



Windshields

KES D-C223

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Remark



1. Purpose

This standard aims at securing proper quality by standardizing specification.

Remark: This standard and a drawing communicate together Kia's requirements.

2. Scope of Application

This standard specifies the windshield(hereinafter referred to as the "glass") for automobile.

3. Report of Evaluation Result

The quality evaluation results at each stage from development to mass productions shall be submitted to Kia according to the Appendix.

4. Definition of Terminology

(1) Laminated glass

Safety glass composed of 2 layers or more of glass bonded together with interlayer plastic material. In case of breakage due to external force, a large part of the fragments are not scattered.

(2) Toughened glass

Safety glass composed of single layer of glass to which heat treatment is applied to form tough compressive stress layer on the glass surface and increase the strength for the action of external force and change in temperature and consequently control the condition of fragments in case of breakage.

(3) Partial-toughened glass

Safety glass whose conditions are adjusted so that part of the fragments are large enough to secure visual field necessary for driving in case of breaking.

(4) Full land gauge

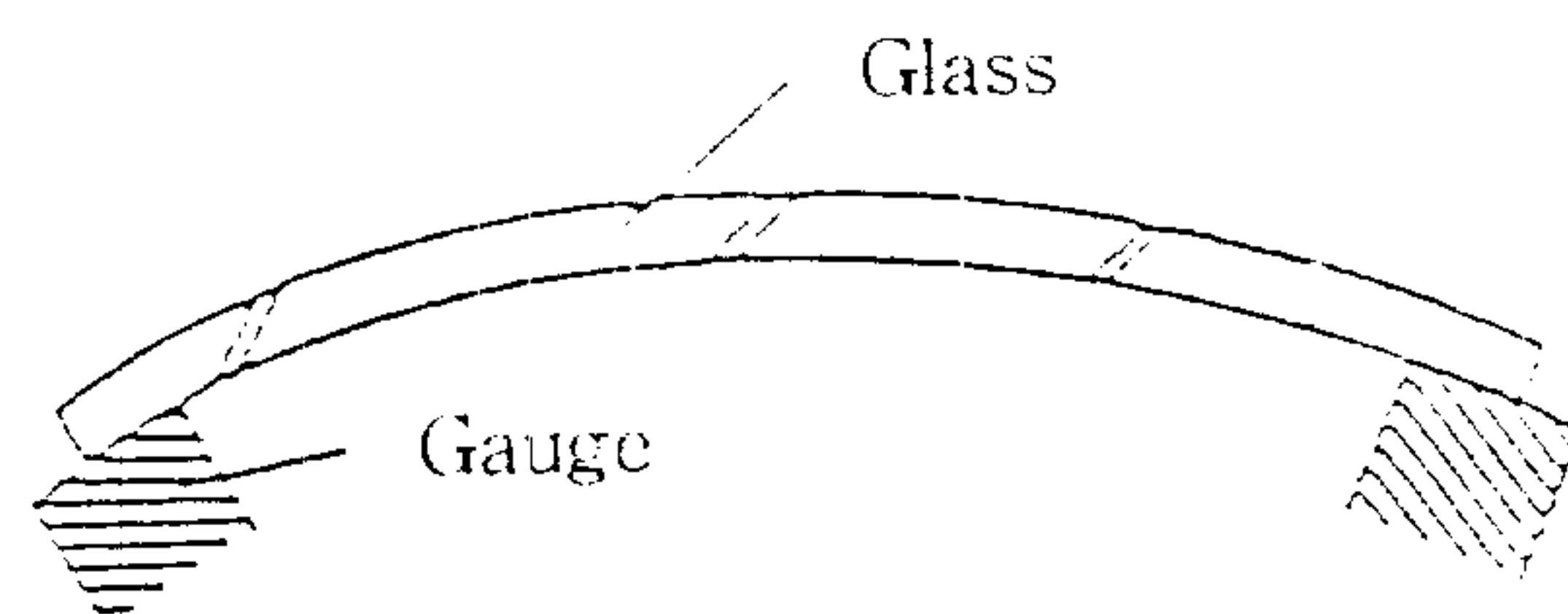


Fig. 1

① Gauge manufactured to meet the standard shape of internal glass surface.

② Surface of the internal glass shall be in contact with the full land gauge throughout the whole circumference.

As against the above, the gauge designed to keep a certain clearance with a glass along the whole circumference with 3 pieces or more of spacer.

(5) Overlap

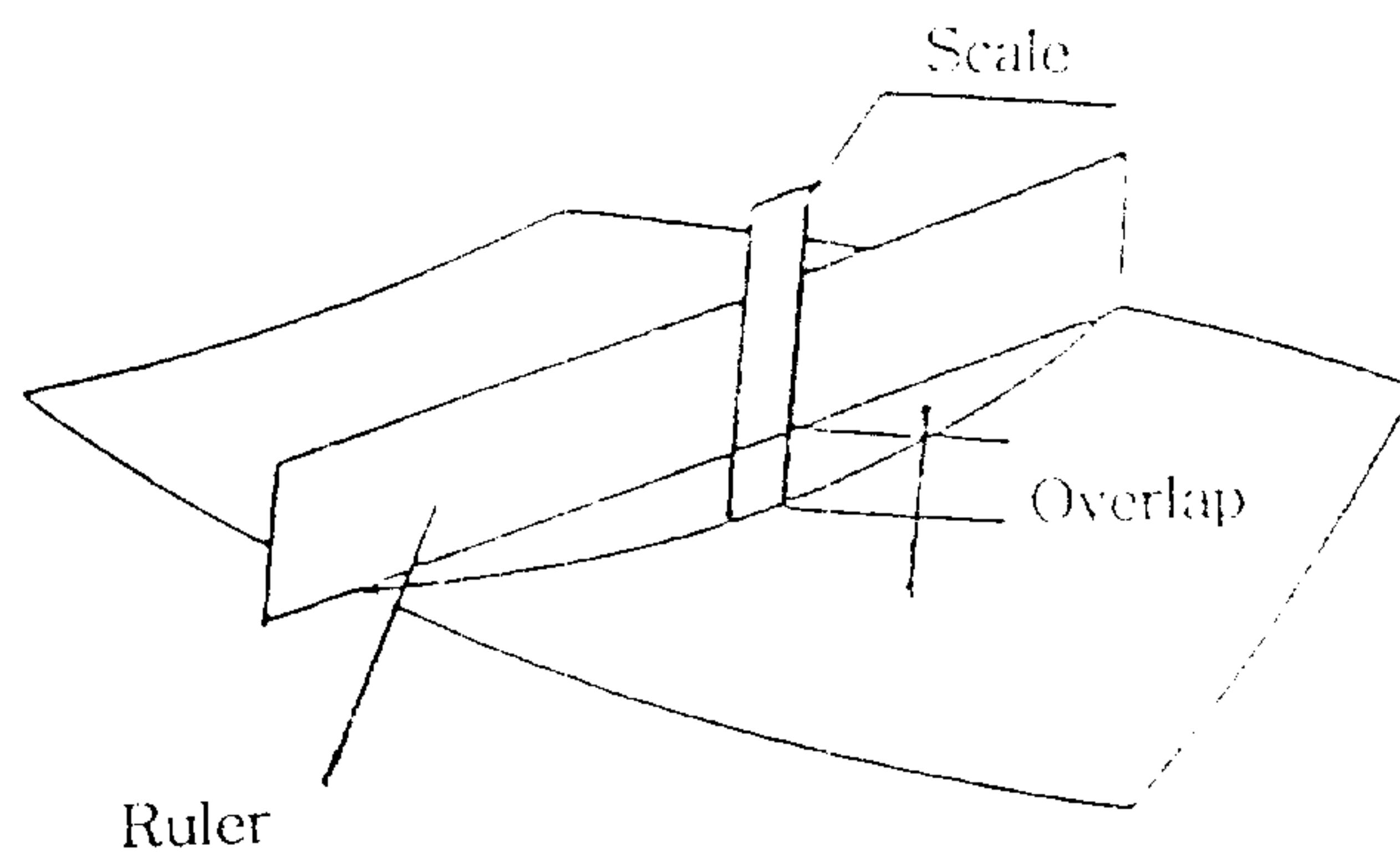


Fig.2

① Curving depth of curved glass in the shorter side direction

(6) Other terms shall conform to JASO M 501 and KS L 2007.

5. Specification Indicated in Drawings

(1) Color and materials of a glass

① The color and materials of a glass shall be represented by material symbols entered to material column of drawing as shown in Table 1.

Table 1

Type of Glass	Material Symbol
Clear	W-TP0
Clear + Clear	W-IP0
Blue	W-TP1
Blue + Clear	W-IP1

Table 1 (Continued)

Type of Glass	Material Symbol
	W-TP2
	W-IP2
Green	W-TP3
Green + Clear	W-IP3
Bronze	W-TP4
Bronze + Clear	W-IP4
(Light) Gray	W-TP5
(Light) Gray + Clear	W-IP5
Heating wire reflective strong bronze	W-TP6
Heating wire reflective strong bronze + Clear	W-IP6
Blue + Blue	W-IP7
Strong bronze	W-TP8
Strong bronze + Clear	W-IP8
Bronze + Bronze	W-IP9
Strong gray + Strong gray	W-IP10
Heating wire reflective Strong gray	W-TP11
Heating wire reflective strong gray + Clear	W-IP11
(Light) Gray + (Light) Gray	W-IP12
Strong gray	W-TP13
Strong gray + Clear	W-IP13
Clear + Clear + Heating wire reflective coating	W-IP14
Blue + Clear + Heating wire reflective coating	W-IP15
Bronze Clear + Heating wire reflective coating	W-IP16
Grey + Clear + Heating wire reflective coating	W-IP17

- ① W-TP toughened glass(including partial-toughened glass)
- ② W-IP HPR laminated glass.

(2) Thickness of glass and thickness toughening

- ① Thickness
 - (a) Generally, the thicknesses of Table 2 shall be used and indicated in thickness column in drawing.
 - (b) However in case the glass is of special type and manufactured by overseas supplied, the thickness other than indicated in Table 2 may be indicated.

Table 2

Type of glass.	Thickness	Tolerance		Tolerance of JASO M 501 (for reference)
Laminated glass	5.3	+0.2,	-0.4	±0.4
	4.7	+0.4,	-0.2	±0.4
Toughened glass	5.0	+0.1,	-0.2	±0.2
	4.0	+0.1,	-0.2	±0.2
	3.5	+0.1,	-0.2	±0.2
	3.1	+0.2,	-0.1	±0.2

- ① Thickness tolerance.
 - (a) The thicknesses in Table 2 shall be used and indicated in thickness column of drawing.
 - (b) However in case the glass is of special type and manufactured by overseas supplied, the tolerance within the range specified in JASO M 501 shown in Table 2 shall be indicated in drawing.

(3) Tolerance in shape and dimension.

① Measurement standard for shape and dimension

(a) External dimension

Unit: mm

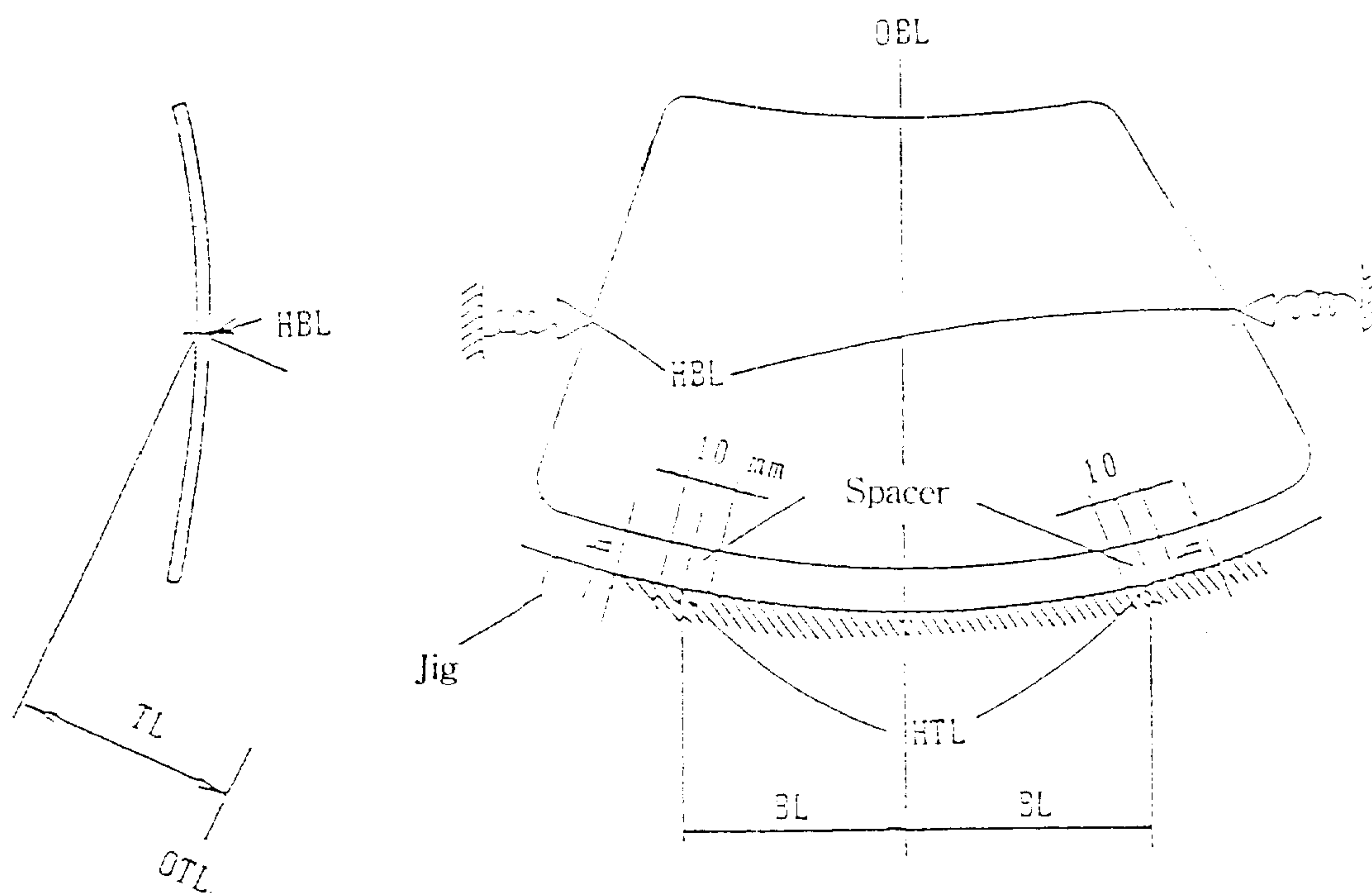


Fig.3

- a) Generally, external dimension of the glass shall be measured with the position (HBL, HTL and h) shown in Fig. 3 fixed with jig.
- b) The position of BL at HTL, TL at HBL and height(h) of spacer shall be indicated in drawing for the measuring standard (Refer to Table 3).

Table 3

Symbol	Item	Location	Value(mm)
HTL	Standard position in TL direction for the support of testing equipment.	BL	
HBL	Standard position in BL direction for common.	TL	
h	Height of spacer:	h	

c) In case of applying the measurement standards other than Fig 3, it shall be indicated in drawing.(side window etc)

(b) Difference in level

- a) In general, full land gauge is used to measure the difference in level.
- b) In case of applying the measurement gauge(spacer gauge) other than full land gauge, it shall be indicated in drawing.

② Tolerance in shape and dimension

(a) Tolerance of external dimension

Unit: mm

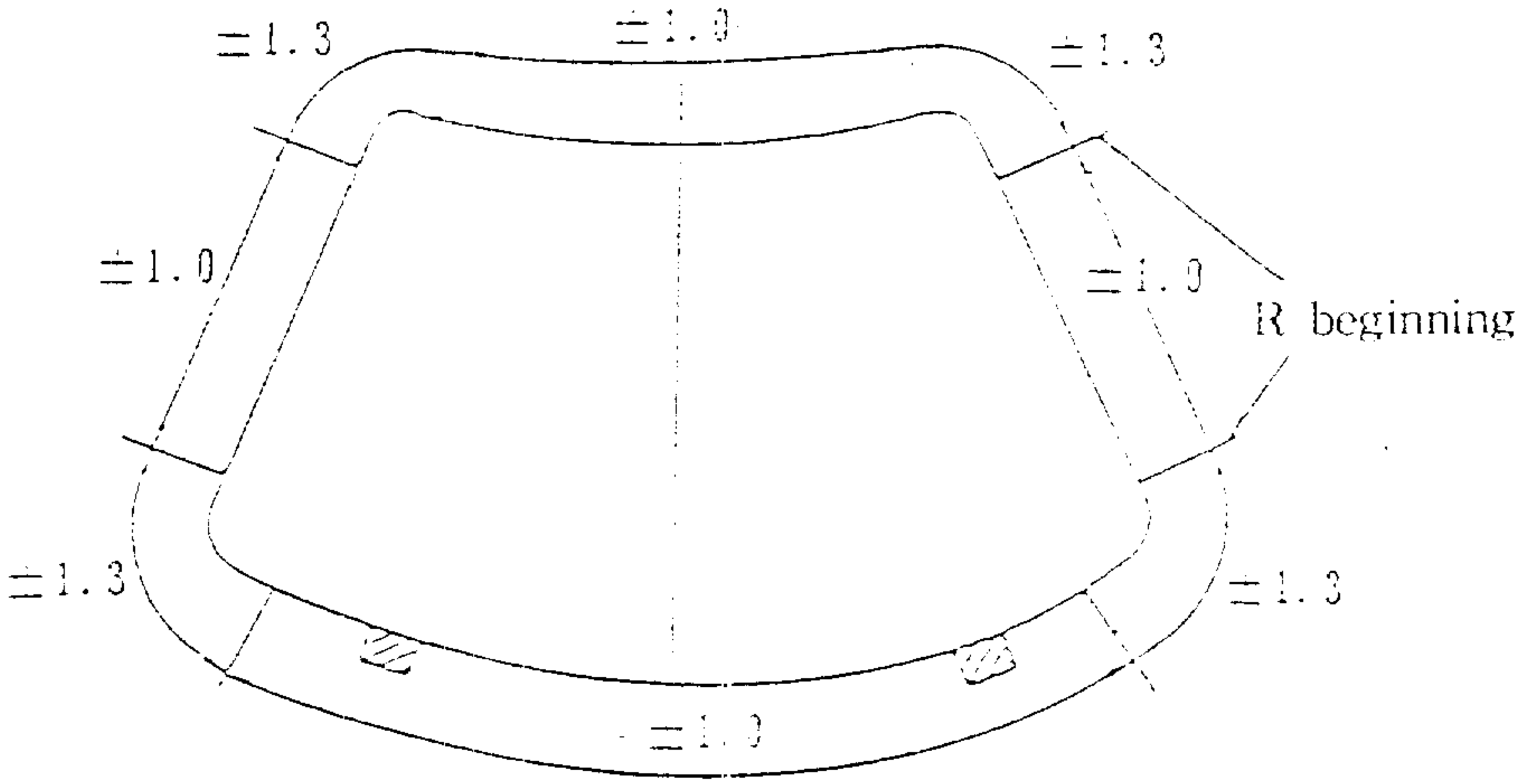


Fig. 4

- a) The dimensional tolerance measured in accordance with the measurement standards indicated in (3) ① (a) shall in general satisfy Fig. 4.
- b) In case of applying the dimensional tolerance (side window etc) other than Fig. 4, it shall be indicated in drawing.

(b) Dimensional tolerance of masking

Unit: mm

*) Dimensional tolerance of the notch

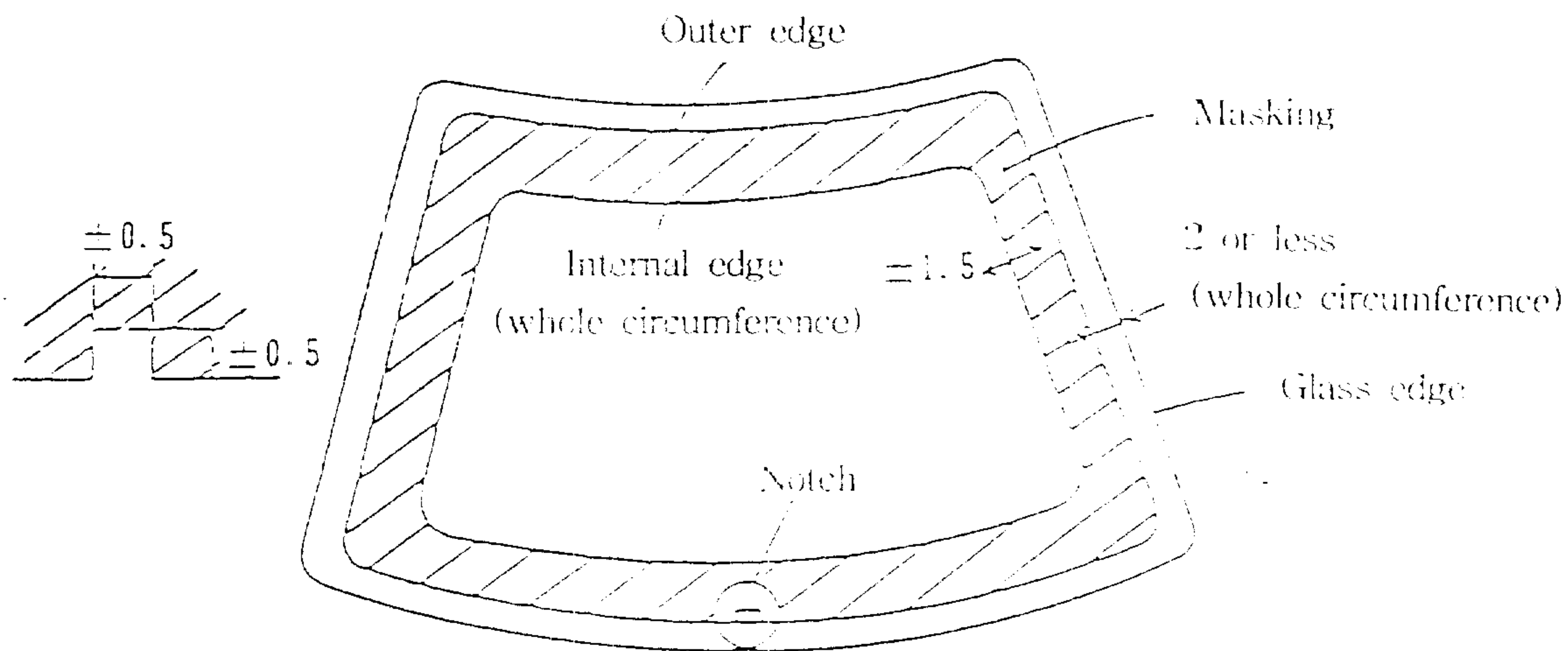


Fig. 5

- a) Dimensional tolerance of internal edge of a masking, tolerance between glass and outer edge and tolerance in notch measured in accordance with the measurement standard shown in (3)①(a) shall in general satisfy Fig. 5.
- b) In case of applying the dimensional tolerances other than Fig. 5, it shall be indicated in drawing.
- (c) Dimensional tolerance between level difference
 - a) Dimensional tolerance of clearance between the curved gauge and the glasses measured in accordance with the measurement standard shown in (3)①(b) shall in general be 3mm or less. (To be referred to as "gauge contact: 3 or less")
 - b) In case of applying the dimensional tolerances other than a), it shall be indicated in drawing.
- (d) Dimensional tolerance of hole
 - a) Unless otherwise specified in drawing, dimensional tolerances of hole position and hole diameter measured in accordance with the measurement standard shown in (3) 1 (a) shall satisfy Table 4.

Table 4

Unit: mm

Item	Dimensional Tolerance
Eccentricity	± 1.0
Hole diameter	± 0.5

- b) In case of applying the dimensional tolerances other than Table 4, it shall be indicated in drawing.
- (c) Dimensional tolerance of overlap.
 - a) Dimensional tolerances of overlap determined by the supplier and Kia shall be indicated in drawing.
 - b) Unless otherwise specified in drawing, it shall conform to 6.4 of JASO M 501.

(4) Peripheral finish

① Peripheral finish method of a glass shall be indicated in drawing.

- a) Luster finish

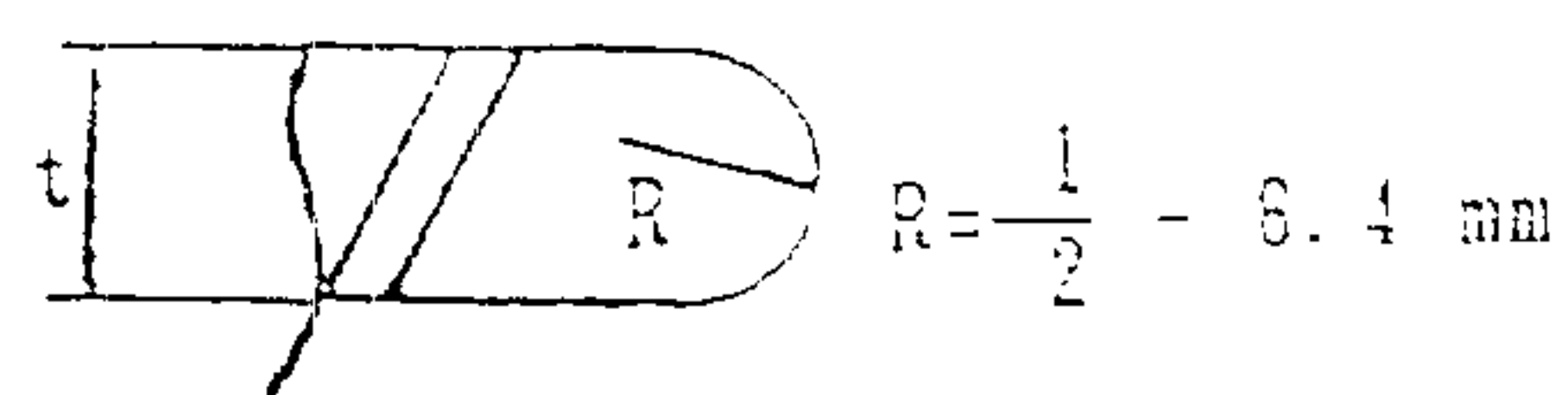


Fig. 6

- b) Ridge chamfer

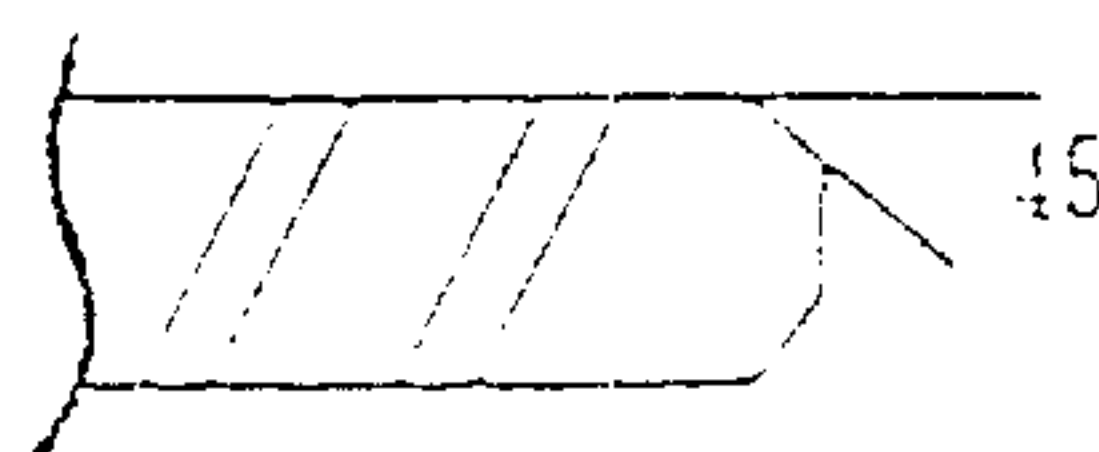


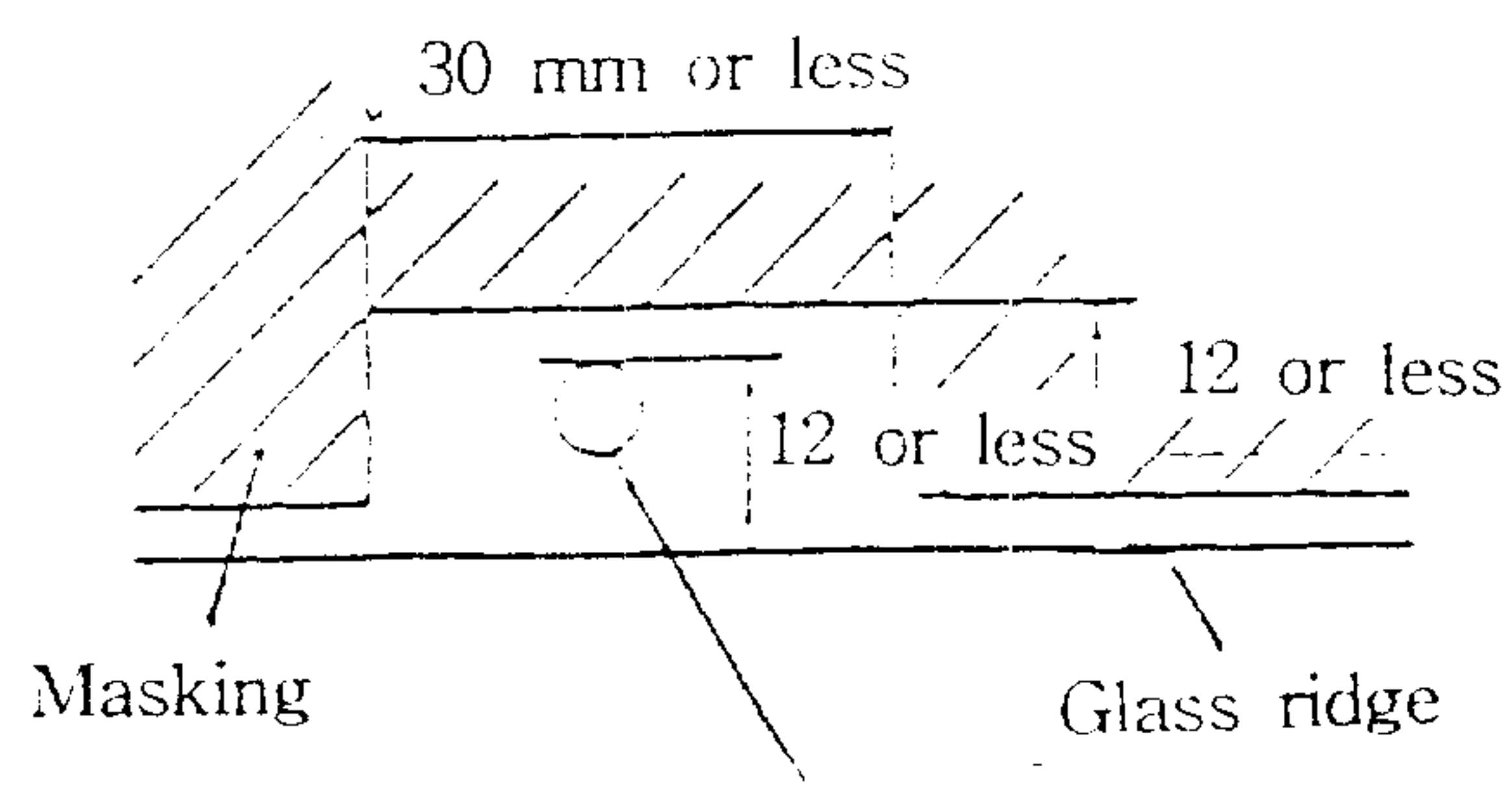
Fig. 7

② Unless otherwise specified in drawing, ridge chamfer shall be done.

(5) Position and shape of hanging mark(tongmark)

① Unless otherwise specified in drawing, the shape of tongmark shall conform to Fig. 8.

Unit: mm



Tongmark shall be made on the notch of a masking.

Fig. 8