UDC 629.12.011 : 666.16

Ref. No.: ISO/R 614 - 1967 (E)

Revised

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION
R 614

SHIPBUILDING DETAILS

TESTING OF TOUGHENED GLASSES FOR SHIPS' SIDE SCUTTLES AND FIXED LIGHTS BY THE PUNCH METHOD

1st EDITION

August 1967

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 614, *Shipbuilding Details—Testing of Toughened Glasses for Ships' Side Scuttles and Fixed Lights by the Punch Method*, 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 by the Technical Committee began in 1960 and led, in 1964, to the adoption of a Draft ISO Recommendation.

In January 1965, this Draft ISO Recommendation (No. 777) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	Germany	Spain
Belgium	Greece	Sweden
Canada	India	Turkey
Chile	Israel	U.A.R.
Czechoslovakia	Korea, Rep. of	United Kingdom
Finland	Netherlands	Yugoslavia
France	Poland	

One Member Body opposed the approval of the Draft:

Japan

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in August 1967, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 614 August 1967

SHIPBUILDING DETAILS

TESTING OF TOUGHENED GLASSES FOR SHIPS' SIDE SCUTTLES AND FIXED LIGHTS BY THE PUNCH METHOD

1. SCOPE

This ISO Recommendation concerns the testing, with a punch, of the strength of clear and frosted toughened glasses for ships' side scuttles and fixed lights in ships.*

2. DEFINITIONS

Toughened glass. Glass in a condition produced by subjecting the 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 centre. This treatment endows the glass with greatly increased resistance to external forces such as mechanical loading and thermal shock.

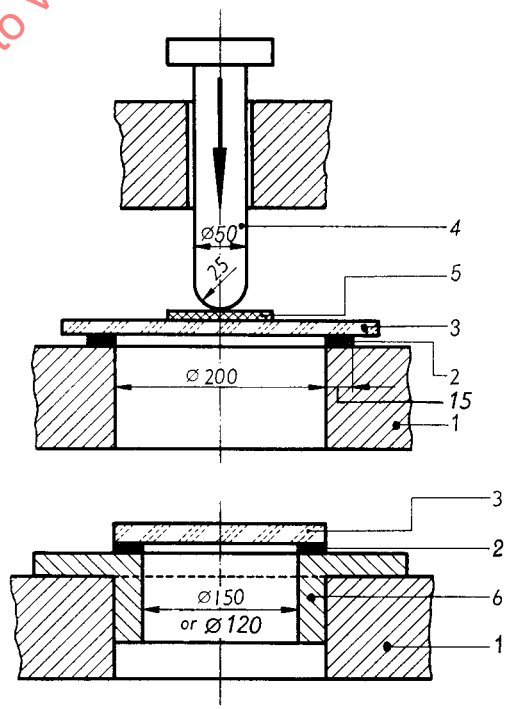
3. TEST APPARATUS

The base of the test equipment is a plane surfaced steel plate having a 200 mm diameter centre hole with rounded edges (1) and of sufficient thickness to prevent deformation under pressure. A flat rubber ring (2) of hardness 40 to 60 IRH ** with a thickness of 2 mm and a width of at least 15 mm, is placed on top of the steel plate in order to compensate for slight irregularities and to prevent the edges of the steel plate from affecting the glass in any way, the internal diameter of the ring being flush with the 200 mm diameter hole in the steel plate.

The glass pane under test (3) is placed on top of the hole and a punch (4) placed centrally on top of the glass pane. The punch has a diameter of 50 mm, with a hemispherical end. A felt pad (5) about 5 mm thick or a piece of fibre-board (5) about 2 mm thick is interposed between the punch and the glass pane to compensate for any irregularities.

Dimensions in millimetres

1. *Steel plate*
2. *Rubber ring (2 mm thick)*
3. *Glass under test*
4. *Punch*
5. *Felt pad (5 mm thick) or fibre-board (2 mm thick)*
6. *Adaptor*



* References

(*a*) For glasses, see ISO Recommendation R , *Toughened Glasses for Ships' Side Scuttles and Fixed Lights*, at present Draft ISO Recommendation No. 1162, which will replace ISO Recommendation R 153, *Ordinary Glasses for Scuttles and Lights*.

(*b*) For ships' side scuttles, see ISO Recommendation R , *Ships' Side Scuttles—Dimensions for Interchangeability*, at present at the stage of draft proposal.

** IRH = International Rubber Hardness Degrees, see ISO Recommendation R 48, *Determination of Hardness of Vulcanized Natural and Synthetic Rubbers*.