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

GB/T 32788.1-2016

**Test method for properties of prepreg -- Part 1: Determination of
gel time**

预浸料性能试验方法 第1部分：凝胶时间的测定
(English Translation)

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Foreword

GB/T 32788 "Prepreg performance test method" is divided into six parts.

Part 1. Determination of gel time;

- Part 2. Determination of resin fluidity;

Part 3. Determination of volatile matter content;

- Part 4. Determination of tensile strength;

- Part 5. Determination of resin content;

Part 6. Determination of mass per unit area.

This part is part 1 of GB/T 32788.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the re-drafting method to modify ISO 15040.:1999 "Determination of the gel time of composite prepreg".

This section has a greater structural adjustment compared to ISO 15040.:1999, which is listed in Appendix A and ISO 15040.:1999 of the chapter number of the control list.

The technical differences between this section and ISO 15040.:1999 are as follows.

This part expands the scope of application. The prepreg resin matrix is thermosetting resin and does not limit the width of prepreg.

Replace ISO 291.:1997 with GB/T 1446, ISO 472.:1999 and ISO 8604. 1988;

- the deletion of the terms "terms and definitions";

--- Increases the tolerance range of the cutting template "(50 ± 1) mm x (50 ± 1) mm" and removes the " , Increasing the area of the plate press "at least 350mm x 380mm" to ensure uniform temperature distribution (see section 4 chapter);

- increase the sampling position "at least 50mm from the edge" to clear the sampling position (see Chapter 5);
- Modification of the "state adjustment and test environment" requirements, in coordination with other parts of this standard (see Chapter 6);
- the procedure for repeating the steps (at least two results) described in 8.1 to 8.5 for the remaining samples is removed from the test procedure;
- Added "test results" (see Chapter 8).

This section makes the following editorial changes.

- Change the standard name to "Prepreg performance test method Part 1. Determination of gel time";
- Added Appendix A (informative) "This section is in contrast to the chapter numbering of ISO 15040.:1999".

This section is proposed by the China Building Materials Federation.

This part of the National Fiber Reinforced Plastics Standardization Technical Committee (SAC/TC39) centralized.

This part is responsible for the drafting unit. Harbin FRP Research Institute.

This part participates in the drafting unit. AVIC Composite Material Co., Ltd., Hebei Haozheng Non-metallic Material Testing Service Co., Ltd., Lei Ke Germany (polymer) Tianjin Co., Ltd., Jiangsu Hengshen Co., Ltd., Qihe County, Xingda Composite Materials Co., Ltd.

1 Scope

This part of GB/T 32788 specifies the principles, apparatus and equipment for the prepreg gel time, sample, test conditions, test procedure, test Test results and test report.

This part is suitable for carbon fiber, glass fiber, aramid fiber as a reinforcing material, thermosetting resin-based prepreg gel Between the determination.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 1446 Fiber reinforced plastics - Test methods - General

3 Principle

A certain size of the prepreg sample wrapped with an impermeable film was placed in a plate press which had been preheated to the test temperature. Through flat press the pressure is applied to the sample, the resin is extruded into the flattened notch, and the time from the beginning of the pressurization to the time when the resin is no longer formed is the gel time.

4 Instruments and equipment

4.1

cutting template. with hard materials such as steel or ceramic, etc., area (50 ± 1) mm x (50 ± 1) mm.

4.2

Cutting Tools. Single-sided blade.

4.3

Notched flat. as shown in Figure 1. Flat should be flat, uniform thickness to ensure uniform temperature distribution.

The unit is in millimeters Description.

Tolerance. ± 1 mm;

Material. aluminum alloy or steel.

Figure 1 for the determination of gel time gap plate