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Test method for mode II interlaminar fracture toughness of carbon fiber reinforced composite materials - Three point bending method with end notched

碳纤维增强复合材料II型层间断裂韧性的测定 端部切口三点弯曲法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Carbon Fiber Standardization Technical Committee (SAC/TC572).

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Mode II interlaminar fracture toughness of carbon fiber reinforced composites Three-point bending method with end notch

1 Scope

This document describes the principle of the test method for type II interlaminar fracture toughness of carbon fiber reinforced composite materials, the test equipment and materials, specimens, Test conditions, test steps, calculation formulas and test reports.

This document is only applicable to the performance of mode II interlaminar fracture

toughness of carbon fiber reinforced composite unidirectional tape or [(0/90)]n fabric laminates. Determination.

2 Normative references

GB/T 1446

GB/T 3961

GB/T 40724

3 Terms and definitions

The terms and definitions defined in GB/T 3961, GB/T 40724 and the following apply to this document.

3.1 Flexibility

The degree to which a structure deforms under external forces.

3.2 [Source. GB/T 40724-2021, 6.77]

The rate of change of strain energy of a cracked object as the crack propagates.

3.3 GIIC

The critical value of strain energy release rate when delamination crack starts to propagate under mode II sliding load.

Note. Mode II interlaminar fracture toughness is measured in joules per square meter (J/m2).

[Source. GB/T 40724-2021, 6.82]