

ISO

Revised

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

**ISO RECOMMENDATION
R 1751**

SHIPBUILDING DETAILS

SHIPS' SIDE SCUTTLES

1st EDITION

January 1971

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BRIEF HISTORY

The ISO Recommendation R 1751, *Shipbuilding details – Ships' side scuttles*, was drawn up by Technical Committee ISO/TC 8, *Shipbuilding details*, the Secretariat of which is held by the Nederlands Normalisatie-Instituut (NNI).

Work on this question led to the adoption of Draft ISO Recommendation No. 1751, which was circulated to all the ISO Member Bodies for enquiry in February 1969. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	Spain
Austria	Israel	Sweden
Belgium	Italy	Thailand
Czechoslovakia	Netherlands	Turkey
Finland	New Zealand	U.A.R.
Germany	Peru	United Kingdom
Greece	Poland	

The following Member Bodies opposed the approval of the Draft :

France
Japan

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided to accept it as an ISO RECOMMENDATION.

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SHIPBUILDING DETAILS

SHIPS' SIDE SCUTTLES

INTRODUCTION

This ISO Recommendation is based on the experience of side scuttle and glass manufacturers, and shipbuilders, and of authorities who apply to ships the Regulations of the International Convention for the Safety of Life at Sea, 1960, and of the International Convention on Load Lines, 1966.

1. SCOPE

This ISO Recommendation specifies definitions, dimensions for interchangeability, swing bolts and hinges, tensile strength and elongation of materials, testing and designation of ships' side scuttles.

Ships' side scuttles according to this ISO Recommendation are classified as follows :

- type A : heavy type side scuttle;
- type B : medium type side scuttle;
- type C : light type side scuttle.

NOTE. - Requirements for the position of side scuttles in ships will be given in a future ISO Recommendation (in the course of preparation).

2. DEFINITIONS

- 2.1 *Right-hand ships' side scuttle.* A scuttle with the hinge of the glass holder on the right side when viewed from the side towards which it opens, and the deadlight opening upwards.
- 2.2 *Left-hand ships' side scuttle.* A scuttle with the hinge of the glass holder on the left side when viewed from the side towards which it opens, and the deadlight opening upwards.
- 2.3 *Common hinge ships' side scuttle.* A scuttle with both the glass holder and deadlight on the same hinge pin.

3. DIMENSIONS

3.1 Designation of dimensions

- N = Nominal dimension of side scuttle
- D = Clear light diameter
- d_1 = Maximum outside diameter of main frame
- d_2 = Outside diameter of spigot
- d_3 = Diameter of glass recess
- t = Nominal thickness of toughened glass (see clause 3.2).

NOTE. - The figures do not define the construction; they are only intended to indicate the standardized dimensions.

3.1.1 Opening side scuttles

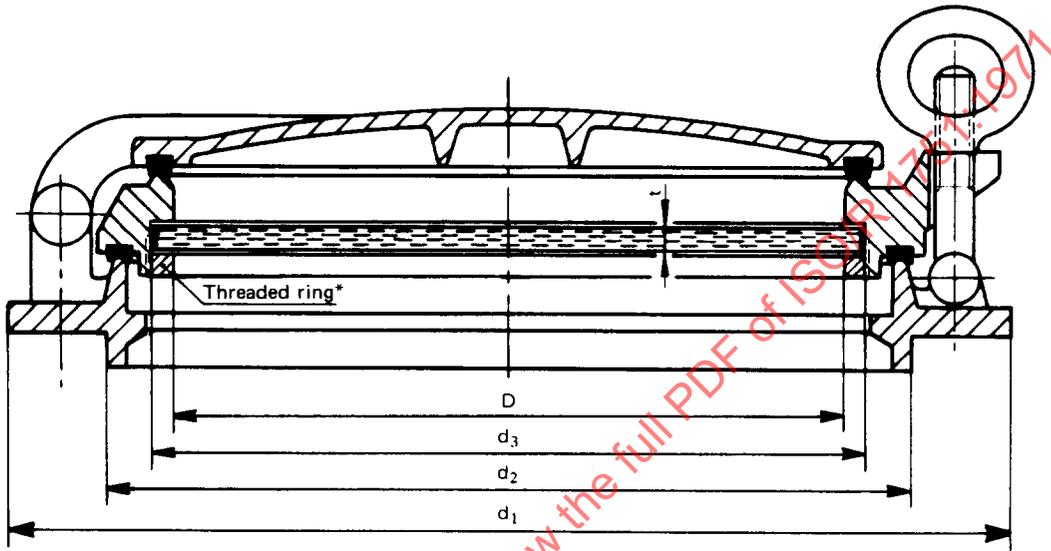


FIG. 1 - Bolted type, with deadlight

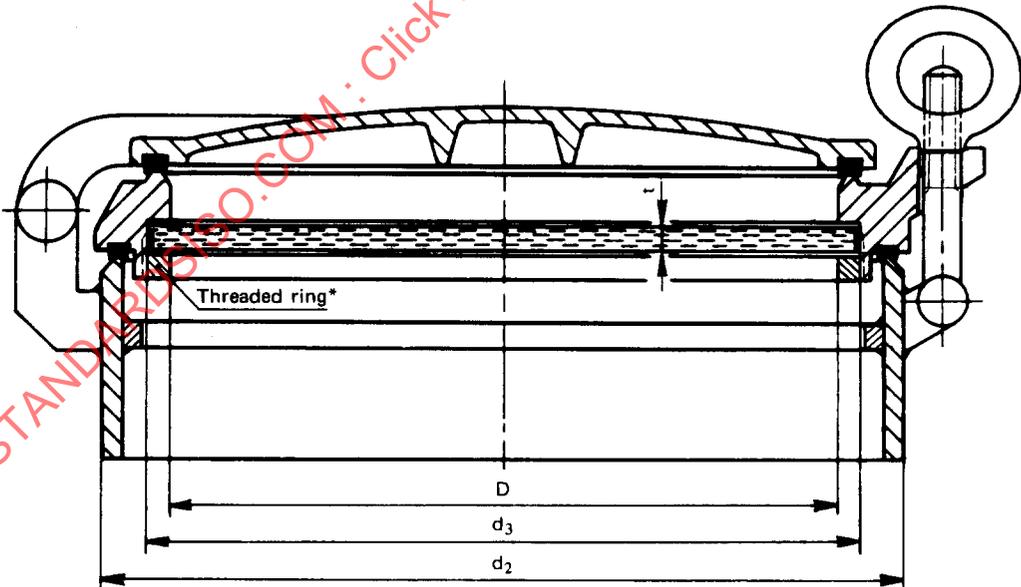


FIG. 2 - Welded type, with deadlight

* When used for glass fixing.

3.1.2 Non-opening side scuttles

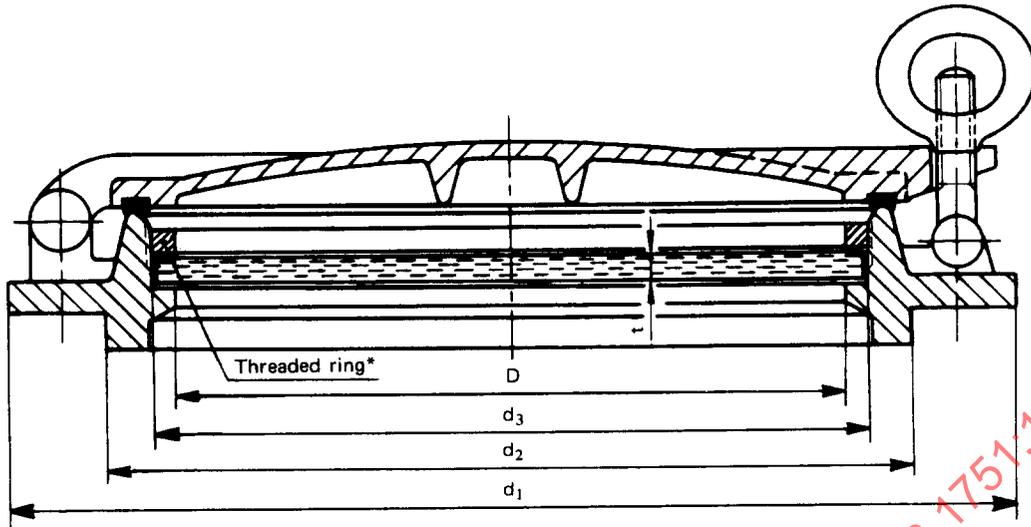


FIG. 3 - Bolted type, with deadlight

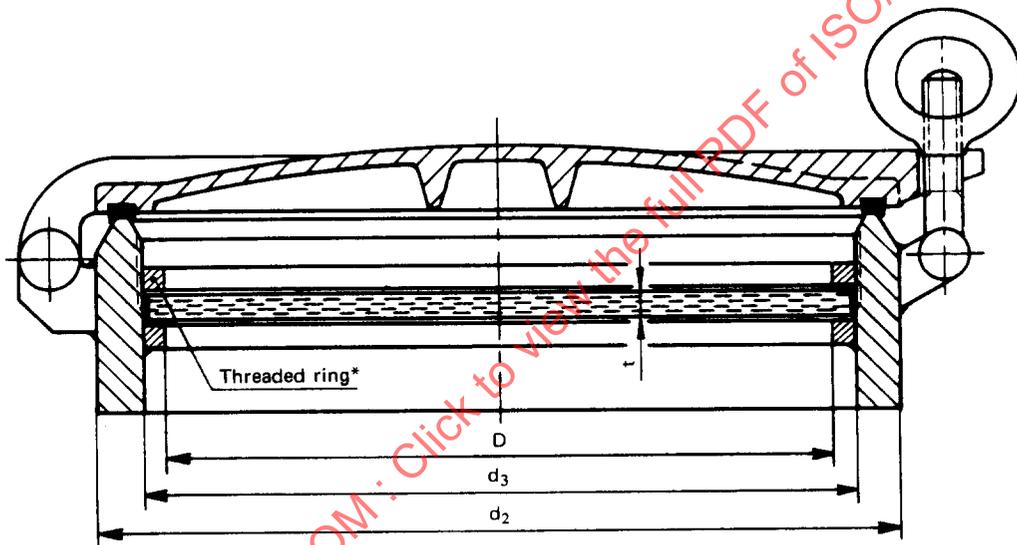


FIG. 4 - Welded type, with deadlight

3.2 Main frame and glass holder

TABLE 1 - Dimensions of main frame and glass holder

Dimensions in millimetres

<i>N</i>	<i>D</i>	<i>d</i> ₁ max.	<i>d</i> ₂	<i>d</i> ₃	Threaded ring*
150	150	280	200	167	M 170 × 2
200	200	350	250	217	M 220 × 2
250	250	400	305	267	M 270 × 2
300	300	450	360	322	M 325 × 2
350	350	500	410	372	M 375 × 2
400	400	550	460	422	M 425 × 2
450	450	600	510	472	M 475 × 2
500	500	650	560	522	M 525 × 2

* When used for glass fixing.

3.3 Toughened glass*

3.3.1 Thicknesses

TABLE 2 - Thicknesses of toughened glass

Dimensions in millimetres

N	Glass thickness <i>t</i> for side scuttle type		
	A	B	C
150	—	6	4
200	10	8	6
250	12	8	6
300	15	10	8
350	15	12	8
400	—	12	10
450	—	15	10
500	—	—	12

NOTE. - When obscured glass is fixed with the obscured surface facing inwards, one thickness greater than that specified in Table 2 should be used.

3.3.2 *Tolerances on thickness.* The tolerances on thickness should be in accordance with ISO Recommendation R 1095, *Shipbuilding details - Toughened glasses for ships' side scuttles and fixed lights.*

3.3.3 *Edges.* All edges should be finished to remove sharpness and roughness. Edges of glasses of nominal thickness up to and including 12 mm should be arrised. Edges of glasses of nominal thickness over 12 mm should be ground flat and arrised. The width *s* and depth *y* of the arris should not exceed the dimensions given in Table 3.

The arrissing should be carried out before toughening the glass.

TABLE 3 - Edge dimensions of toughened glass

Dimensions in millimetres

Nominal thickness of glass <i>t</i>	Width max. <i>s</i>	Depth max. <i>y</i>
	4	1.4
6		
8		
10		
12	2.0	1.0
15		
19		

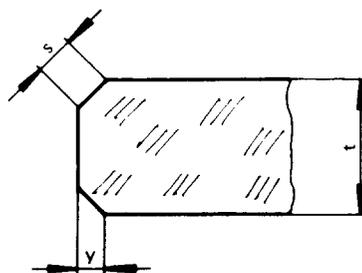


FIG. 5 - Glass edges

* For glasses for ships' side scuttles, see ISO Recommendation R 1095, *Shipbuilding details - Toughened glasses for ships' side scuttles and fixed lights.*

3.4 Glass holder and deadlight rubber rings

The dimensions, in millimetres, of the glass holder and deadlight rubber rings should be as shown in Figure 6. The rings should be manufactured from natural or synthetic rubber having a hardness of 35 to 40 IRHD*, and be resistant to seawater and ultra-violet light.

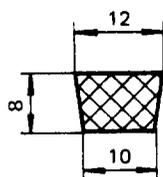


FIG. 6 - Rubber ring dimensions

4. SWINGBOLTS AND HINGES

The number of fasteners, comprising swingbolts and hinges, for glass holders and deadlights for types A, B and C side scuttles, should be as given in Table 4.

When the hole for the hinge pin of the glass holder and deadlight is oval, the hinge is not regarded as a fastener.

TABLE 4 - Total number of fasteners - Swingbolts and hinges (round hole)

N	Side scuttle type					
	A		B		C	
	deadlight	glass holder	deadlight	glass holder	deadlight	glass holder
150	—	—	2	2	2	2
200	2	2	2	2	2	2
250	3	3	2	3	2	2
300	3	3	2	3	2	3
350	3	3	3	3	2	3
400	—	—	3	3	2	3
450	—	—	3	4	3	3
500	—	—	—	—	3	3

* IRHD = International rubber hardness degrees, see ISO Recommendation R 48, *Determination of hardness of vulcanized rubbers* (2nd Edition 1968).