
**Vitreous and porcelain enamels — Low
voltage test for detecting and locating
defects**

*Émaux vitrifiés — Essai à basse tension pour la détection et la localisation
des défauts*



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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8289 was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*.

This second edition cancels and replaces the first edition (ISO 8289:1986), which has been technically revised.

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Vitreous and porcelain enamels — Low voltage test for detecting and locating defects

1 Scope

This International Standard specifies two low voltage tests for detecting and locating defects that extend to the basis metal in vitreous and porcelain enamel coatings.

Method A (electrical) is suitable for the rapid detection and determination of the general location of defects. Method B (optical), based on colour effects, is suitable for the more precise detection of defects and their exact locations. Method A is commonly applied to flat surfaces, whereas method B is preferred for more intricate shapes.

NOTE 1 Selection of the correct test method is critical to distinguish the areas of increased conductivity detected by method B from actual pores that extend to the basis metal, which can be detected by both methods.

NOTE 2 The low voltage test is a non-destructive method of detecting defects (see clause 3) and therefore, is completely different from the high voltage test specified in ISO 2746. The results of high and low voltage tests are not comparable and will differ.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

IEC 60086-2, *Primary batteries — Part 2: Specification sheets.*

3 Term and definition

For the purposes of this International Standard, the following term and definition applies.

3.1

defect

pore, crack or spall that penetrates or extends to the basis metal

NOTE In certain areas, defects may be unavoidable being caused during the production of the article, e.g., burnishing tool marks.

4 Principle

Defects are detected by an electrical or electroacoustical method (method A) or an optical one (method B) based on colour effects. Testing is carried out at a low voltage, contact being made with the defect by means of a conductive solution.

5 Test reagent

Dissolve 3,0 g \pm 0,1 g sodium nitrite (NaNO_2) in 100 ml of tap water and add 2 drops of a liquid dishwashing detergent.