
**Composites and reinforcements
fibres — Carbon fibre reinforced
plastics (CFRPs) and metal assemblies
— Determination of the tensile lap-
shear strength**

*Composites et fibres de renfort — Assemblages de plastiques renforcés
de fibres de carbone (CFRP) et de métal — Détermination de la
résistance au cisaillement en traction*



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Foreword

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This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 13, *Composites and reinforcement fibres*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Composites and reinforcements fibres — Carbon fibre reinforced plastics (CFRPs) and metal assemblies — Determination of the tensile lap-shear strength

SAFETY STATEMENT — Persons using this document should be familiar with normal laboratory practice, if applicable. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practice. It is recognized that some of the materials permitted in this document have a negative environmental impact. As technological advances lead to more acceptable alternatives for such materials, they will be eliminated to the greatest extent possible. At the end of the test, care should be taken to dispose of all waste in an appropriate manner in accordance.

1 Scope

This document specifies a method for determining the lap-shear strength of the adhesive joint between carbon fibre-reinforced plastics (CFRPs) and metal adherends, using a standard specimen loaded in tension and under specified conditions of preparation, conditioning and testing. This method is intended for assessing the suitability of adhesives to be used for bonding a carbon fibre reinforced plastic (CFRPs) to a metal.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 472, *Plastics — Vocabulary*

3 Term and definitions

For the purposes of this document, the terms and definitions given in ISO 472 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Principle

Adhesive lap-shear bond strength is determined by stressing a single-overlap joint between a CFRP and a metal adherend in shear by the application of a tensile force parallel to the bond area along the major axis of the specimen.

NOTE Single-lap specimens are economical, practical and easy to make. They are the most widely used specimens for development, evaluation and comparative studies involving adhesives and bonded products, including manufacturing quality control.