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JIS

JAPANESE INDUSTRIAL STANDARD

Method of Test for Strain Point of Glass

JIS R 3103—1978

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JAPANESE INDUSTRIAL STANDARD J I S

Method of Test for Strain Point of Glass R 3103-1978

1. Scope

This Japanese Industrial Standard specifies the method of test for strain point of the glass.

Remark: The units and numerical values given in { } in this standard are in accordance with the International System of Units (SI), and are appended for reference.

2. Definitions

The strain point mentioned here is the temperature ([1]) measured by the testing method mentioned in the following.

Suspending a glass sample of thread, approx. 0.065 cm in diameter, in an electric furnace, and applying a load of approx. 1000 gf {9.81 N} to its lower end, when it has been cooled at a speed of approx. 4°C/min the temperature at which an apparent elongation rate Δl (cm/min) due to viscous flow of glass (the difference of readings mentioned. in 5.6) is expressed by the following formula:

$$\Delta l = 7.91 \times 10^{-11} \frac{WLf}{d^3} \quad \left\{ \Delta l = 8.06 \times 10^{-9} \frac{WLf}{d^3} \right\}$$

where

W: load (gf) {N} [generally 1000 gf {9.81 N}]

L: length of the sample thread (cm) (10 cm or over)

f: magnification of the optical lever system (generall 50 times or over)

$$f = \frac{\text{2 x (distance between the optical lever mirror surface and the scale)}}{\text{(Effective distance between the optical lover legs)}}$$

d: average diameter of sample thread (cm) (generally 0.065 cm)

Applicable Standard:

JIS B 7509-Dial Gauges Reading in 0.001 mm

Reference Standard:

JIS Z 8203-SI Units and the Use of their Multiples and of Certain other Units

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