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CCS Q23



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

GB/T 16778-2009

Replacing GB/T 16778-1997

**General procedure of failure analysis for fiber reinforced plastic
structural products**

纤维增强塑料结构件失效分析一般程序

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Failure analysis of the general program
 - 3.1 Requires a clear mandate
 - 3.2 Conduct research

Foreword

This standard replaces GB/T 16778-1997 "fiber reinforced plastic structural failure analysis procedure in general." This standard and GB/T 16778-1997 compared to the main changes are as follows:

- Increase the manufacturing process step of analyzing the failure element (see 3.1.2);
- First, increase the failure determination step of analyzing components (see 3.3.2);
- Increased fracture retention requirements (see 3.4.1);
- Modify the determining step of analyzing the failure mode (1997 version 3.6, this version 3.6);
- To increase the forces of member failure analysis requirements (see 4.5). The standard proposed by China Building Materials Federation. This standard by the national fiber-reinforced plastic Standardization Technical Committee. This standard is drafted by: Beijing University of Aeronautics and Astronautics, Beijing FRP Research and Design Institute. The main drafters of this standard. ZHANG Zuoguang, Li Min, Gu Yizhuo, Zhang Daxing, Zhang Zheng. This standard replaces the standards previously issued as follows:
 - GB/T 16778-1997. Fiber reinforced plastic structural failure analysis general procedure

1 Scope

GB/T 16778-2009 is the Chinese national standard on general procedure of failure analysis for fiber reinforced plastic structural products, in the field of rubber and plastic industries. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 25 March 2009 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 January 2010. Classification: ICS 83.120, CCS Q23. This page is published from the official

record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the fiber reinforced plastic structural failure analysis of the general procedure. This standard applies to fiber-reinforced plastic structural parts failure analysis.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 2576 non-fiber-reinforced plastic resin content test methods for melting points Plastic resin content test method

GB/T 2577 glass fiber reinforced Plastic void content and fiber volume content of the test method

GB/T 3365 carbon fiber reinforced Plastic Barcol hardness test

GB/T 3854 enhancements Plastic resin content test method

GB/T 3855 carbon fiber reinforced

GB/T 6041 General Mass Spectrometry GJB1038.1 fiber reinforced plastics Ultrasonic inspection nondestructive testing method GJB1038.2 fiber reinforced plastics destructive testing methods of X-ray inspection method HB5416 aviation metallic materials IR test methods JC/T 287 fiberglass void content of the test method

3.1 Requires a clear mandate

3.1.1 Task Source Failure analysis tasks can be issued by the higher authorities, it can also be commissioned to design, research, production or use department.

3.1.2 Accept Failure to deal with the case when members accept the task of understanding as follows:

- a) name of the failure of member;
- b) failure of the component parts belong;
- c) failure of the manufacturing process member;
- d) use of the environment and the stress state;

e) the failure phenomena, the historical background and the overall situation of failure analysis and so on.

3.2 Conduct research

3.2.1 Failure to observe and record the scene Failure to respond in detail to observe the scene, recording, photography and video and so on. Omission of important information may not result in any failure.

3.2.2 research content Investigation include.

a) failure time, place and environment in the field;