



BSI Standards Publication

Determination of material resistance to permeation by chemicals

Part 2: Permeation by potentially hazardous gaseous chemicals under conditions of continuous contact

National foreword

This British Standard is the UK implementation of EN 16523-2:2015+A1:2018. It supersedes BS EN 16523-2:2015, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee PH/3/-/2, UK mirror panel for CEN/TC 162/WG 13.

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

BSI, as a member of CEN, is obliged to publish EN 16523-2:2015+A1:2018 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard.

The following opinions regarding this standard and EN 16523-1:2015+A1:2018 have been expressed by the UK committee:

- EN 16523-1:2015+A1:2018 and EN 16523-2:2015+A1:2018 were drafted with the intention of having one test method that can be applied to gloves, footwear and clothing. However, as written, these standards do not align with clause 4.3, Permeation test, from the chemical-protective footwear standard, EN 13832-1:2006.
- The dimensions outlined for the design of the permeation cells in clause 6.1 are unnecessarily restrictive. An inter-laboratory trial carried out during the drafting of EN 16523-1:2015+A1:2018 and EN 16523-2:2015+A1:2018 inadvertently showed that the size of the test cell does not have a significant effect on the result while benefits can be gained by using different sized cells for closed loop and open loop testing, including maximized sensitivity and minimized uncertainty of measurement.
- The test methods described in EN 16523-1:2015+A1:2018 and EN 16523-2:2015+A1:2018 do not consider cumulative permeation. It is increasingly recognized that breakthrough time alone is a poor indicator of chemical protection, especially when considering the latest generation of barrier-laminate materials. ISO 6529:2013 is available for readers to refer to as an alternative standard test method.
- While accurate, the equations used in EN 16523-1:2015+A1:2018 may be confusing to those who are not familiar with the test technique. This could result in breakthrough times which are calculated and reported incorrectly. Attention is again drawn to ISO 6529:2013 which includes practical examples of calculations based on data, which for some may be easier to follow and could help users report their own data correctly.

Further commentary on EN 16523-1:2015+A1:2018 and EN 16523-2:2015+A1:2018 from UK Technical Committee PH/3/-/2 can be found in National Annex NA.

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

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

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Amendments/corrigenda issued since publication

Date	Text affected
31 January 2019	Implementation of CEN amendment A1:2019

English Version

Determination of material resistance to permeation by
chemicals - Part 2: Permeation by potentially hazardous
gaseous chemicals under conditions of continuous contact

Détermination de la résistance des matériaux à la
perméation par des produits chimiques - Partie 2:
Perméation par des produits chimiques gazeux
potentiellement dangereux dans des conditions de
contact continu

Bestimmung des Widerstands von Materialien gegen
die Permeation von Chemikalien - Teil 2: Permeation
durch potentiell gefährliche gasförmige Chemikalien
unter Dauerkontakt

This European Standard was approved by CEN on 5 December 2014 and includes Amendment 1 approved by CEN on 7 May 2018.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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