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**Vitreous and porcelain enamels —  
Determination of the resistance to abrasion —  
Part 1:  
Abrasion testing apparatus**

*Émaux vitrifiés — Détermination de la résistance à l'abrasion —  
Partie 1: Appareillage d'essai d'abrasion*



Reference number  
ISO 6370-1:1991(E)

## Foreword

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International Standard ISO 6370-1 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, Sub-Committee SC 6, *Vitreous and porcelain enamels*.

ISO 6370 consists of the following parts, under the general title *Vitreous and porcelain enamels — Determination of the resistance to abrasion*:

- *Part 1: Abrasion testing apparatus*
- *Part 2: Loss in mass after sub-surface abrasion*

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# Vitreous and porcelain enamels — Determination of the resistance to abrasion —

## Part 1: Abrasion testing apparatus

### 1 Scope

This part of ISO 6370 specifies the requirements for the testing apparatus to be used for the determination of the resistance to abrasion of vitreous and porcelain enamel coatings.

### 2 General description

The abrasion testing apparatus is composed essentially of the parts described in 3.1 to 3.4.

Figure 1 shows the arrangement of the specimens and reference glass plates in the apparatus.

### 3 Requirements

#### 3.1 Oscillating table with drive

An oscillating table of about 10 mm in thickness, made of steel or light metal, is placed horizontally on an eccentric drive in such a way that during the test every point of the oscillating table describes a horizontal circle of  $22 \text{ mm} \pm 1 \text{ mm}$  in diameter. The oscillating table shall be large enough for testing at least three specimens and clamping three reference plates on it by means of the retaining rings (3.2).

The eccentric drive shall operate at a rotational frequency of  $300 \text{ min}^{-1} \pm 3 \text{ min}^{-1}$  and be provided with a device for checking this frequency.

#### 3.2 Retaining rings

At least six retaining rings as shown in figure 2 are required for the testing apparatus. The retaining ring shall be constructed of steel, cast iron or light metal lined with rubber. The opening is used for introducing the abrading charge and shall be able to be closed by a rubber stopper.

#### 3.3 Sealing rings

At least six sealing rings of  $87 \text{ mm} \pm 0,5 \text{ mm}$  internal diameter,  $10 \text{ mm} \pm 2 \text{ mm}$  breadth and  $2 \text{ mm} \pm 0,5 \text{ mm}$  thickness, consisting of a non-rigid elastic material (e.g. rubber), are required on the testing apparatus.

#### 3.4 Clamping devices

The clamping device shall press the lower edge of the retaining ring (3.2) against the sealing ring (3.3) which retains the specimen or the reference glass plate on the oscillating table (see 3.1). It shall be possible to loosen the clamping devices quickly for easy exchange of specimens and reference glass plates.