

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 1146

PYROMETRIC REFERENCE CONES

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BRIEF HISTORY

The ISO Recommendation R 1146, *Pyrometric reference cones*, was drawn up by Technical Committee ISO/TC 33, *Refractories*, the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question led to the adoption of a Draft ISO Recommendation.

In December 1967, this Draft ISO Recommendation (No. 1440) 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	Israel	Sweden
Austria	Italy	Thailand
Canada	Japan	Turkey
Denmark	Netherlands	U.A.R.
France	New Zealand	United Kingdom
Germany	Poland	U.S.A.
Greece	Romania	U.S.S.R.
Hungary	South Africa, Rep. of	Yugoslavia
India	Spain	

One Member Body opposed the approval of the Draft :

Portugal

This Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in November 1969, to accept it as an ISO RECOMMENDATION.

PYROMETRIC REFERENCE CONES

1. SCOPE

This ISO Recommendation defines the characteristics of a standard series of pyrometric reference cones for determining the pyrometric cone equivalent (refractoriness) of refractory materials.

2. REFERENCE TEMPERATURES

The reference cones should be of such compositions that the temperature of collapse (see ISO Recommendation R 528*) of any cone is within ± 5 °C of the appropriate temperature in the following series.

Cone reference	Temperature °C	Cone reference	Temperature °C
ISO 150	1500	ISO 166	1660
ISO 152	1520	ISO 168	1680
ISO 154	1540	ISO 170	1700
ISO 156	1560	ISO 172	1720
ISO 158	1580	ISO 174	1740
ISO 160	1600	ISO 176	1760
ISO 162	1620	ISO 178	1780
ISO 164	1640	ISO 180	1800

3. DIMENSIONS

The dimensions of the reference cones should conform to the requirements of clauses 3.2 and 4.1 of ISO Recommendation R 528*.

4. METHOD OF TEST

Compliance with the requirements of section 2 is confirmed by carrying out the procedure described in ISO Recommendation R 528*, the temperature of collapse being determined by a thermocouple.

5. MARKING

- 5.1 Reference cones should be marked with the appropriate reference number indicated in section 2.
- 5.2 A series of cones need not include all the individual values defined in section 2, but it should not include any intermediate values.
- 5.3 If cones are made outside the range 1500 to 1800 °C stated in section 2, they should be marked accordingly but do not come within the scope of this ISO Recommendation.

* ISO Recommendation R 528, *Refractory products – Determination of pyrometric cone equivalent (Refractoriness)*.