

BS ISO 1726-3:2010



BSI Standards Publication

Road vehicles — Mechanical couplings between tractors and semi-trailers

Part 3: Requirements for semi-trailer contact area to fifth wheel

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

raising standards worldwide[™]

Copyright British Standards Institution
Provided by IHS under license with BSI - Uncontrolled Copy
No reproduction or networking permitted without license from IHS

Not for Resale



National foreword

This British Standard is the UK implementation of ISO 1726-3:2010.

The UK participation in its preparation was entrusted to Technical Committee AUE/13, Commercial and public service vehicles.

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.

© BSI 2010

ISBN 978 0 580 58734 4

ICS 43.040.70

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2010.

Amendments issued since publication

Date	Text affected
------	---------------

**Road vehicles — Mechanical couplings
between tractors and semi-trailers —**

**Part 3:
Requirements for semi-trailer contact
area to fifth wheel**

Véhicules routiers — Liaisons mécaniques entre tracteurs et semi-remorques —

Partie 3: Exigences pour plateaux à friction de semi-remorques



Reference number
ISO 1726-3:2010(E)

© ISO 2010

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO 2010

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 1726-3 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 15, *Interchangeability of components of commercial vehicles and buses*.

ISO 1726 consists of the following parts, under the general title *Road vehicles — Mechanical couplings between tractors and semi-trailers*:

- *Part 1: Interchangeability between tractors and semi-trailers for general cargo*
- *Part 2: Interchangeability between low-coupling tractors and high-volume semi-trailers*
- *Part 3: Requirements for semi-trailer contact area to fifth wheel*

Introduction

The dimensional interchangeability of truck and trailer is specified in various standards and regulations. In order to be able to design the details and resistance of the coupling devices, the area for the introduction of forces and torques between fifth wheel and kingpin and trailer also needs to be well defined.

Since many fifth wheel coupling plates are designed with certain wear resistance and limited flexibility, stiffness needs to be taken into account when designing the mating area of the trailer, which generally is made of steel.

The fact that damage can occur in this area, including broken coupling plates, emphasizes the necessity of this part of ISO 1726.

Road vehicles — Mechanical couplings between tractors and semi-trailers —

Part 3: Requirements for semi-trailer contact area to fifth wheel

1 Scope

This part of ISO 1726 specifies the test conditions of a static test to be performed on the semi-trailer contact area to the fifth wheel. It ensures the ability of the semi-trailer to couple the greatest possible variety of tractor vehicles equipped with a fifth wheel coupling in accordance with ISO 3842.

2 Terms and definitions

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

2.1

contact area to the fifth wheel

circular zone surrounding and centred on the kingpin and having a diameter of 965 mm

2.2

test force

F_V

maximum vertical static load the semi-trailer manufacturer allows to be transmitted to a fifth wheel

3 Requirements

During the static test described in 4.2, the elastic deformation, S , shall not exceed 5 mm vertical deflection at any point of the contact area to the fifth wheel during the application of the test force (see Figure 1).

After unloading/discharging, the total unevenness shall not exceed 2 mm at any point within this zone (see Figure 4).

4 Test methods

4.1 General

The verification of the minimum requirements specified in this part of ISO 1726 can be performed by static tests (see 4.2) or adequate calculation, if the deformation is only elastic (see 4.3).

In the case of a static test, the test forces, $F_V/2$, shall be positioned at dimensions X (see Figure 1), and may be either applied in one point or uniformly distributed in accordance with the semi-trailer manufacturer's recommendation.

4.2 Test with static vertical force

4.2.1 Test arrangement

The test shall be performed on a whole semi-trailer or on a representative vehicle section. In any case, the fixing arrangements shall be representative and in accordance with the kingpin manufacturer's fitting instructions.

4.2.2 Preliminary verification

Neither protrusions nor sharp edges are allowed in the contact area to the fifth wheel. Holes with sharp edges and holes exceeding a maximum diameter of 50 mm are not allowed.

4.2.3 Test procedure

The test semi-trailer or the representative vehicle section shall be laden with the maximum admissible static load as declared by the vehicle manufacturer. Examples of load application are given in Figures 1 and 2.

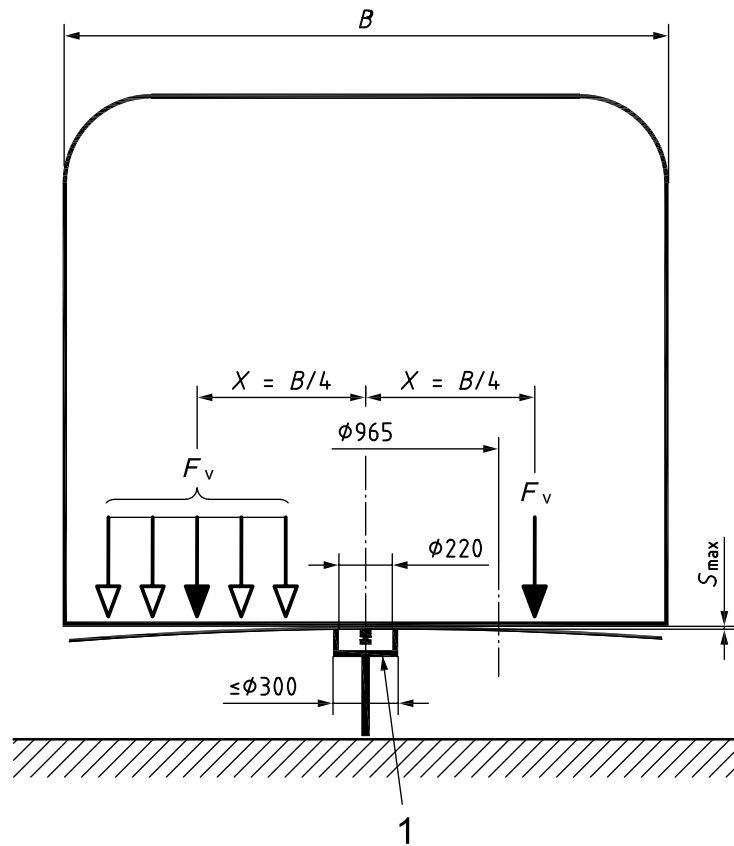
The section shall be supported by a ring having an internal diameter of 220 mm and external diameter in the range of 280 mm to 300 mm, as shown in Figure 3.

4.3 Alternative method

In case of calculation, a preliminary verification shall be performed in accordance with 4.2.2 in order to ensure that the maximum existing unevenness of the contact area, semi-trailer unladen, is 2 mm at any point of the contact area to the fifth wheel (see Figure 4).

The calculation method or the mathematical model shall be validated in comparison with the actual test procedure. Comparability of the results of the calculation (or the model) with results of conventional test procedures shall be proven.

Dimensions in millimetres

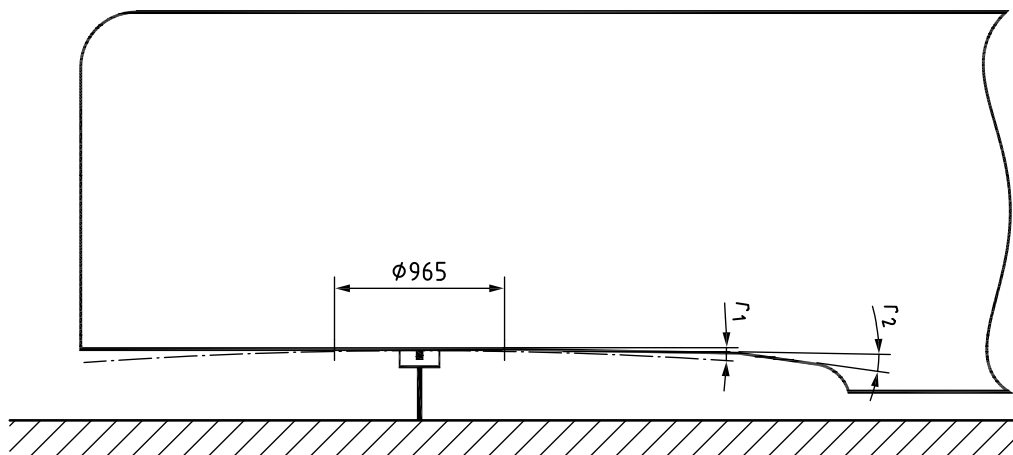


Key

- 1 supporting ring for test
- B semi-trailer width
- F_v test force
- X dimension
- S_{max} maximum elastic deformation

Figure 1 — Examples of application of vertical load, front view

Dimensions in millimetres



Key

- $r_1 = 1^\circ$
- $r_2 = 7^\circ$

Figure 2 — Example of application of vertical load, side view

Dimensions in millimetres

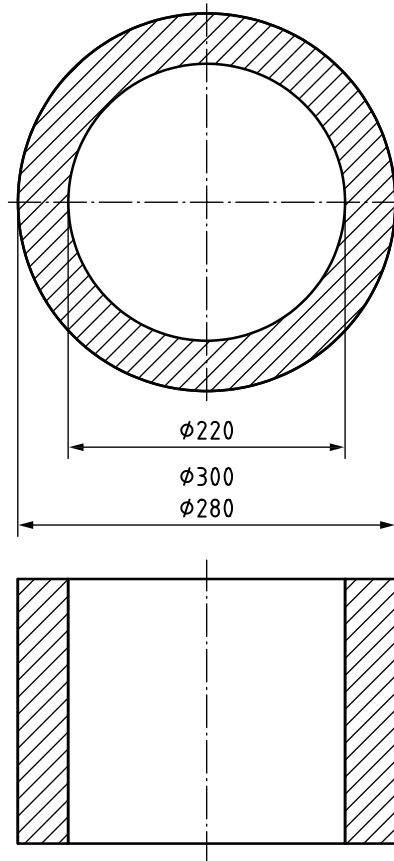


Figure 3 — Static test supporting ring

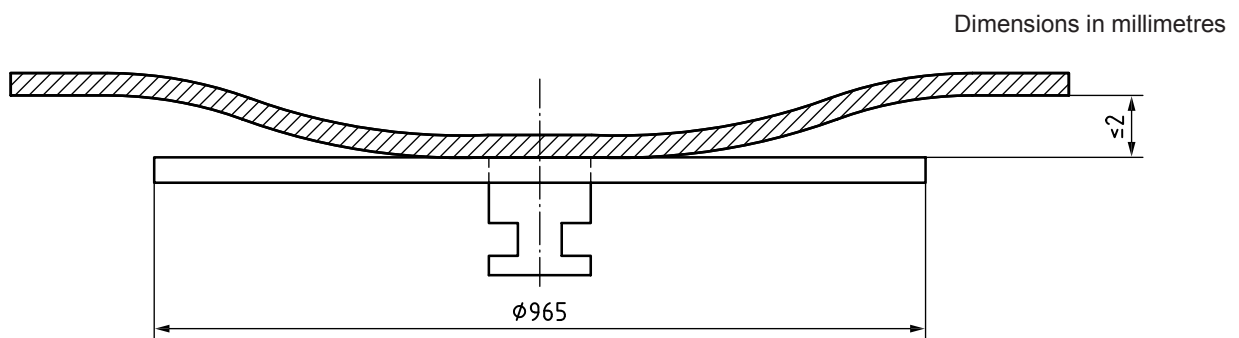


Figure 4 — Examples for the method to measure the total unevenness (unladen case)

Bibliography

- [1] ISO 3842, *Road vehicles — Fifth wheels — Interchangeability*
- [2] ISO 8716, *Road vehicles — Fifth wheel kingpins — Strength test*
- [3] ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

© ISO 2010

ICS 43.040.70

Price based on 5 pages

British Standards Institution (BSI)

BSI is the independent national body responsible for preparing British Standards and other standards-related publications, information and services.

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 9001 Fax: +44 (0)20 8996 7001

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

Tel: +44 (0)20 8996 7669 Fax: +44 (0)20 8996 7001

Email: plus@bsigroup.com

Buying standards

You may buy PDF and hard copy versions of standards directly using a credit card from the BSI Shop on the website www.bsigroup.com/shop. In addition all orders for BSI, international and foreign standards publications can be addressed to BSI Customer Services.

Tel: +44 (0)20 8996 9001 Fax: +44 (0)20 8996 7001

Email: orders@bsigroup.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 Knowledge Centre.

Tel: +44 (0)20 8996 7004 Fax: +44 (0)20 8996 7005

Email: knowledgecentre@bsigroup.com

Various BSI electronic information services are also available which give details on all its products and services.

Tel: +44 (0)20 8996 7111 Fax: +44 (0)20 8996 7048

Email: info@bsigroup.com

BSI Subscribing Members 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@bsigroup.com

Information regarding online access to British Standards via British Standards Online can be found at www.bsigroup.com/BSOL

Further information about BSI is available on the BSI website at www.bsigroup.com/standards

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

Email: copyright@bsigroup.com

BSI Group Headquarters

389 Chiswick High Road London W4 4AL UK

Tel +44 (0)20 8996 9001

Fax +44 (0)20 8996 7001

www.bsigroup.com/standards

raising standards worldwide™

Copyright British Standards Institution
Provided by IHS under license with BSI - Uncontrolled Copy
No reproduction or networking permitted without license from IHS

Not for Resale

