

JIS

JAPANESE INDUSTRIAL STANDARD

Weather-proof Performance
of Electricity Meters

JIS C 1281 —1979

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JAPANESE INDUSTRIAL STANDARD

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Weather-proof Performance
of Electricity MetersC 1281-1979
(Reaffirmed: 1984)1. Scope

This Japanese Industrial Standard specifies weather-proof performance of ordinary weather-proof meters and reinforced weather-proof meters among electricity meters.

2. Reference Environment

The reference environment for meters shall be as follows:

- (1) For ordinary weather-proof meters, the environment of a place not likely affected by direct sunshine in the exterior of house but except rainfall zone or in the interior of house.
- (2) For reinforced weather-proof meters, the environment of a place directly affected by sunshine in rainfall zone.
- (3) Such environment that weather conditions are in the degree of those in industrial area at the Pacific coast of middle part of this country and that the air pollution is in the degree described below.
 - (a) Sea salt particles: 1.0 ppm
 - (b) Amount of sulfur oxides: $2.5 \text{ mg-SO}_3 / \text{day}/100\text{cm}^2\text{-PbO}_2$
 - (c) Falling dust: 13 t/km²/month

3. Performance

3.1 Influence of Water Spray Meters shall comply with the following requirements when subjected to the test of 4.2.

- (1) The insulation resistance shall be not less than 5 MΩ in the insulation resistance test.
- (2) The meter shall withstand the test voltage, in the power frequency withstand voltage test.
- (3) No ingress of water shall be observed in the interior of meter.

3.2 Light Stability Meters shall comply with the following requirements when subjected to the test of 4.3.

- (1) The progressing rust on metal part is less.
- (2) No crack, blister, peel-off, remarkable fading and/or discoloration, nor the like shall appear on the coated surface.
- (3) No abnormality such as crack, blister and deterioration shall appear on the packing.

Applicable Standards and Reference Standards: See page 11.



Documents

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- (4) The colour of nameplate, test record, measuring device, and glass part of cover shall not change or deteriorate to cause trouble in reading the letters and markings.

3.3 Influence of Moisture and Sulfur Dioxide

- (1) Meters shall comply with the following requirements when subjected to the tests of 4.4.1 (1) and (2).
- (a) The insulation resistance shall be not less than 5 MΩ, in the insulation resistance test.
 - (b) The meter shall withstand the test voltage in the power frequency withstand voltage test.
 - (c) The trouble in reading measuring device due to blur inside the glass cover shall not continue 24 h or more.
 - (d) When one week has elapsed in succession to (c), there shall be no trouble in reading measuring device due to blur caused by crystals adhered on inner surface of cover.
- (2) Meters shall comply with the following requirements when subjected to the test of 4.4 (3).
- (a) The progressing rust on metal parts is less.
 - (b) No crack, blister, peel-off, remarkable fading and/or discoloration, nor the like shall appear on the coated surface.
 - (c) No abnormality such as crack, blister and deterioration shall appear on the packing.

3.4 Influence of Salt Water Spray Meters shall comply with the following requirements when subjected to the test of 4.5.

- (1) The progressive rust on metal parts is not remarkable. No progressive rust shall appear on reinforced weather-proof meters.
- (2) No crack, blister, peel-off, remarkable fading and/or discoloration, nor the like shall appear on the coated surface.
- (3) No abnormality such as crack, blister and deterioration shall appear on the packing.

3.5 Influence of Aging of Packing Meters shall comply with the following requirements when subjected to the test of 4.6.

- (1) The insulation resistance shall be not less than 5MΩ, in the insulation resistance test.
- (2) The meter shall withstand the test voltage, in the power frequency withstand voltage test.

- (3) No ingress of water shall be observed in the interior of meter.
- (4) No abnormality such as crack, blister, deterioration, nor bad packing effect shall appear on the packing.

3.6 Influence of Rapid Cooling from Elevated Temperature No abnormality such as crack shall appear on the glass parts, when a meter is subjected to the test of 4.7.

3.7 Influence of Outdoor Exposure Meters shall comply with the following requirements when subjected to the test of 4.8.

- (1) There shall be no trouble on measurement such as non-revolution of indicator.
- (2) The insulation resistance shall be not less than 5 MΩ, in the insulation resistance test.
- (3) The meter shall withstand the test voltage in the power frequency withstand voltage test.
- (4) The progressive rust on metal parts is less.

No progressive rust shall appear on reinforced weather-proof meters.

- (5) No crack, blister, peel-off, remarkable fading and/or discoloration, nor the like shall appear on the coated surface.
- (6) No abnormality such as crack, blister, deterioration, bad packing effect shall appear on the packing.
- (7) No abnormality such as crack and blur shall appear on the glass parts.

3.8 Surface Treatment of Metallic Material The surface treatment of metallic materials for bases and covers shall comply with the following requirements:

- (1) Shock Such damage as crack and peel-off shall scarcely observed on the coated surface onto where the steel ball drops, when the test of 4.9 (1) is carried out on the test piece.
- (2) Bending No crack, peel-off, nor the like which can be visually observed shall appear on the coated surface, when the test of 4.9 (2) is carried out on the test piece.
- (3) Thickness of Coating Reinforced weather-proof meters shall show a thickness of coated film not less than 30 μm when subjected to the test of 4.9 (3).