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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 24148.6-2009

**Plastics -- Unsaturated-polyester resins -- Part 6: Determination
of reactivity at 130 Celsius
(English Translation)**

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Foreword

GB/T 24148-2009 "plastic unsaturated polyester resins (UP-R)" is divided into the following nine sections.

- Part 1. Designation system;
- Part 2. Sample preparation and performance measurement;
- Part 3. Technical requirements;
- Part 4. Determination of viscosity;
- Part 5. Determination of solid content;
- Part 6. 130 °C reactivity was measured;
- Part 7. Determination of gel time at ambient temperature;
- Part 8. platinum-cobalt colorimetry color;
- Part 9. Total volume shrinkage rate determination.

This section GB/T 24148 Part 6, identical with ISO 14848:1998 "Plastics - Unsaturated polyester resin 130 °C reaction Activity determination ", for ease of use, as part of the editorial changes.

- The "this International Standard" by "this section";
 - Remove the ISO 14848:1998 Foreword;
 - Increase the national standard foreword;
 - Use of decimal notation. "" Instead of the international standard decimal symbol "."
- Appendix A of this section is an informative annex.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standards Technical Committee of plastic products and plastic resins General Method club (SAC/TC15/SC4) centralized.

This section is responsible for drafting unit. Jiangsu Fu Ling Chemical Co., Ltd., East China University of Technology Huachang Polymer Co., Ltd., a synthetic resin Country Quality Supervision and Inspection Center.

Participated in the drafting of this section. Shanghai Xintian and Resin Co., Ltd., Tianjin fitting material Resin Co., Ltd., Jiangsu Yabang Paint shares have Ltd., Changzhou Tianma Group Co., Ltd., Guangdong Panyu Futian Chemical Co., Ltd.

1 Scope

This section GB/T 24148 specifies the method for determination of the unsaturated polyester resin reactivity.

--- When heated oil bath at 130 °C unsaturated polyester resin and initiator solutions, the time required for the rise of resin temperature.

- increased from 80 °C to 140 °C.

- increased from 80 °C to a maximum temperature.

--- The reaction temperature reached a maximum.

--- The reaction rate can be obtained by testing the temperature - time curve inflection point tangent to represent.

The process is particularly suitable for the determination of the molding temperature exceeds 100 °C unsaturated polyester resin.

Note: The test results and test conditions are closely linked. This portion is defined as the precise conditions, including the following conditions.

a) the quality and shape of the measured resin (such as a test tube diameter resin tube height);

b) the sample in an oil bath heating rate. For example, in a low thermal capacity liquid (ethylene glycol, silicone oil) can lead to a lower heating rate;

c) the type of thermometer used. Slower response than thermocouples, or with too much thermal elements of resistance thermometer probes, it is not applicable.

d) the insertion position of the thermal element to be tested resins, including height and relative position of the tube axis.

e) the nature of initiator agent.

2 Normative references

The following documents contain provisions which, through reference GB/T 24148 in this section constitute provisions of this section. For dated reference documents Member, all

subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

ISO 3219:1993 Plastics liquid state or as emulsions or dispersions of polymer/resin viscosity with defined shear rate rotary viscosity Measuring meter ISO 15038:1999 organic peroxide crosslinking thermosetting plastic unsaturated polyester resins active oxygen content Principle 3 Unsaturated polyester resin and the crosslinking can be achieved by heating the initiator is added.

By this method after the mass mixing ratio of resin and initiator 100.1 evenly placed in a test tube, and the tubes placed in a bath of 130 °C the thermostat.

--- Case the reaction temperature versus time record.

--- By the tangent of the curve at the maximum angle of inclination, and used to characterize the rate of reaction.

4 Reagents

4.1

initiator. t-butyl peroxybenzoate, purity greater than 96% (active oxygen content greater than 7.9% --- by ISO 15038:1999).

NOTE: Do not store at temperatures below t-butyl peroxybenzoate (mp 8 °C)

--- Less than 10 °C (to avoid crystallization);

--- Above 30 °C (to avoid deterioration).

GB/T 24148.6-2009/ISO 14848:1998