INTERNATIONAL STANDARD

ISO 11363-2

Second edition
2017-10

Gas cylinders — 17E and 25E taper threads for connection of valves to gas cylinders —

Part 2: Inspection gauges

Bouteilles à gaz — Filetages coniques 17E et 25E pour le raccordement des robinets sur les bouteilles à gaz —

Partie 2: Calibres de contrôle

Reference number
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Foreword

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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).

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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 voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 58, *Gas cylinders*, Subcommittee SC 2, *Cylinder fittings.*

This second edition cancels and replaces the first edition (ISO 11363-2:2010), which has been technically revised.

The main change compared to the previous edition is as follows:

— Figure 9 has been corrected.

A list of all parts in the ISO 11363 series can be found on the ISO website.

Introduction

Gas cylinders intended to contain compressed, liquefied or dissolved gas under pressure are fitted with accessories to allow release and refilling of gas. Hereinafter, the term “valve” will apply to such accessories.

Where the connection between cylinder and valve is obtained by assembly of two taper threads (an external one on the valve stem and an internal one in the cylinder neck), both shall have the same nominal taper, thread pitch and thread profile.

Gas cylinders — 17E and 25E taper threads for connection of valves to gas cylinders —

Part 2: Inspection gauges

1 Scope

This document specifies types, dimensions and principles of use of gauges, to be used in conjunction with the taper threads specified in ISO 11363-1 (i.e. 17E and 25E threads).

It provides examples of calculations for thread gauge dimensions on the large end diameter (Annex A) and draws attention to the limitations of the gauging system specified (Annex B).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 11363-1, *Gas cylinders — 17E and 25E taper threads for connection of valves to gas cylinders — Part 1: Specifications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 11363-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
check gauge
gauge for checking dimensional conformity of inspection gauges

Note 1 to entry: This gauge is not used for gauging cylinder neck threads or valve stem threads.

3.2
inspection gauge
gauge used for the routine gauging of cylinder neck and valve stem threads

Note 1 to entry: This gauge is not used for checking other gauges.

3.3
single-part gauge
gauge of sufficient length to contact the length of full form taper threads

Note 1 to entry: These gauges are either plugs or rings, plain or threaded.

3.4
two-part gauge
gauge consisting of two separate inspection gauges, used in combination, where one is used to contact the large end of the taper cone and the other the small end

Note 1 to entry: These sets of gauges are either plugs or rings, plain or threaded.

4 Requirements

4.1 Materials

All gauges shall be manufactured from material of suitable strength, stability and hardness.

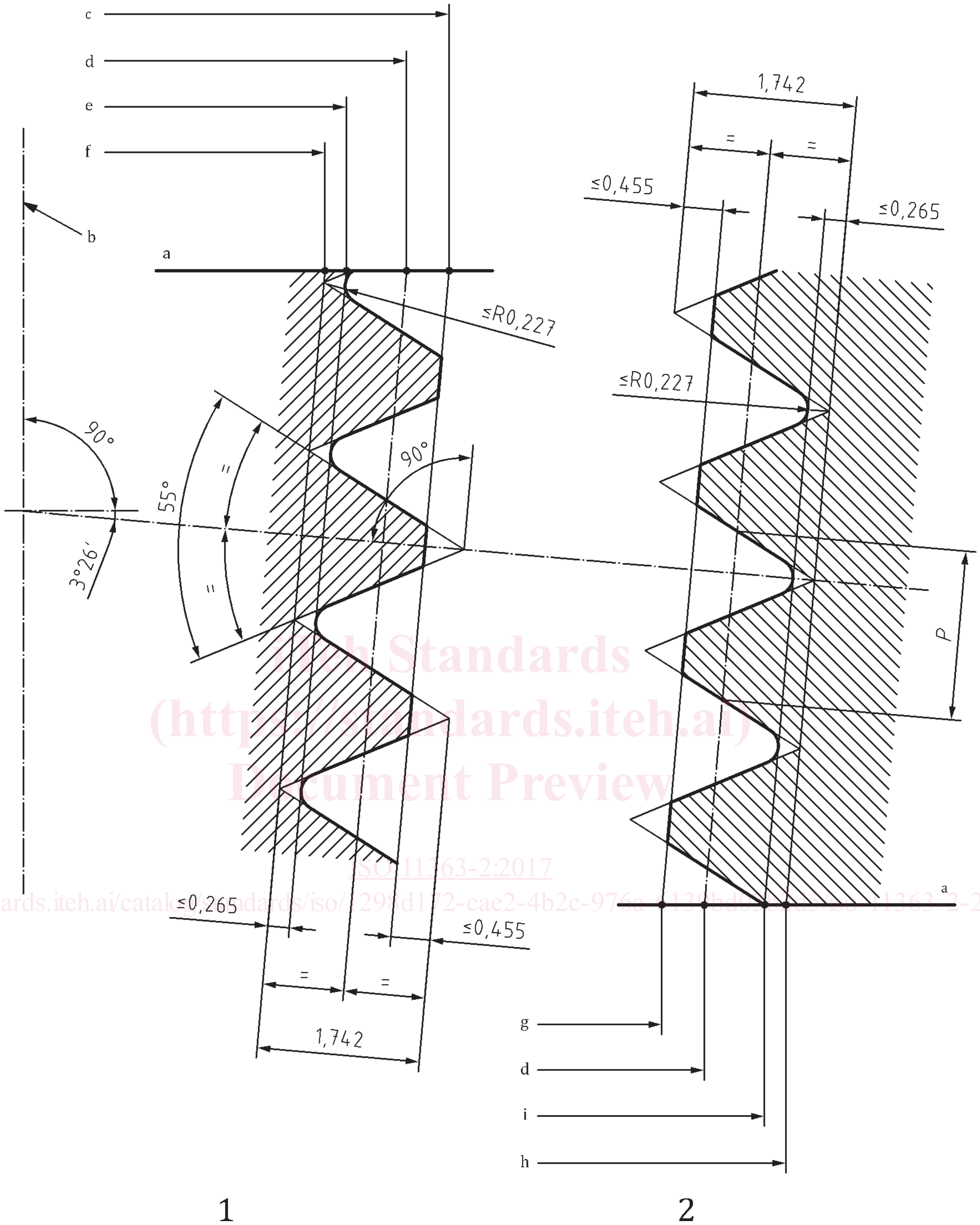
4.2 Thread profile

The thread profile of threaded inspection and check gauges shall be as shown in Figure 1.

The thread profile is a British Standard Whitworth (BSW)[1)] form with a 55° angle (see Figure 1).

1) A coarse thread devised and standardized in 1841 by British engineer Sir Joseph Whitworth (1803-87). It has an angle of thread of 55° and ranges in size from 1/16 in to 2 1/2 in. It is used in many types of engineering throughout the world, although in the UK its use is now being superseded by the ISO metric system (ISO 68-1).

Dimensions in millimetres



Key

P	pitch
1	plug gauge thread profile
2	ring gauge thread profile
a	Gauge plane.
b	Thread axis.
c	Major diameter.
d	Pitch diameter.
e	Maximum minor diameter.
f	Minimum minor diameter.
g	Minor diameter.
h	Maximum major diameter.
i	Minimum major diameter.

Figure 1 — Thread profiles

4.3 Thread handedness

The thread shall be a right-hand thread, such that it moves away from an observer when rotated clockwise.

4.4 Taper

The nominal values for the taper are the following:

— taper ratio: 3/25;

— taper angle: 6° 52′;

— taper slope: 12 %.

4.5 Pitch, *P*

The nominal pitch is 1,814 mm (derived from $\frac{25,4}{14}$ mm) (see Figure 1).

5 Gauge dimensions

The following dimensional requirements apply to gauges shown in Figure 2 to Figure 15, inclusive.

All dimensions are given in millimetres.

Tolerances for specified dimensions on all gauges are:

— all lengths, ±0,01 mm;

— diameters of inspection gauges, ±0,01 mm;

— diameters of check gauges, $^{-0,01\ \text{mm}}_{-0,02\ \text{mm}}$.

For threaded gauges, only pitch diameters are specified. For minor and major diameters see Figure 1.

Unspecified dimensions shall be chosen by the manufacturer of the gauges.

