INTERNATIONAL STANDARD

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Vitreous and porcelain enamels — High voltage test

Émaux vitrifiés — Essai sous haute tension

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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

ISO 2746 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 262, *Metallic and other inorganic coatings*, in collaboration with Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 2746:1998) which has been technically revised. This edition has also been adopted as a European standard, which supersedes EN 14430:2004.

Introduction

There are two different objectives for high voltage testing of vitreous and porcelain enamels.

Test A is used to detect and locate defects, which extend down to the metal base (e.g. open pores). This is a non-destructive test usually applied to thin enamel coatings. The test serves to monitor either that the parts produced are free from defects at the chosen test voltage, or to count the number of existing defects, e.g. to determine the defect density (defects/m^2) of enamelled architecture panels.

Test B is used to detect and locate defects, which extend down to the metal base (e.g. open pores) and to detect weak spots. This is a destructive test, i.e. the test can generate open pores with an electric discharge through weak spots in the enamel coating. This test is usually applied to thick enamel coatings and serves:

a) to verify that an enamel coating is safe to be used under highly corrosive conditions, e.g. to test the enamel coating of vessels used in the chemical industry, or

b) to verify that the enamel coating is safe to be used as a dielectric.

Test A and test B require the same test equipment (see Clause 5) and follow the same test procedure (see Clause 8). However, for test B the applied voltage is higher than in test A (see Clause 7).