



BSI Standards Publication

End use performance of wood products — Utilisation and improvement of existing methods to estimate service life

National foreword

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TECHNICAL REPORT
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English Version

**End use performance of wood products - Utilisation and
improvement of existing methods to estimate service life**

Performances des produits en bois dans leur emploi -
Utilisation et amélioration des méthodes existantes pour
estimer la durée de vie

Leistungseigenschaften von Holzprodukten

This Technical Report was approved by CEN on 21 March 2015. It has been drawn up by the Technical Committee CEN/TC 38.

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Foreword

This document (CEN/TR 16816:2015) has been prepared by Technical Committee CEN/TC 38 “Durability of wood and wood-based products”, the secretariat of which is held by AFNOR.

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1 Scope

The scope of WG28 Performance Classification is expressed in this Technical Report:

Guidance on the determination of end use performance of wood products: utilization and improvement of existing test methods to estimate service life, in order to give input to the harmonized product standards dealing with the durability requirement of the CPD and future Regulation (EU) No 305/2011 (The Construction Products Regulation CPR).

This Technical Report brings together the evaluations and discussions to date that have occurred within CEN/TC38/WG28 Performance Classification.

This technical report does not address panel products specifically.

2 Background

2.1 General

The development of performance-based design methods for durability requires that models are available to predict performance in a quantitative and probabilistic format. The relationship between performance during testing and in service needs to be quantified in statistical terms and the resulting predictive models need to be calibrated to provide a realistic measure of service life, including a defined acceptable risk of non-conformity.

Service-life prediction or planning is a process for ensuring that, as far as possible, the service life of a building will equal or exceed its design life, while taking into account (and preferably optimising) its life-cycle costs (ISO 15686 [1]). For a long time, the international organizations CIB and RILEM have been leading this development, which has had an impact on standardization work nationally, regionally, and globally through ISO.

Service-life prediction should be integrated into the design process for constructions, but it is also applicable to existing buildings and other construction works.

Drivers for establishing service-life planning methodology and routines include the need for building owners to be able to forecast and control costs throughout the design life of a building or construction. It also influences the reliability of constructed assets, and hence the health and safety of users.

The construction sector is under pressure to improve its cost effectiveness, quality, energy efficiency and environmental performance and to reduce the use of non-renewable resources. A key issue for the competitiveness of wood is the delivery of reliable components of controlled durability with minimum maintenance needs and life-cycle costs.

The importance of service-life issues is reflected in the Construction Products Directive (CPD) with its six essential requirements, which should be fulfilled by construction products during a 'reasonable service life'.

2.2 ISO/TC 59/SC14 "Design life"

The development of performance-based design methods for durability requires that models are available to predict performance in a quantitative and probabilistic format. The relationship between performance during testing and in service needs to be quantified in statistical terms and the resulting predictive models need to be calibrated to provide a realistic measure of service life, including a defined acceptable risk of non-conformity.

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