

~~ISO-/DTS 23927~~

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Laminates and moulding compounds ~~---~~ Prepregs ~~---~~
Determination of tack

~~DTS stage~~

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Stratifiés et composés à mouler — Préimprégnés — Détermination du tack

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part-1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part-2 (see www.iso.org/directives).

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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.

Field Code Changed

Introduction

Tack is an important property of prepregs that relates to the integrity of the composite laminate being produced. The practice of determining tack in prepregs is mostly qualitative as it is often done by the experience of the personnel involved. On the other hand, in some automated manufacturing using prepregs, tack needs to be measured as a part of the manufacturing process. This document is intended to provide standing alone quantitative method for the measurement of tack in prepregs.

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Laminates and moulding compounds — Prepregs — Determination of tack

21 Scope

This document specifies the test method for determining the tack in prepregs under defined conditions. This document is applicable to but not limited to unidirectional and multidirectional thermoset based prepregs made with glass fibres, carbon fibres, aramid fibres and other similar fibres included.

42 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 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

ISO 7500-1:2004/2018, *Metallic materials- Verification of static uniaxial testing machines -Part-1: Tension/compression testing machines- Verification and calibration of the force-measuring system*

63 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain ~~terminological~~terminology 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/>

3.1 tack

f_t
maximum areal force measured in separating a given probe surface from the prepreg surface (see Figure 1).

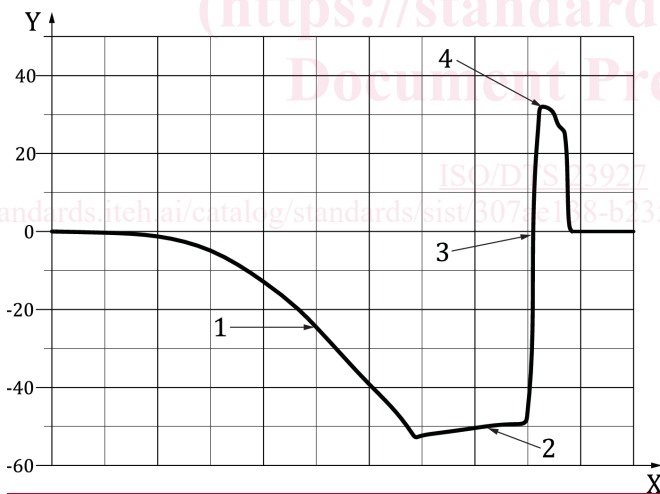
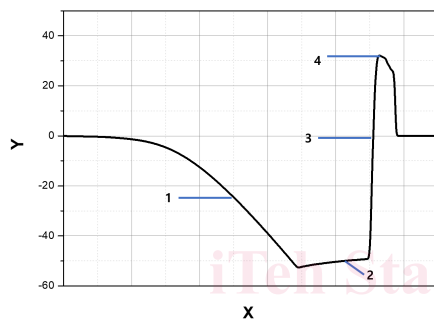
Note 1 to entry:—It is expressed in Newtons (N).

Note 2 to entry: to entry:(see Figure 1).

7.4 Principle

The tack of a prepreg is measured on the flat surface side by imposing a cycle of loading (compression) and retracting (tension) the probe having a specific area and surface roughness. The maximum retracting force measured in the force-time curve during this procedure is determined as tack (see [Figure 1](#)).

The tack on prepreps is known to be dependent on the loading dwell time, the contact pressure at the interface, probe characteristics, the temperature and the rate of retraction [1-3], [1],[2],[3].



- Key**
- Y — force
 - X — time
 - X̄ — time
 - Ȳ — force
 - 1 — compression
 - 2 — dwell time

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