INTERNATIONAL STANDARD

ISO 14368-2

First edition
2003-02-01

Mineral and sapphire watch-glasses —

Part 2: Assembly to the case by adhesive or using a gasket

Verres de montres minéraux et en saphir —

Partie 2: Fixation à la boîte par collage ou à l'aide d'un joint

Reference number
ISO 14368-2:2003(E)

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Published in Switzerland

Foreword

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ISO 14368-2 was prepared by Technical Committee ISO/TC 114, *Horology*, Subcommittee SC 13, *Watch-glasses*.

ISO 14368 consists of the following parts, under the general title *Mineral and sapphire watch-glasses*:

— *Part 1: Dimensions and tolerances*

— *Part 2: Assembly to the case by adhesive or using a gasket*

— *Part 3: Qualitative criteria and test methods*

Mineral and sapphire watch-glasses —

Part 2:
Assembly to the case by adhesive or using a gasket

1 Scope

This part of ISO 14368 specifies dimensional requirements of the interface for the assembly to the case by adhesive or using a gasket for round-shaped mineral and sapphire watch-glasses.

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.

ISO 286-1, *ISO system of limits and fits — Part 1: Bases of tolerances, deviations and fits*

ISO 286-2, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*

ISO 14368-1, *Mineral and sapphire watch-glasses — Part 1: Dimensions and tolerances*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 286-1 and ISO 286-2 apply.

3.2 Symbols

The symbols and terms used in Figures 1, 2 and 3 are given in Table 1.

Table 1 — Symbols and terms

Symbol	Term
c	gasket compression in % of width
d	diameter of the glass
d_1	dial opening diameter
d_2	diameter of the circular groove of the glass
d_3	external gasket diameter (non-compressed)
d_4	internal gasket diameter (non-compressed)
e_1	gasket thickness
e_2	thickness of compressed gasket
e_3	space for adhesive
h_1	cylindrical side height of the glass
h_2	height of the lower slope of the glass
h_3	height of the upper slope of the glass
h_4	determining height for glasses assembled with adhesive
h_5	height of the circular groove of the glass
h_6	height of the internal slopes of the gasket
h_7	height of compressed gasket
h_8	height of non-compressed gasket
t	total thickness of the glass
β	angle of the lower slope of the glass
γ	angles of the internal slopes of the gasket

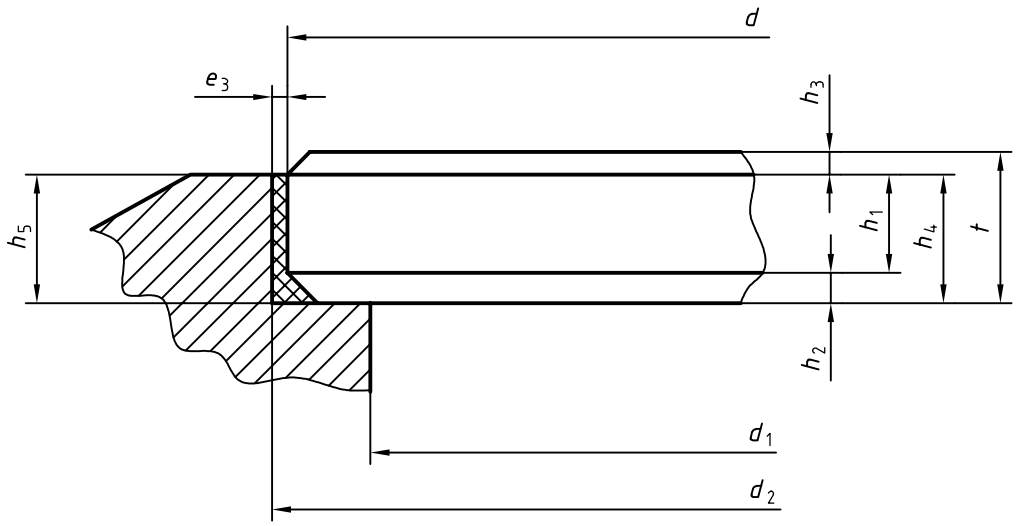

Figure 1 — Glass secured by adhesive

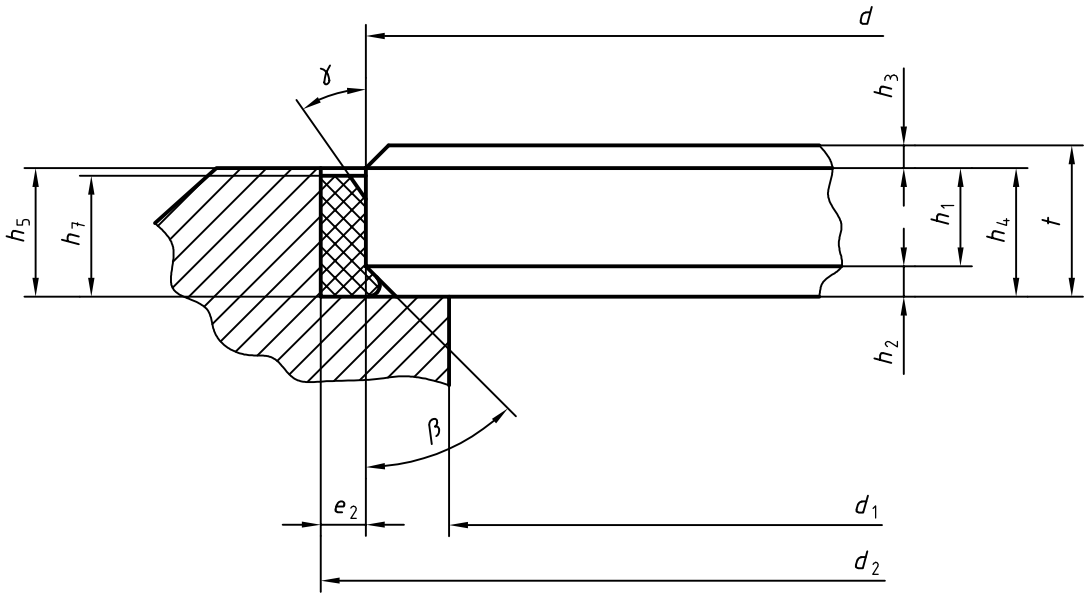

Figure 2 — Fixing the glass with a gasket

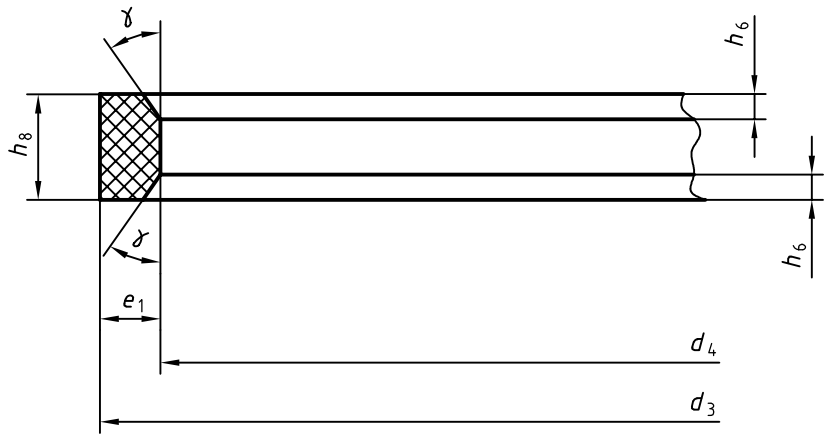

Figure 3 — Details of the gasket

4 Dimensions

4.1 Glass secured by adhesive

4.1.1 General

The dimensions for glass secured by adhesive shall be as given in Figure 1.

4.1.2 Opening

The dial opening diameter is calculated using the following equation:

$d_1 \leqslant d - 0{,}40$ mm or $d - (2\,h_2 + 0{,}20$ mm)

where h_2 is in accordance with ISO 14368-1.

4.1.3 Glass circular groove

The diameter of the circular groove is calculated using the following equation:

$$d_2 = d + 2\ e_3$$

where e_3 = 0,03 mm to 0,05 mm

4.2 Glass secured with a gasket

4.2.1 General

The dimensions for glass secured with a gasket shall be as given in Figures 2 and 3.

4.2.2 Opening

The dial opening diameter is calculated using the following equation:

$$d_1 \leqslant d - [(2\ h_2 \times \tan\beta) + 0{,}20\ \text{mm}]$$

where h_2 is in accordance with ISO 14368-1.

4.2.3 Glass circular groove

The diameter of the glass circular groove is calculated using the following equation:

$$d_2 = d + 2\ e_2$$

4.2.4 Assembly

The assembly shall be carried out using either of the two following methods.

a) The gasket is first housed in the groove and then the glass is driven in.

b) The gasket is first fitted onto the glass surround and is then driven into the glass groove; this method is valid only for L gaskets, which are not dealt with in this part of ISO 14368.

5 Gasket dimensions

The gasket dimensions shall be as given in Table 2.

Table 2 — Gasket dimensions

Term	Dimension
External gasket diameter	$d_3 = d_2$
Internal gasket diameter	$d_4 = d_3 - 2\ e_1 \qquad (e_1 = e_2 + c)$
Gasket height after fitting	h_7 max. $= h_5 - 0{,}05$ mm
Height of the circular groove of the glass	$h_5 = h_4$ or $h_5 = t - h_3$
Compression	c = 15 % to 35 % of e_1 (by taking into account the characteristics of the gasket material)
Internal slope angles of the gasket	γ = 30° to 45°
Height of the internal slopes of the gasket	h_6 = 0,10 mm to 0,30 mm
Height of gasket before fitting	h_8 = define according to the material

6 Tolerances

The tolerances shall be as given in Table 3.

Table 3 — Tolerances

Symbol	Tolerance
d	in accordance with ISO 14368-1
t	in accordance with ISO 14368-1
d_1	J_s9
d_2	J_s8
d_3	s10
h_5	j_s9

ICS 39.040.10

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