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

GB/T 43116-2023

**Fibre-reinforced plastic composites - Standard qualification
plan(SQP)for composite materials, including reduced qualification
plan(RQP)and extended qualification plan(EQP)schemes**

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1. Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is equivalent to ISO.20144.2019 "Fibre-reinforced plastic composite materials including reduced and extended certification of composite materials standard Certification Scheme".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

1.1 This document specifies methods for initial qualification of composite materials for quality control, material screening and preliminary design. Used differently with

Compared with providing customized multiple bilateral authentications based on user needs, this document provides a low-cost, high-efficiency single authentication method. This document focuses on

Determine the allowable value of B basis design.

1.2 This document provides the Standard Qualification Program (SQP), Extended Qualification Program (EQP) and Reduced Qualification Program (RQP) for composite materials.

SQP includes the lowest general test requirements for composite materials with obvious anisotropy; EQP provides higher test requirements, including the selection of tools.

Representative service performance; RQP is suitable for composite materials with little anisotropy and nominal isotropy. Its test plate preparation and testing

The core part of the verification method is the same as SQP.

1.3 This document applies to fiber-reinforced thermoset and fiber-reinforced thermoplastic composite materials used as structural or sub-structural components. This article

The article gives the composite material types applicable to each test method under different test conditions.

1.4 Appendix A provides a report sheet that unifies the expression of test data. Appendix B provides a system for determining the allowable values of B-base design.

analysis method.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

Note. GB/T 1034-2008 Determination of water absorption of plastics (ISO 62.2008, IDT)

ISO 75-3 Determination of deflection temperature under load of plastics Part

3.High-strength thermoset laminates and long-fiber reinforced plastics

laminatesandlong-fibre-reinforcedplastics)

Note. GB/T 1634.3-2004 Determination of load deformation temperature of plastics Part

3.High-strength thermosetting laminates (ISO 75-3.2003, IDT)

Note. GB/T 2918-2018 Standard environment for conditioning and testing of plastic specimens (ISO 291.2008, MOD)

ISO 527-4 Determination of tensile properties of plastics Part 4. Isotropic and orthotropic fiber-reinforced plastic composites

Note. GB/T 1040.4-2006 Determination of tensile properties of plastics Part 4. Tests of isotropic and orthotropic fiber reinforced composite materials

Conditions (ISO 527-4.1997, IDT)

ISO 527-5 Determination of tensile properties of plastics Part 5. Test conditions for unidirectional fiber reinforced plastic composites

Note. GB/T 1040.5-2008 Determination of tensile properties of plastics Part 5. Test conditions for unidirectional fiber reinforced composite materials (ISO 527-5.