INTERNATIONAL STANDARD 1095

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Shipbuilding — Toughened safety glasses for ships' side scuttles

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 1095 was drawn up by Technical Committee ISO/TC 8, *Shipbuilding,* and circulated to the Member Bodies in March 1972.

It has been approved by the Member Bodies of the following countries :

Austria	Ireland	Romania
Belgium	Israel	South Africa, Rep. of
Czechoslovakia	Italy	Spain
Egypt, Arab Rep. of	Japan	Sweden
Finland	Netherlands	Thailand
France	New Zealand	Turkey
Germany	Portugal	United Kingdom

The Member Body of the following country expressed disapproval of the document on technical grounds :

Norway

This International Standard cancels and replaces ISO Recommendation R 1095-1969.

Printed in Switzerland

Shipbuilding — Toughened safety glasses for ships' side scuttles

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the method of manufacture, dimensions for interchangeability, tolerances, parallelism and flatness, testing, marking and designation of toughened safety glasses for ships' side scuttles.

2 REFERENCES

ISO 614, *Shipbuilding — Non-destructive strength testing of toughened safety glasses for ships' side scuttles and rectangular windows — Punch method.*

ISO/R 1751, *Shipbuilding details — Ships' side scuttles.* (Under revision.)

3 MANUFACTURE

Toughened safety glass, plate glass (float or polished) or sheet glass, is produced by subjecting glass to a process of heating and rapid cooling so as to induce high compressive stresses in the surface zones balanced by high tension in the central plane. This treatment endows the glass with greatly increased resistance to external forces such as mechanical loading and thermal shock.

NOTES

1 The process of obscuring transparent glass has to be effected before the procedure of toughening.

2 If toughened safety glass is fractured it gives fragments which are less liable to cause severe cuts than fragments of ordinary glass.

4 DIMENSIONS AND TOLERANCES

4.1 Diameter and thickness

In Table 1 the crosses indicate the thicknesses t of toughened safety glass panes for ships' side scuttles. They apply to clear glasses and to glasses with an obscured surface on one side.

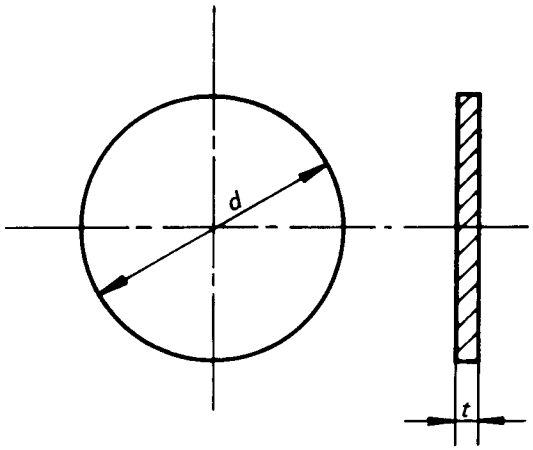

FIGURE 1 – **Toughened safety glass pane**

N = nominal dimension of side scuttle (clear light diameter)

d = diameter of toughened safety glass pane

t = nominal thickness of toughened safety glass pane

TABLE 1

Dimensions in millimetres

N	d		t						
	min.	max.	4	6	8	10	12	15	19
150	163	165	X[1]	X	(X)				
200	213	215		X	X	X	(X)		
250	263	265		X	X	(X)	X	(X)	
300	316	319			X	X	(X)	X	(X)
350	366	369			X	(X)	X	X	(X)
400	416	419				X	X	(X)	
450	466	469				X	(X)	X	(X)
500	516	519					X	(X)	

1) For clear glass pane only.
(X) For obscured glass panes only.

4.2 Tolerances on thickness

TABLE 2

Values in millimetres

t	Tolerance	
	Plate glass	Sheet glass
4	± 0,2	± 0,2
6		± 0,3
8	± 0,3	± 0,5
10		± 0,6
12		± 0,7
15	± 0,5	± 1,0
19	± 1,0	

4.3 Edges

All edges shall be arrissed and finished to remove sharpness and roughness. Edges of glasses of nominal thickness over 12 mm shall be either ground flat and arrissed or finished by some other such process, providing the finished diameter conforms to the dimensional tolerances specified in Table 2.

The width s and depth y of the arris shall not exceed the dimensions given in Table 3. Arrissing and/or grinding shall be carried out before toughening the glass.

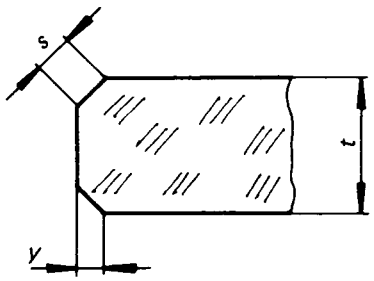

FIGURE 2 – **Glass edges**

TABLE 3

Dimensions in millimetres

t	s max.	y max.
4	1,4	1,0
6		
8		
10		
12	2,0	1,0
15		
19		

5 PARALLELISM

The deviation from parallelism (f) between the two surfaces of a clear glass pane shall not exceed the values given in Table 4.

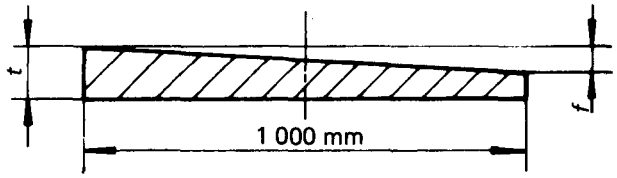

FIGURE 3 – **Parallelism**

TABLE 4

Values in millimetres

t	f	
	plate glass	**sheet glass**
4	0,2	0,4
6		
8		
10		0,6
12		
15		

6 FLATNESS

Bow (g) in glass panes shall not exceed the values given in Table 5.

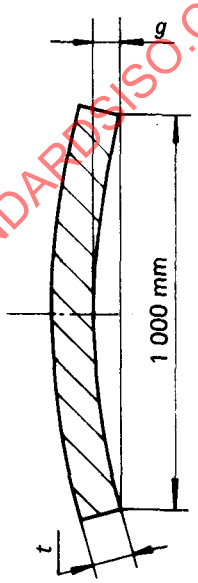

FIGURE 4 – **Flatness**

TABLE 5

Values in millimetres

t	g
4 6	3
8 10 12 15 19	2

7 TESTING

Toughened safety glasses shall be tested in accordance with ISO 614.

8 MARKING

Each glass pane shall be marked as indicated in ISO 614.

9 DESIGNATION

Glass panes conforming to this International Standard shall be designated by the following indications, in the order given :

- number of this International Standard;
- nominal dimension N;
- glass thickness t;
- material : for plate glass the letter Y,
  for sheet glass the letter Z;
- finish : for clear glass the numeral 1,
  for glass obscured on one surface the numeral 2.

The designations for nominal dimension and glass thickness are to be separated by the sign "X".

Example :

The designation for a toughened safety glass pane of nominal dimension N = 350 and thickness t = 12 mm, made of sheet glass (z), finish clear (1), is :

Glass pane ISO 1095 – 350 X 12 – Z1