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

GB/T 47908-2026

**Composites and reinforcements fibres - Carbon fibre reinforced
plastics (CFRPs) and metal assemblies - Characterization of
durability of adhesive interfaces by wedge rupture test**

**复合材料和增强纤维 碳纤维增强塑料（CFRPs）和金属组件 粘接界面耐久性楔型
断裂试验表征方法**

(English Translation)

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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".

This document is equivalent to ISO 8060:2024 "Composite materials and reinforcing fibers - Carbon fiber reinforced plastics (CFRPs) and metal components".

A wedge fracture test method for characterizing the durability of adhesive interfaces.

1 Scope

This document describes a method for determining the fracture characteristics of carbon fiber using a wedge-shaped fracture test with a double cantilever beam (DCB) specimen under specific environmental conditions.

Methods to improve the durability of the bonding joints between CFRPs and metal components.

This document is applicable to evaluating the safety and reliability of adhesives, CFRP sheets, and metal sheet surface treatments.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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

Note: GB/T 9341-2008 Determination of flexural properties of plastics (ISO 178:2001, IDT)

ISO 9142 Guide to the Selection of Standard Laboratory Aging Conditions for Adhesive Bonding Specimens

Note: GB/T 35489-2017 Guidelines for Aging Conditions of Adhesives (ISO 9142:2003, MOD)

Note: GB/T 16997-2025 Representation of principal failure types of adhesives (ISO 10365:2022, IDT)

3.1 Terms and Definitions

The terms and definitions defined in ISO 10365 apply to this document.

3.2 Symbols

The following symbols apply to this document. a. Crack length from the contact point between the front end of the wedge and the adhered material to the crack tip, in millimeters (mm), see Figure 4; a_0 . Initial crack length after wedge insertion, in millimeters (mm);

E1. Flexural modulus of carbon fiber reinforced plastic (CFRP), measured in gigapascals (GPa) (the substrate is a fiber composite material); E2. Flexural modulus of metal sheet, measured in gigapascals (GPa);

GC. Adhesive fracture energy, measured in joules per square meter (J/m^2) (critical strain energy release rate generated by wedge insertion into a pre-crack);