

Outdoor furniture — Seating and tables for camping, domestic and contract use

Part 3: Mechanical safety requirements and test methods for tables

The European Standard EN 581-3:2007 has the status of a
British Standard

ICS 97.140; 97.200.30

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 581-3:2007. It supersedes BS EN 581-3:1999 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee FW/0, Furniture.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

<http://www.china-gauges.com/>

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2007

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 2007

ISBN 978 0 580 50713 7

English Version

Outdoor furniture - Seating and tables for camping, domestic
and contract use - Part 3: Mechanical safety requirements and
test methods for tables

Mobilier d'extérieur - Siège et tables à usages domestique,
collectif et de camping - Partie 3: Exigences et essais de
sécurité mécanique des tables

Außenmöbel - Sitzmöbel und Tische für Camping-, Wohn-
und Objektbereich - Teil 3: Mechanische
Sicherheitsanforderungen und Prüfverfahren für Tische

This European Standard was approved by CEN on 15 March 2007.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 General test conditions	4
5 Test equipment	5
5.1 General.....	5
5.2 Floor.....	5
5.3 Steel test tube	5
6 Test methods and requirements	5
6.1 General.....	5
6.2 Stability	5
6.2.1 Stability test under vertical load	5
6.2.2 Tables where the structure is intended to support a parasol.	7
6.3 Vertical static load test.....	7
6.3.1 Vertical static load on the table top	7
6.3.2 Vertical static load test on end extensions	9
6.4 Horizontal fatigue test	9
6.5 Test sequence and test parameters.....	13
7 Instruction for use	13
8 Test report	14
Annex A (informative) Purchase information (Guidelines)	15
Annex B (informative) Significant technical changes in revised edition of this standard	16

<http://www.china-gauges.com/>

Licensed Copy: Wang Bin, na, Thu Aug 09 02:42:55 GMT+00:00 2007, Uncontrolled Copy, (c) BSI

Foreword

This document (EN 581-3:2007) has been prepared by Technical Committee CEN/TC 207 "Furniture", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

This document supersedes EN 581-3:1999.

Informative Annex B provides details of significant technical changes between this European Standard and the previous edition.

This document consists of following parts with the general title, *Outdoor furniture – Seating and tables for camping, domestic and contract use*:

Part 1: General safety requirements

Part 2 (ENV): Mechanical safety requirements and test methods for sampling

Part 4: (CEN/TR) Requirements and test methods for durability under the influence of climatic conditions

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

1 Scope

This European Standard specifies the mechanical safety requirements and test methods for outdoor tables used by adults for camping, domestic and contract use without regard to materials, design/construction or manufacturing processes.

This document does not apply to outdoor furniture for severe contract use where higher requirements may be necessary, nor does it apply to street furniture and furniture permanently fixed to the ground/wall.

Annex A (informative) specifies guidelines for purchase information.

Information regarding ageing and degradation caused by light, temperature and moisture has not been included.

2 Normative references

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

EN 581-1, *Outdoor furniture – Seating and tables for camping, domestic and contract use – Part 1: General safety requirements*

EN 1730, *Domestic furniture – Tables – Test methods for determination of strength, durability and stability*

3 Terms and definitions

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

3.1 outdoor tables for contract use
outdoor tables intended for non-private use in places with public access such as restaurants, open-air swimming pools, beaches and vocational and leisure sites

3.2 outdoor tables for domestic use
outdoor tables intended for private use in places without public access such as gardens, winter gardens, terraces, balconies etc...

3.3 outdoor tables for camping use
outdoor tables, foldable or knock-down and light-weight, intended for use in connection with camping and travelling

4 General test conditions

The general test conditions shall be as specified in EN 1730 with the exception of the conditioning time, which shall be at least 24 h, instead of 1 week.

The tests are described in terms of the application of forces. Masses, however, can be used. The relationship 10 N = 1 kg shall be used for this purpose.

<http://www.china-gauges.com/>

Licensed Copy: Wang Bin, na, Thu Aug 09 02:42:55 GMT+00:00 2007, Uncontrolled Copy, (c) BSI

5 Test equipment

5.1 General

The test equipment shall be as in EN 1730 with the exception of the floor which shall be as specified in 5.2.

5.2 Floor

Horizontal, flat and rigid with a smooth surface.

NOTE Examples of suitable floors: Plastics laminate, Bakelite board and steel.

5.3 Steel test tube

A steel tube, 18 mm in diameter and a 1,5 mm wall thickness with a length that allows a force to be applied from 2 200 mm above the floor.

6 Test methods and requirements

6.1 General

The general safety requirements stated in EN 581-1 shall be fulfilled.

The table shall not overturn when tested according to clause 6.2.

At the end of each test specified in clause 6.3 and clause 6.4, there shall be no structural damage or other deterioration that affects safety, and the table shall fulfil its functions (i.e. folding, unfolding, adjustments, operation of extensions etc).

6.2 Stability

6.2.1 Stability test under vertical load

Measure the largest dimension of the table top.

NOTE 1 For rectangular tables, the largest dimension to consider is the length. The diagonal is not to consider as a dimension in this case.

Using this dimension, determine the force F , as follows (see also Figure 2):

- Camping use: $F = 200$
- Domestic use: For L smaller than 800 mm $F = 200$ N
 For L between 800 mm and 1600 mm $F = L/4$ N
 For L larger than 1 600 mm $F = 400$ N
- Contract use: For L smaller than 800 mm $F = 200$ N
 For L between 800 mm and 1 000 mm $F = L-600$ N
 For L larger than 1 000 mm $F = 400$ N

If the table is fitted with drawers, these shall not be loaded during this test.

The vertical force F shall be applied to the side where the load is most likely to cause overturning, as far away from the supports as possible, and at a point 50 mm from the outer edge of the table top (see Figure 1).

NOTE 2 Reference is made to EN 14749 for additional test methods for tables with storage capability.

Dimensions in millimetres

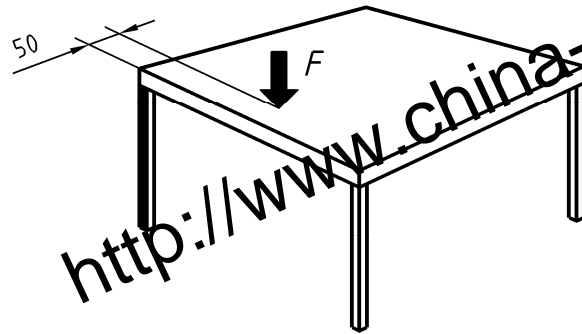
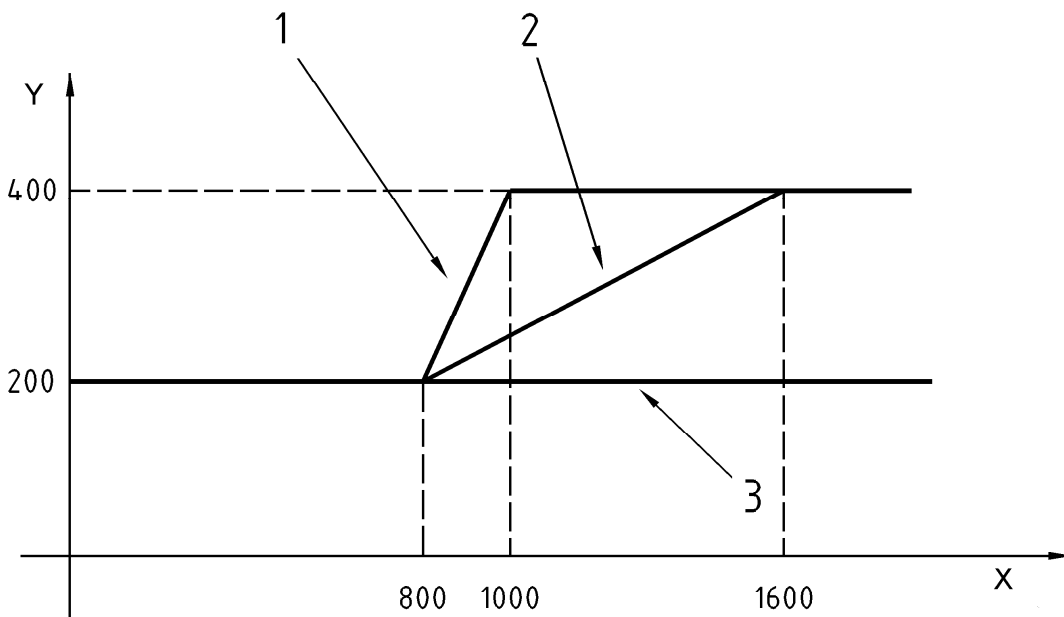


Figure 1 — Stability under vertical load



Key

- | | | | |
|---|----------|---|-------------------------|
| 1 | Contract | X | L or \varnothing (mm) |
| 2 | Domestic | Y | F_1 (N) |
| 3 | Camping | | |

Figure 2 — Determination of the vertical stability force F

<http://www.china-gauges.com/>

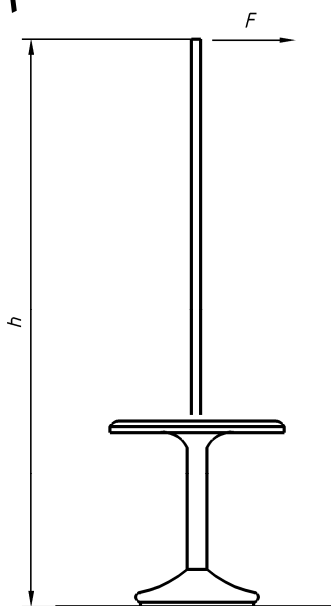
6.2.2 Tables where the structure is intended to support a parasol.

This test only applies to tables that do not require parasols to be used with their own bases.

Secure the steel test tube (5.3) in the table's fixture for holding parasols.

Apply a horizontal force F of 30 N at a height h of 2 200 mm (see Figure 3).

Figure 3 shows an example of a table where the structure is intended to support a parasol.



Key

F horizontal force

h height

Figure 3 — Stability of tables where the structure is intended to support a parasol

6.3 Vertical static load test

6.3.1 Vertical static load on the table top

Place the table on the floor (5.2) in normal position of use.

Apply, according to EN 1730, the force(s) F , specified in Table 1, at the following application point(s):

- for a table top length $L \leq 1\,600$ mm, at the geometric centre of the table (see Figure 4),
- for a table top length $L > 1\,600$ mm, at 2 points positioned on the longitudinal axis of the table top with 400 mm on either side of the transversal axis (see Figure 5),

— for table tops with central extension(s), assemble the extension(s), and apply the force(s) at 1 or 2 point(s) as specified above.

NOTE If necessary, a foam layer may be used between the loading pad and the test surface.

Carry out for the number of cycles specified in Table 1, with 5 s to 10 s between applications.

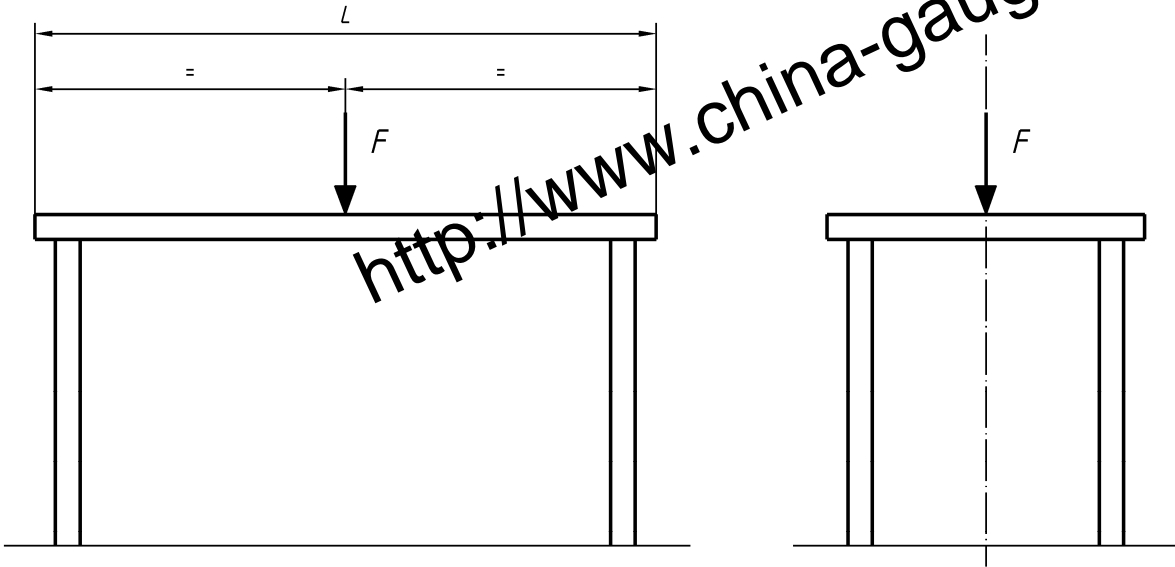


Figure 4 — Strength of table tops, length $L \leq 1600\text{mm}$

Dimensions in millimetres

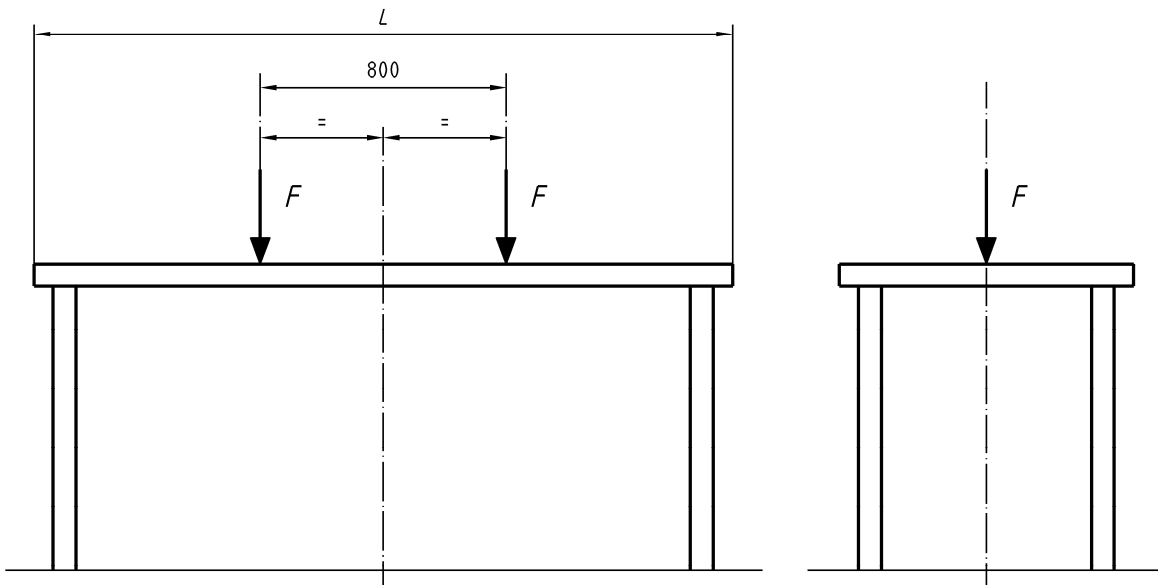


Figure 5 — Strength of table tops, length $L > 1600\text{ mm}$

Licensed Copy: Wang Bin, na, Thu Aug 09 02:42:55 GMT+00:00 2007, Uncontrolled Copy, (c) BSI

<http://www.china-gauges.com/>

6.3.2 Vertical static load test on end extensions

Place the table on the floor (5.2) in normal position of use.

Load the table top with an evenly distributed load sufficient to prevent overturning during the test.

In the extended configuration, apply a force F_3 , 100 mm from the outer edge of the table top, at the middle of the width (see Figure 6).

NOTE If necessary, a foam layer may be used between the loading pad and the test surface.

Carry out for the number of cycles specified in Table 1, with 5 s to 10 s between applications.

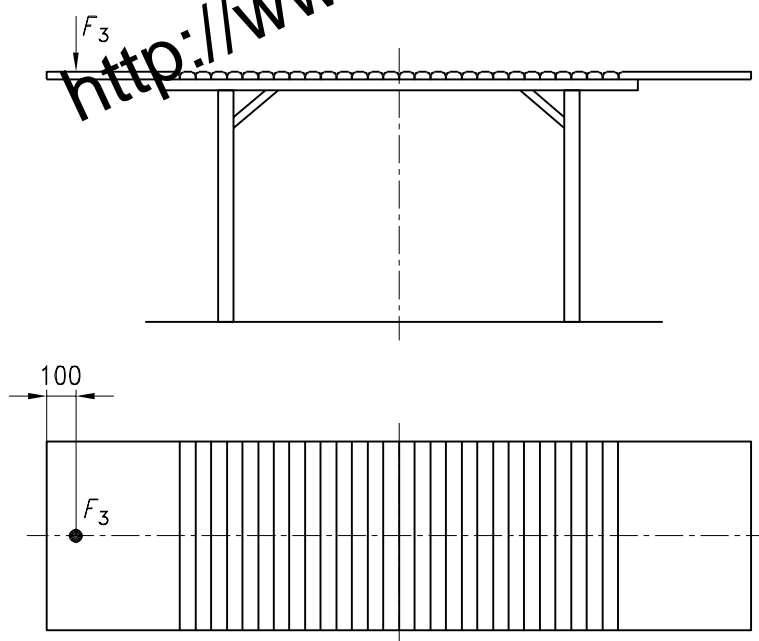


Figure 6 — Strength of end extensions

6.4 Horizontal fatigue test

Restrain the base of the table by placing stops around each leg/base (in all directions).

Place a mass M , specified in Table 1, at the geometric centre of the table top so that the table remains horizontal during testing.

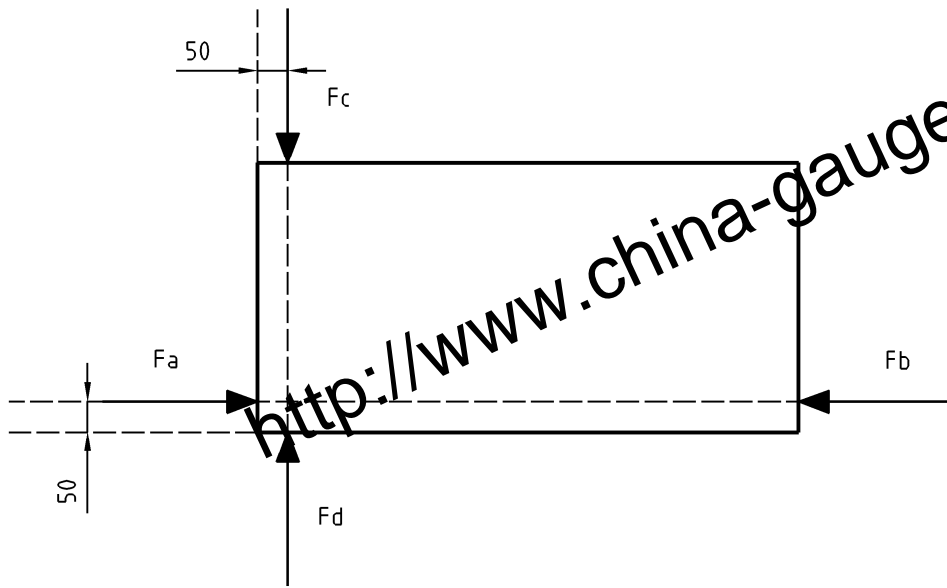
Apply two alternating horizontal forces, specified in Table 1, using, e.g. masses, string and pulley, at the height of the top surface by means of two loading pads. These should be applied to the application points specified in Figure 7.

The test may be carried out in a one stage cycle a, c, b, d or in a two stage cycle a, b followed by c, d.

If the table tends to tilt in one direction of loading at a load less than that specified, reduce the horizontal force until tilting is just prevented in that direction only. Carry out the test using this reduced force in that direction only. Record the value of any reduced force used.

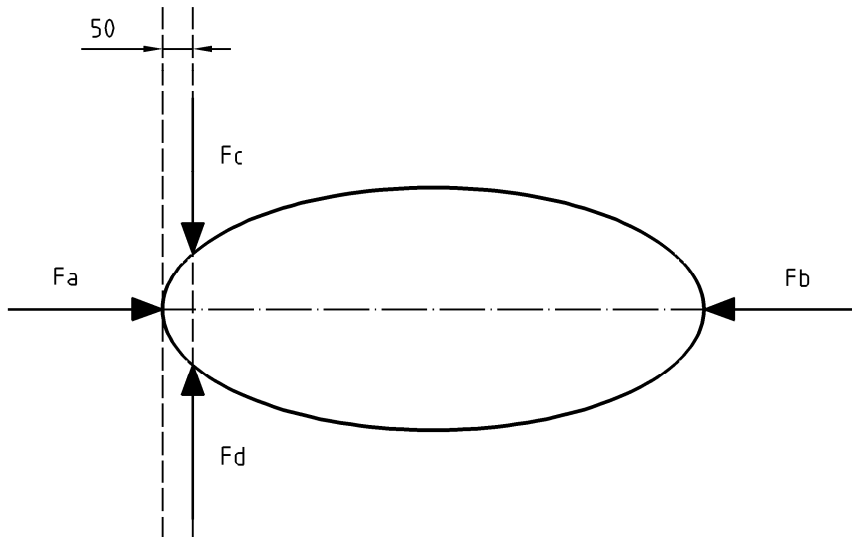
Carry out the test for the number of cycles specified in Table 1.

Dimensions in millimetres



a) Example: Square and rectangular table tops

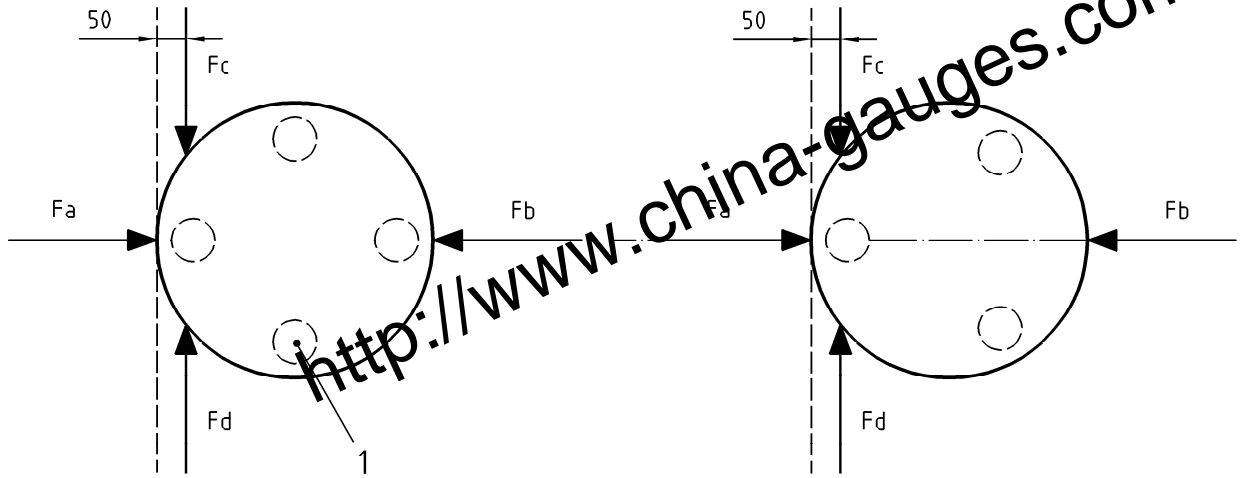
Dimensions in millimetres



b) Example: Oval, round or half-round table tops

<http://www.china-gauges.com/>

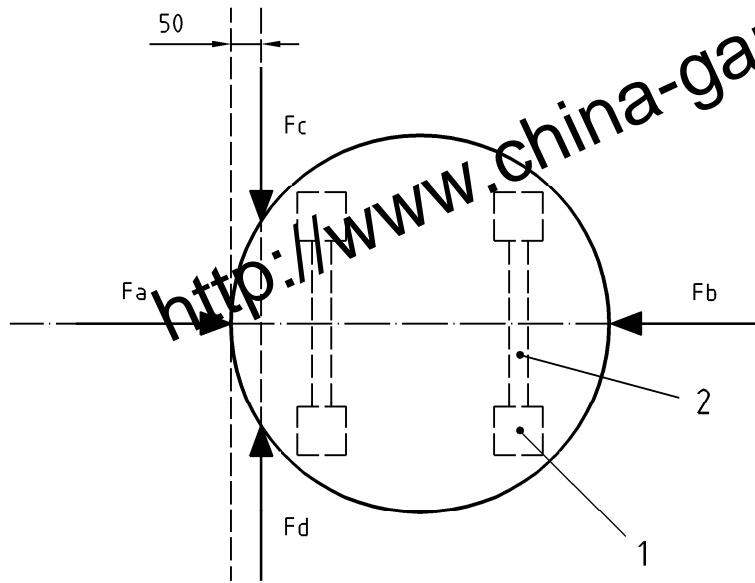
Dimensions in millimetres

**Key**

1 Leg

c) Example: Round table tops with 3 or 4 legs

Dimensions in millimetres



Key

- 1 Leg
- 2 Rail

d) Example: Round table tops with 4 legs linked 2 x 2

Figure 7 — Horizontal fatigue test

6.5 Test sequence and test parameters

Table 1 — Test sequence and test parameters

Test sequence		Reference	Test parameters			
			Camping	Domestic	Contract	
1	Vertical static load test on the table top	6.3.1	Load: 9 x 30 s + 1 x 30 min	500 N	750 N	1 000 N
2	Vertical static load test on end extensions	6.3.2	Load: 9 x 30 s + 1 x 30 min	100 N	200 N	350 N
3	Horizontal fatigue test	6.4	M (kg) F Number of cycles N	Up to 50 100 N 5 000	Up to 50 150 N 10 000	Up to 75 150 N 20 000
4	Stability under vertical load ^a	6.2.1	F for L smaller than 800 mm F for L between 800 mm and 1 000 mm F for L larger than 1 000 mm F for L larger than 1 600 mm	200 N 200 N 200 N 200 N	200N L / 4 L / 4 400 N	200 N L-600 400 N 400 N
5	Stability of tables which are intended to support a parasol	6.2.2	F	30 N	30 N	30 N

^a For tables that might not fulfil the stability requirements before carrying out any tests, the applicable stability tests may be carried out before starting the sequence of tests specified in this Table.

7 Instruction for use

Instruction for use shall be provided in the language(s) of the country where the tables are sold. These instructions shall be headed "IMPORTANT, RETAIN FOR FUTURE REFERENCE: READ CAREFULLY" in letters no less than 5 mm high.

These instructions shall include at least the following:

- name and address of the producer (manufacturer or supplier);
- information regarding maintenance;
- for tables which are not intended to support a parasol (see clause 6.2.2), a warning that a parasol shall not be placed on it, or shall be used with a separate base;
- conditions for use of the product (camping, domestic or contract).

8 Test report

The test report shall include the following information:

- a) reference to this part of the European Standard;
- b) details of piece of furniture tested;
- c) use of the product (Camping, Domestic or Contract);
- d) defects observed before testing;
- e) test results according to the applicable clauses;
- f) details of any deviations from this part of the European Standard;
- g) name and address of the test facility;
- h) date of test.

<http://www.china-gauges.com/>

Annex A (informative)

Purchase information (Guidelines)

To allow the consumer to select a product that will be suitable for the intended use prior to purchase, purchase information should be available without the need to open any package. This should include:

- Identification of the product;
- Product characteristics such as dimensions, storage information, maintenance...;
- Conditions for use of the product (Camping, domestic or contract);
- A warning if the table is not intended to support a parasol.

NOTE This list is not complete and both EU and national regulation exist on this subject

<http://www.china-gauges.com/>

Annex B
(informative)

Significant technical changes in revised edition of this standard

Significant technical differences between this document and EN 581-3:1999 are as follows:

- a) Changes in the test sequence: compare to the last version the first stability test and the last strength test have been suppressed;
- b) Change in placement of the application point of the force in the stability test; it is now at 50 mm from the outer edge of the table top;
- c) Application points in horizontal fatigue test are different for round and oval table tops.

<http://www.china-gauges.com/>

<http://www.china-gauges.com/>

BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: +44 (0)20 8996 9000. Fax: +44 (0)20 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: +44 (0)20 8996 9001. Fax: +44 (0)20 8996 7001. Email: orders@bsi-global.com. Standards are also available from the BSI website at <http://www.bsi-global.com>.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: +44 (0)20 8996 7111. Fax: +44 (0)20 8996 7048. Email: info@bsi-global.com.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: +44 (0)20 8996 7002. Fax: +44 (0)20 8996 7001. Email: membership@bsi-global.com.

Information regarding online access to British Standards via British Standards Online can be found at <http://www.bsi-global.com/bsonline>.

Further information about BSI is available on the BSI website at <http://www.bsi-global.com>.

Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

Details and advice can be obtained from the Copyright & Licensing Manager. Tel: +44 (0)20 8996 7070. Fax: +44 (0)20 8996 7553. Email: copyright@bsi-global.com.