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JAPANESE INDUSTRIAL STANDARD

Test methods for water resistance of exterior wall boards for building

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Test methods for water resistance of
exterior wall boards for building

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1. Scope

This Japanese Industrial Standard specifies the test methods for evaluating the water resistance ⁽²⁾ by the water absorption or repetition of water absorption and drying of exterior wall boards ⁽¹⁾ for building.

Notes ⁽¹⁾ The exterior wall boards mean the artificial non-metallic boards which have been manufactured by molding into board shape in a factory to be used for exterior finishing of buildings, and those of 30 mm or under in thickness, excluding the hollow products by extrusion molding and the like.

⁽²⁾ The water resistance means the degree of change in physical performances of boards, when the exterior wall boards absorb water due to rain water, dewing and the like of exterior, and are dried due to the open air, and these actions are continued individually or repeatedly.

Remarks 1. This Standard shall be that for specifying the test methods, and as regards the conditions not specified in this Standard, such as the types of test to be applied, number of repetitions of test and others, shall be as designated by the material standards, product standards, etc. However, as regards that of without designation shall be as agreed between the parties concerned.

2. The applicable standards to this Standard are given in the following:

JIS A 1129-Methods of Test for Length Change of Mortar
and Concrete

JIS A 1408-Method of Bending Test for Boards of Buildings

JIS B 4627-Hand Riveter

JIS G 3350-Light Gauge Steels for General Structure

JIS Z 9001-General Rules for Sampling Inspection Procedures

2. Types of test

The types of test shall be classified as given in Table 1, according to the presence of the repetition of water absorption and drying for test pieces, conditions thereof and evaluation items.

Table 1. Types of test

Type of test	Presence of repetition	Water absorption condition	Drying condition	Evaluation item
Method A for water resistance	Yes	Constant mass water absorption	Constant mass drying	Appearance change Change in mass Change in length Change in bending strength
Method B for water resistance	No	Constant mass water absorption	Continuous drying	Cracking
		Continuous water absorption	—	Camber

3. Test methods

3.1 Mechanical instruments for tests

- (1) Dryer ⁽³⁾ The dryer to dry the test pieces shall be capable of maintaining the temperature of $60 \pm 2^\circ\text{C}$.

Note ⁽³⁾ It shall be provided with an air stirrer and a ventilator.

- (2) Comparator The comparator to be used for the measurement of rate of change in length shall be that specified in JIS A 1129.
- (3) Balance The balance to be used in the measurement of mass shall be that of having the accuracy of 0.1 % or better in weighing capacity.
- (4) Bending tester The bending tester to be used in the measurement of bending strength shall be that of satisfying the performances specified in JIS A 1408.
- (5) Camber measuring device The camber measuring device to be used in the measurement of camber shall be that of the range of 300 to 350 g in gross mass, having the supports of R 2.5 mm of which distance between the supports is 200 mm and having a displacement meter capable of measuring automatically 1/100 mm or better in accuracy. An example of the camber measuring device shall be as given in Fig. 1.