

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 383

INTERCHANGEABLE CONICAL GROUND GLASS JOINTS

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BRIEF HISTORY

The ISO Recommendation R 383, *Interchangeable Conical 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 1950 and led, in 1960, to the adoption of a Draft ISO Recommendation.

In April 1960, this Draft ISO Recommendation (No. 346) 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	Romania
Austria	Greece	Spain
Belgium	India	Sweden
Canada	Israel	United Kingdom
Chile	Japan	U.S.A.
Colombia	Netherlands	U.S.S.R.
Czechoslovakia	New Zealand	
France	Poland	

One Member Body opposed the approval of the Draft :

Italy.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in September 1964, to accept it as an ISO RECOMMENDATION.

INTERCHANGEABLE CONICAL GROUND GLASS JOINTS

INTRODUCTION

The purpose of this ISO Recommendation is to ensure interchangeability between standard conical ground glass joints, irrespective of where they are manufactured. In order to achieve interchangeability, it is necessary that each of the following requirements should be adequately specified, including appropriate tolerances:

- (a) Taper,
- (b) Large end diameter,
- (c) Length of ground zone,
- (d) Surface finish.

The nominal dimensions listed below are based on the series of joints already widely used in many countries; in particular, the series of large end diameters represents the nearest acceptable compromise to the R 40/3 series of preferred numbers (5.3... 100) laid down in ISO Recommendation R 3, *Preferred Numbers — Series of Preferred Numbers*.

From the practical point of view, and especially because of the difficulty of carrying out precise measurements on the ground portions of the finished joints, it is desirable to apply a gauging system which allows rapid checking of the essential dimensions. The definition of these dimensions in section 5 is an integral part of this ISO Recommendation, but the system of gauging described in Annex A, while it has been proved in practice as fully satisfactory, is not the only one which can be applied for the purpose.

The leakage test described in Annex B is one which is commonly used for testing joints, but its inclusion in this ISO Recommendation is not intended to preclude the use of other tests which may be found more convenient for particular purposes. Attention is specifically drawn to the method of pneumatic gauging.*

1. SCOPE

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

2. TAPER

The taper of the joints should be such as to give one increment on diameter for ten increments on axial length, with a tolerance of ± 0.006 on the diameter increment, i.e. a taper of $(1.00 \pm 0.006)/10$.

* This method is described in *Laboratory Practice*, March 1958, Vol. 7, No. 3, "Pneumatic gauging applied to standard ground glass joints", by I.C.P. Smith.