

# ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

## ISO RECOMMENDATION R 695

DETERMINATION OF THE RESISTANCE OF GLASS TO ATTACK  
BY A BOILING AQUEOUS SOLUTION OF MIXED ALKALI

1st EDITION  
March 1968

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## BRIEF HISTORY

The ISO Recommendation R 695, *Determination of the resistance of glass to attack by a boiling aqueous solution of mixed alkali*, was drawn up by Technical Committee ISO/TC 48, *Laboratory glassware and related apparatus*, the Secretariat of which is held by the British Standards Institute (BSI).

Work on this question by the Technical Committee began in 1950 and led, in 1961, to the adoption of a Draft ISO Recommendation.

In December 1963, this Draft ISO Recommendation (No. 717) 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 :

Argentina	France	New Zealand
Australia	Germany	Poland
Austria	Greece	Spain
Belgium	Hungary	Sweden
Brazil	India	Switzerland
Bulgaria	Israel	Turkey
Canada	Italy	U.A.R.
Chile	Japan	United Kingdom
Colombia	Korea, Rep. of	U.S.S.R.
Czechoslovakia	Netherlands	Yugoslavia

One Member Body opposed to the approval of the Draft :

U.S.A.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in March 1968, to accept it as an ISO RECOMMENDATION.

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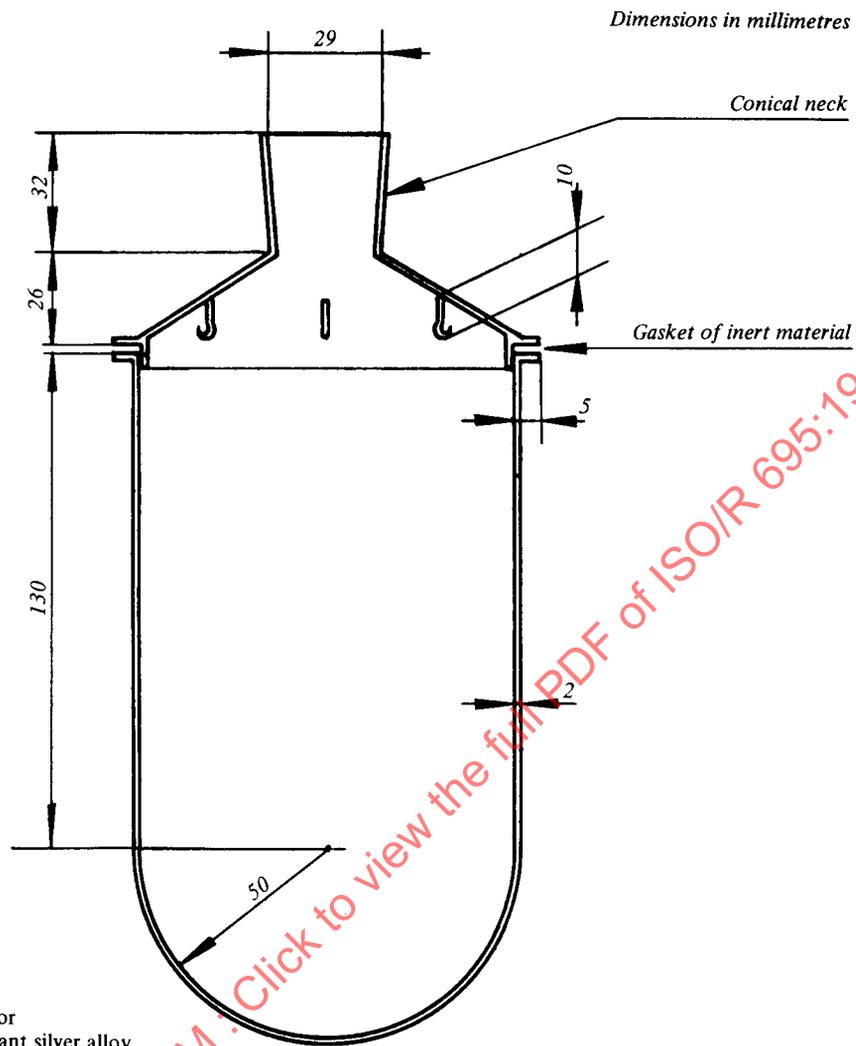
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1. SCOPE

The purpose of this ISO Recommendation is to describe a method for determining the resistance of glass to attack by a boiling aqueous solution of equal volumes of *N* sodium carbonate and *N* sodium hydroxide. The resistance is measured inversely by the loss in mass per unit area of the glass.

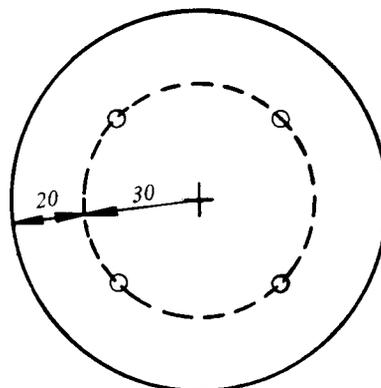
2. APPARATUS

- 2.1 *Test vessel*, of pure silver or alkali-resistant silver alloy. A recommended vessel, as shown in the Figure overleaf, is cylindrical with a hemispherical base and has a close fitting lid. The lid has a wide neck and is fitted on the underside with four hooks from which to suspend the samples. Where a gasket is required to ensure an adequate joint between the body and the lid, it should be of a material which remains inert under the conditions of test.
- 2.2 *Condenser* of the Allihn or Liebig type, made of chemically resistant glass, fitted to the neck of the vessel through a bung of suitable inert material which has previously been boiled for 60 minutes in water.
- 2.3 *Balance* accuracy  $\pm 0.1$  mg.
- 2.4 *Desiccator*, containing a suitable drying agent.
- 2.5 *Measuring instruments*, suitable for measuring lengths and diameters to the required accuracy.
- 2.6 *Drying oven*, suitable for operation at a temperature of 150 °C.
- 2.7 *Beaker*, 1 litre capacity.
- 2.8 *Silver wire*.
- 2.9 *Tongs* tipped, if necessary, with a suitable material.



**Material**  
 pure silver or  
 alkali-resistant silver alloy

**Execution**  
 4 hooks soldered to cover,  
 1 flange with ground flat  
 surface, fixed to lid



*View of lid from above,  
 showing position of hooks*

FIGURE – Example of suitable cylindrical silver vessel