

ICS 83.120

CCS Q 23



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

GB/T 32788.3-2016

**Test method for properties of prepreg -- Part 3: Determination of
volatile content**

预浸料性能试验方法 第3部分：挥发物含量的测定

(English Translation)

Issued on: June 14, 2016

Implemented on: May 1, 2017

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

Table of Contents

Foreword
1 Scope
2 Normative reference documents
3 Principle
4 Instruments and equipment
5 Samples

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 3 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 the use of ISO 9782.:1993 "Plastic Expanded Mold and Prepregs for the apparent volatiles content of the determination".

This section has a greater structural adjustment compared to ISO 9782.:1993, which is listed in Appendix A and ISO 9782.:1993 Chapter number comparison list.

The technical differences between this section and ISO 9782.:1993 are as follows.

This standard applies to the determination of the content of volatile materials for pre-dipped yarns, tapes, felt (SMC) and fabrics. This standard applies to all unidirectional and Multi-directional fiber-reinforced prepreg and all thermosetting resin substrates, unless otherwise specified in the technical conditions. This method does not apply in the non-impregnated reinforced fiber "modified to" This part applies to carbon fiber, glass fiber, aramid fiber as a reinforcing material to Determination of Volatile Content of Prepregs for Thermosetting Resins "(see Chapter 1);

--- replace GB 291..1997 with GB/T 1446 (see Chapter 2);

- Modification of the "state adjustment and test environment" requirements, in coordination with other parts of this standard (see Chapter 6);

--- increase the "test step" in the weighing accuracy;

Place the sample on a pre-weighed aluminum foil or container or hang it on a shelf with a hook and place it in a preheated to a specified temperature Temperature of the oven, if no technical conditions, recommended the use of Table 1 conditions for determination.

"Changed to" put the sample in a pre-weighing of the aluminum foil or in the container, or with a hook on the shelf, put it into the blast oven has been preheated to the specified temperature. "And" try Temperature and constant temperature according to the provisions of the technical conditions of prepreg; if the technical conditions are not clearly defined, recommended in Table 1 test temperature Degrees and constant temperature. "(See 7.4, 7.5);

--- Increases the symbol "VC" of the volatile content of the prepreg.

This section makes the following editorial changes.

- Change the standard name to "Test method for prepreg properties Part 3. Determination of volatile matter";

--- Added Appendix A (informative) "This section is in contrast to chapter numbering of ISO 9782.:1993".

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, samples, test conditions, test procedures, Test results and test report.

This part is suitable for carbon fiber, glass fiber, aramid fiber as a reinforcing material, thermosetting resin as the base of the prepreg volatile Determination of content.

If the aramid fiber as a reinforcing material, at the test temperature, the moisture absorbed by the fiber will evaporate with the volatiles, so deduct moisture Content to correct the

volatile content.

Note: The results of the polyester resin matrix prepreg are lower than the actual value.

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

The sample in the blast oven heated to the specified temperature, constant temperature after a certain period of time to remove volatile matter, according to the quality of samples before and after heating the volatiles content was calculated.

4 Instruments and equipment

4.1

Cutting tools. for sample preparation.

4.2

Analysis of balance. sense of 0.001g.

4.3

blast oven. temperature control accuracy ± 5 °C.

4.4

Dryers.

4.5

Suitable samples contain containers such as evaporates, hooks or aluminum foils.

5 Samples

5.1

Sampling method according to the technical conditions of prepreg.

5.2

The specimen shall be at least (1×104) mm² or 1 g, and the shape of the specimen may be circular, square or other suitable shape.

5.3

Sampling along the length when the width is less than 300mm. The sampling position is at least 50 mm from the edge.

5.4

The number of samples is not less than 3.