

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1770

SOLID-STEM GENERAL PURPOSE THERMOMETERS

1st EDITION

October 1970

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Printed in Switzerland

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

BRIEF HISTORY

The ISO Recommendation R 1770, *Solid-stem general purpose thermometers*, 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 led to the adoption of Draft ISO Recommendation No. 1770, which was circulated to all the ISO Member Bodies for enquiry in December 1968. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies :

Australia	India	Spain
Austria	Iran	Thailand
Belgium	Israel	Turkey
Canada	Italy	U.A.R.
Colombia	Netherlands	United Kingdom
Czechoslovakia	New Zealand	U.S.S.R.
France	Peru	Yugoslavia
Germany	Poland	
Greece	South Africa, Rep. of	

The following Member Body opposed the approval of the Draft :

U.S.A.

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

SOLID-STEM GENERAL PURPOSE THERMOMETERS

INTRODUCTION

This ISO Recommendation is based in general on the provisions of ISO Recommendation R 386, *Principles of construction and adjustment of liquid-in-glass laboratory thermometers*, in so far as they are applicable to thermometers not intended for accurate measurements.

For ease of reference, each thermometer of the series has been allocated a designation consisting of a single letter representing the range of the thermometer and the indication "TOTAL" or "75" relating to the intended immersion.

1. SCOPE

This ISO Recommendation specifies requirements for a series of inexpensive "commercial quality" thermometers of the solid-stem type suitable for general purpose use in industry, schools and laboratories when great accuracy of measurement is not required. The temperature range covered by the series is from -100 to $+500$ °C (see also Note to clause 10.1).

2. TYPE OF THERMOMETER

The thermometer should be of the liquid-in-glass solid-stem type with enamel back.

3. TEMPERATURE SCALE

The temperature scale to which the thermometers refer is the International Practical Temperature Scale in accordance with the latest definition of the Conférence Générale des Poids et Mesures.

4. IMMERSION

The thermometers should be adjusted for use at total immersion (i.e. the reading should be correct when the thermometer is immersed at least to the end of the liquid column in the medium whose temperature is required to be measured), or for partial immersion as required.

In the latter case the preferred immersion is 75 mm, and the adjustment of such a thermometer should have been carried out at the average emergent stem temperature shown in the Table, page 6.

NOTE. — Adjustment at partial immersion is not permitted for the thermometer of range -100 to $+30$ °C, because of the large errors likely to be caused in a spirit-in-glass thermometer by variations in temperature around the emergent portion of the stem.