INTERNATIONAL STANDARD

ISO 8289-1

First edition
2020-02

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

Part 1: Swab test for non-profiled surfaces

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

Partie 1: Essai avec tampon pour les surfaces non profilées

Reference number
ISO 8289-1:2020(E)

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Published in Switzerland

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by ISO/TC 107, *Metallic and other inorganic coatings*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 262, *Metallic and other inorganic coatings, including for corrosion protection and corrosion testing of metals and alloys*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces ISO 8289:2000, which has been technically revised.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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

Part 1: Swab test for non-profiled surfaces

1 Scope

This document 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 applicable to the rapid detection and determination of the general location of defects. Method B (optical), based on colour effects, is applicable to the more precise detection of defects and their exact locations. Both methods are commonly applied to flat surfaces. For more intricate shapes, such as undulated and/or corrugated surfaces, ISO 8289-2 is applicable.

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 and, therefore, is completely different from the high voltage test specified in ISO 2746. The results of the high and low voltage tests are not comparable and will differ.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
defect
pore, crack or spall that penetrates or extends to the basis metal

Note 1 to entry: In certain areas, defects can 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.