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Thermal performance of paint film—Determination of solar absorptance with a heat flow meter

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In the event of any doubts arising as to the contents,
the original JIS is to be the final authority.

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Foreword

This Japanese Industrial Standard has been established by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Japan Paint Manufacturers Association (JPMA)/Japan Paint Inspection and Testing Association (JPIA)/Japanese Standards Association (JSA) with the draft prepared from the association standard (JPMS 29:2016) being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

It should be noted that being in conformance with this Standard may come under the use of the patent rights held by the following:

a) Patent number: 5589151
Registration date: 2014-08-01
Title of invention: Thermal characterization methods and apparatus
Patent holder: Japan Paint Manufacturers Association
Japan Paint Inspection and Testing Association

b) Patent number: 5809765
Registration date: 2015-09-18
Title of invention: Thermal characterization methods and apparatus
Patent holder: Japan Paint Manufacturers Association
Japan Paint Inspection and Testing Association

The relevant holders of the above-mentioned patent rights have indicated an intention of granting license to anyone under the nondiscriminatory and reasonable conditions, except to the other relevant holders of the patent rights related to this Standard who will not grant their licenses under the same conditions.

It should be noted that following this Standard does not always refer to granting a free license.

There is the possibility that some parts of this Standard may conflict with patent rights other than mentioned above. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying any of such patent rights.

The "patent rights" as mentioned here include patent right, application for a patent after opening to the public or utility model right.

Thermal performance of paint film—Determination of solar absorptance with a heat flow meter

Introduction

Currently available **JIS**s involving optical methods of evaluating thermal performance of a paint film are **JIS K 5602** (Determination of reflectance of solar radiation by paint film), which specifies the method for determining solar reflectance of paint film, and **JIS K 5675** (High solar reflectant paint for roof), which specifies performance requirements for paints. This Japanese Industrial Standard has been established to standardize a method for determining and evaluating the solar absorptance of a paint film based on the quantity of heat generated due to absorption of solar radiation.

No corresponding International Standard has been established at this point.

1 Scope

This Standard specifies the heat flow measurement method of the solar absorptance of paint films used for roofs and outer walls of a building structures, equipment and facilities that are situated outdoors and exposed to solar radiation.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS A 0202 *Thermal insulation—Vocabulary*

JIS A 1412-1 *Test method for thermal resistance and related properties of thermal insulations—Part 1: Guarded hot plate apparatus*

JIS A 1412-2 *Test method for thermal resistance and related properties of thermal insulations—Part 2: Heat flow meter apparatus*

JIS A 4710 *Windows and doorsets—Thermal resistance test*

JIS C 1602 *Thermocouples*

JIS C 8904-3 *Photovoltaic devices—Part 9: Solar simulator performance requirements*

JIS H 4000 *Aluminium and aluminium alloy sheets, strips and plates*

JIS K 5500 *Glossary of terms for coating materials*

JIS K 5600-1-2 *Testing methods for paints—Part 1: General rules—Section 2: Sampling*

JIS K 5600-1-3 *Testing methods for paints—Part 1: General rule—Section 3: Examination and preparation of samples for testing*

JIS K 5600-1-6 *Testing methods for paints—Part 1: General rule—Section 6: Temperatures and humidities for conditioning and testing*