
**Railway applications — Polymeric
composite sleepers, bearers and
transoms —**

**Part 2:
Product testing**

*Applications ferroviaires — Traverses et supports en matériaux
composites à matrice polymère —*

Partie 2: Essais de produit



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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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A list of all parts in the ISO 12856 series can be found on the ISO website.

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.

Introduction

This document is used as the technical basis for transactions between corresponding parties (purchaser – supplier).

Railway applications — Polymeric composite sleepers, bearers and transoms —

Part 2: Product testing

1 Scope

This document specifies various test methods to ensure the performance of polymeric composite and reinforced polymeric composite sleepers, bearers and transoms for use in tracks. It is applicable to the sleepers, bearers and transoms to be installed in tracks with or without a ballast.

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 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

ISO 12856-3:—¹⁾, *Railway applications — Polymeric composite sleepers, bearers and transoms — Part 3: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12856-3 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 Symbols and abbreviated terms

For the purposes of this document, the symbols and abbreviated terms listed in [Table 1](#) apply.

Table 1 — Symbols

Symbol/ Abbreviated term	Description	Unit
C_{dyn}	low frequency dynamic bedding modulus of polymeric composite sleeper or bearer measured with GBP	N/mm ³
C_{max}	static bedding modulus of polymeric composite sleeper or bearer measured with geometric ballast plate (GBP)	N/mm ³
$d_{\text{fat,lim}}$	acceptable displacement of fatigue test as a maintenance policy	mm
d_{0c}	deformation of the sleeper in the compression test under F_{r0}	mm

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