

# INTERNATIONAL STANDARD

ISO  
1146

First edition  
1988-02-01



---

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION  
ORGANISATION INTERNATIONALE DE NORMALISATION  
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

---

## **Pyrometric reference cones for laboratory use — Specification**

*Cônes pyroscopiques de référence pour emploi en laboratoire — Spécifications*

Reference number  
ISO 1146:1988 (E)

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 1146 was prepared by Technical Committee ISO/TC 33, *Refractories*.

It cancels and replaces ISO Recommendation R 1146 : 1969, of which it constitutes a technical revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Pyrometric reference cones for laboratory use — Specification

## 1 Scope and field of application

**1.1** This International Standard specifies the characteristics of a standard series of pyrometric reference cones, which are used for determining the pyrometric cone equivalent (refractoriness) of refractory materials, over the temperature range 1 500 to 1 800 °C.

**1.2** The pyrometric reference cones specified in this International Standard are suitable for use in the procedure described in ISO 528, excluding determinations at 1 500 and 1 800 °C.

## 2 Reference

ISO 528, *Refractory products — Determination of pyrometric cone equivalent (refractoriness)*.

## 3 Definitions

For the purpose of this International Standard, the following definitions apply.

**3.1 pyrometric reference cone:** A blunt-tipped skew triangular pyramid with sharp edges, of specified shape and dimensions and of such composition that, when mounted and heated under specified conditions, it bends in a known manner with reference to the temperature (see 3.2).

**3.2 reference temperature; temperature of collapse:** The temperature at which the tip of a pyrometric reference cone reaches the level on which the base of the cone is mounted when the cone is heated at a specified rate under specified conditions.

## 4 Dimensions and shape of cones

**4.1** The nominal dimensions of a cone shall be as shown in figure 1.

**4.2** The shape of a cone shall be as indicated in figures 2 or 3.

**4.3** A cone may lean in the direction of an edge, as in figure 2, or in the direction of a face, as in figure 3. The angle to the vertical to be made by the leading edge or face when the cone is mounted, shall be  $8 \pm 1^\circ$ .

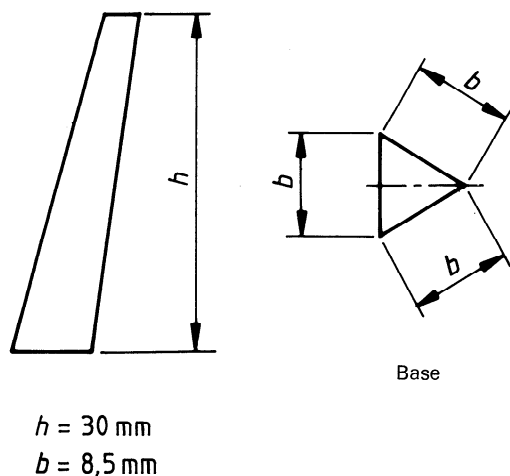


Figure 1

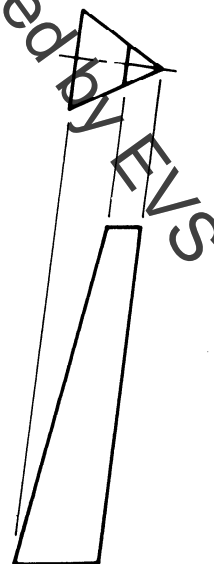


Figure 2

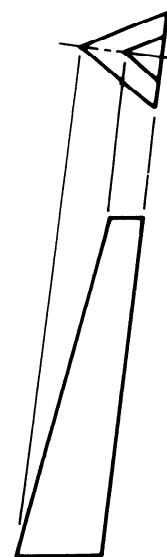


Figure 3