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JAPANESE INDUSTRIAL STANDARD

**Testing methods for determining
pickling weight loss of
sheet steel for vitreous and
porcelain enamelling**

JIS R 4302—1993

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Testing method for determining pickling weight loss of sheet steel for vitreous and porcelain enamelling R 4302-1993

1. Scope This Japanese Industrial Standard specifies the method for the determination of the pickling weight loss of a steel sheet used for vitreous and porcelain enamelling.

Remarks: The following standards are cited in this Standard.

JIS B 7411 Etched-stem liquid-in-glass thermometers, total immersion type

JIS B 7502 Micrometer callipers for external measurement

JIS G 4309 Stainless steel wires

JIS K 8951 Sulfuric acid

JIS R 3503 Glass apparatus for chemical analysis

JIS Z 8401 Rules for rounding off of numerical values

2. Definitions The principal terms used in this Standard are defined as follows:

pickling weight loss: The value computed from the following formula, when the steel sheet is immersed into sulfuric acid.

$$\Delta m = \frac{3925 (m_1 - m_2) d}{m_1}$$

where, 3925: pickling weight loss constant

Δm : pickling weight loss (g/mm²)

m_1 : mass before pickling (g)

m_2 : post-pickling mass (g)

d : thickness of sheet (mm)

3. Apparatus and device The apparatus and device shall be as follows:

- (1) Chemical balance A balance of which the full scale is 200 g and of readable to the nearest 0.0002 g.
- (2) Micrometer A micrometer callipers for external measurement specified in JIS B 7502.
- (3) Thermometer A 100°C thermometer specified in JIS B 7411, or those which are superior or equivalent thereto.