

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 641

INTERCHANGEABLE SPHERICAL GROUND GLASS JOINTS

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BRIEF HISTORY

The ISO Recommendation R 641, *Interchangeable spherical ground glass joints*, was drawn up by Technical Committee ISO/TC 48, *Laboratory glassware and related apparatus*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee began in 1957 and led, in 1961, to the adoption of a Draft ISO Recommendation.

In December 1963, this Draft ISO Recommendation (No. 714) was circulated to all the ISO Member Bodies for enquiry. It was approved by the following Member Bodies:

Argentina	Greece	Spain
Australia	Hungary	Switzerland
Austria	India	Turkey
Belgium	Israel	U.A.R.
Brazil	Italy	United Kingdom
Canada	Japan	U.S.A.
Chile	Netherlands	U.S.S.R.
Colombia	New Zealand	Yugoslavia
Czechoslovakia	Poland	

One Member Body opposed the approval of the Draft:

France

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

INTERCHANGEABLE SPHERICAL GROUND GLASS JOINTS

INTRODUCTION

The purpose of this ISO Recommendation is to ensure interchangeability between standard spherical ground glass joints, irrespective of where they are manufactured.

Limiting dimensions for the ground glass zone and the external diameter of adjacent tubing, which will ensure interchangeability, are given in Table 1, page 5. The finish of the ground surface is also specified, and this is similar to the finish specified in ISO Recommendation R 383, *Interchangeable conical ground glass joints*.

A conventional designation is adopted, which consists of the code letter "S" in conjunction with the approximate spherical diameter of the joint in millimetres. The bore diameter which may be employed with each size of joint is controlled, for the purposes of this ISO Recommendation, only by the maximum diameter at the narrow end of the ground zone.

A convenient leakage test, to be carried out on ungreased joints, is described in Appendix Y, but this does not form an integral part of this ISO Recommendation. In Appendix Z are listed, for convenience, the size designations of the joints specified in the British and U.S.A. standards which correspond to, or are interchangeable with, the joints listed in this ISO Recommendation.

While reference is made, in this ISO Recommendation, only to glass joints, these having come into general use, it is not thereby intended to exclude the development of joints made of other materials, which should be manufactured to the same dimensions.

1. SCOPE

This ISO Recommendation covers the essential geometric requirements for interchangeability in relation to a series of ground glass joints for laboratory use.

2. NOMINAL SPHERICAL GROUND JOINT DIAMETER

The diameter of the ground spherical zone should be in accordance with the dimensions specified in Table 1, columns 2, 3 and 4. These tolerances ensure that the diameter of the inner component (or ball member) is not greater than the nominal diameter and that the diameter of the outer component (or cup member) is not less than the nominal diameter.

3. DIMENSIONS

The diameter at the wide end of the ground zone should not be less than the corresponding dimension given in Table 1, column 5, and the diameter at the narrow end of the ground zone should not be greater than the corresponding dimension given in Table 1, column 6. The relationship of the dimensions is illustrated in Figure 1, page 4.