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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 38092-2019

Vitreous and porcelain enamels - Determination of fluidity behaviour - Fusion flow test

Issued on: October 18, 2019 **Implemented on: May 1, 2020**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard uses the translation method equivalent to ISO 4534.2010 "Test Melt Flow Test for Enamel Products and Enamel Fluidity".

This standard is proposed and managed by the China Light Industry Association.

This standard was drafted. Donghua University, National Eyeglass Glass Enamel Product Quality Supervision and Inspection Center, Shanghai Glasses Glass Enamel Products

Quality supervision and inspection station.

1 Scope

This standard specifies a method for testing the enamel fluidity of enamel during firing. This method is a relative method of fluidity testing

(Comparative method), not an absolute method.

2 Principle

According to the conditions of sample preparation, it can be divided into dry preparation or wet preparation. Cylindrical sample with a certain weight can be made of enamel powder, dry

The dried glaze or the reference sample agreed by both parties is pressed.

The sample was placed on an unglazed ceramic plate in a horizontal position in an electric

furnace and melted to a hemispherical shape at a predetermined temperature. Then, tilt

An glazed ceramic plate to allow molten enamel to flow at a certain angle for a predetermined period of time.

The flow length coefficient F1 and the flow width coefficient Fb are calculated based on the flow length and flow width of the sample.

3 Materials and equipment

3.1 Reference sample. It is agreed by both parties to the contract that it has similar melt flow properties to the tested enamel.

3.6 Balance. The accuracy is 0.01g.

3.7 Press. It can produce a pressure of at least 5N/mm2 with a cylindrical mold with an inner diameter of 8mm~10mm. Every experiment,

A mold of the same specification should be used.

3.8 Flow plate. It consists of a smooth, uniform, non-glazed ceramic plate made of at least 1100 ° C. It has a side length of about 75 mm and a thickness of

5mm~6mm, the water absorption rate is <=25% under atmospheric pressure. It can also be cut from a larger ceramic plate (see A.1).

3.9 Tilting frame. It is used to place the flow board horizontally in the experimental electric furnace. The inclination angle of the board is between 30° and 90°, as shown in Figure 1 and Figure 2.

Note. For specimens with very high viscosity, increase the angle of inclination.