.2 Calculation of bending strength ... 8

10 Test report ... **8**

Bibliography ... **9**

© ISO 2016 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 160, *Glass in building*, Subcommittee SC 2, *Use considerations* in conjunction with Technical Committee CEN/TC 129, *Glass in building*.

ISO 1288 consists of the following parts, under the general title *Glass in building — Determination of the bending strength of glass*:

— *Part 1: Fundamentals of testing glass*

— *Part 2: Coaxial double-ring test on flat specimens with large test surface areas*

— *Part 3: Test with specimen supported at two points (four-point bending)*

— *Part 4: Testing of channel-shaped glass*

— *Part 5: Coaxial double-ring test on flat specimens with small test surface areas*

This International Standard has been based on EN 1288-5, *Glass in building — Determination of the bending strength of glass — Part 5: Coaxial double-ring test on flat specimens with small test surface areas* prepared by Technical Committee CEN/TC 129 "Glass in building".

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

© ISO 2016 – All rights reserved

Glass in building — Determination of the bending strength of glass —

Part 5: Coaxial double ring test on flat specimens with small test surface areas

1 Scope

This part of ISO 1288 specifies a method for determining the comparative bending strength of glass for use in buildings, excluding the effects of the edges.

See ISO 1288-1, 5.1.4 for an explanation as to why this test method should only be used for comparing the strength of types of glass and not for assessing strength for design purposes.

The limitations of this part of ISO 1288 are described in ISO 1288-1.

ISO 1288-1 should be read in conjunction with this part of ISO 1288.

This test method is not suitable for patterned glass.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
bending stress
tensile bending stress induced in the surface of a specimen

Note 1 to entry: For testing purposes, the bending stress should be uniform over a specified part of the surface.

4 Symbols

F	load	N
F_{max}	load at breakage, “breaking load”	N
h	thickness of specimen	m
L	side length of square specimens	m
K_1,K_2	constants for calculation of bending stress	

© ISO 2016 – All rights reserved