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Test method for liquidus temperature of ultra-thin glass

超薄玻璃液相线温度试验方法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed by China Building Materials Federation.

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Test method for liquidus temperature of ultra-thin glass

1 Scope

This document specifies the test equipment, sample preparation, test procedures, results and presentation, and test report for ultra-thin glass liquidus temperature measurement.

This document is applicable to the liquidus temperature measurement of ultra-thin glass and can be used as a reference for the liquidus temperature measurement of other glasses.

2 Normative references

GB/T 15724

GB/T 24665

GB/T 30429

GB/T 32639

3 Terms and Definitions

The terms and definitions defined in GB/T 32639 and the following apply to this document.

3.1 Liquidus temperature

The temperature at which the crystals in molten glass can completely melt and disappear.

4.1 Gradient Temperature Furnace

The gradient furnace should be a horizontal tube heating furnace with a temperature gradient distribution inside the furnace tube. The furnace tube length is 600mm~900mm and the diameter is 50mm~80mm, the effective heating zone length is 300mm~500mm, the program temperature control method is adopted, and the maximum heating temperature is not lower than 1450°C, temperature gradient distribution 3°C/cm~10°C/cm, maximum temperature difference not less than 150°C. Temperature control thermocouple should comply with GB/T 30429 The required S-type thermocouple has a tolerance level of 1 and should be installed at the high temperature of the gradient furnace.

4.2 Digital Polarizing Microscope

The digital polarizing microscope should comply with the basic technical requirements of GB/T 24665, have the function of image capture and recording, and should be equipped with a ruler.

The movable platform can move a distance of not less than 60mm.

4.3 Mobile Thermocouple

The mobile thermocouple is used to measure and record the temperature distribution in the center of the gradient furnace tube. The S type should be selected in accordance with the requirements of GB/T 30429.

Armored corundum protective tube platinum rhodium thermocouple, tolerance level is 1, the effective length of the thermocouple is not less than 800mm; the thermocouple is fixed on the gradient temperature. On the horizontal sliding bracket on the front side of the furnace, there is a millimeter-level scale on the horizontal sliding bracket, and the thermocouple can move horizontally along the center line of the furnace tube of the gradient temperature furnace.