

ICS 87.040

English Version

**Paints and varnishes - Coating materials and coating systems
for exterior wood - Assessment of knot staining resistance of
wood coatings**

Peintures et vernis - Produits de peintures et systèmes de
peintures pour bois en extérieur - Évaluation de la
résistance des revêtements pour bois aux taches
provoquées par les nœuds

Beschichtungsstoffe - Beschichtungsstoffe und
Beschichtungssysteme für Holz im Außenbereich -
Beurteilung der Beständigkeit von Holzbeschichtungen
gegen Astausfärbung

This Technical Specification (CEN/TS) was approved by CEN on 9 April 2012 for provisional application.

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Foreword

This document (CEN/TS 16359:2012) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

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Introduction

The treatment of exterior wood surfaces has both aesthetic and protective functions. A vital purpose of a coating system is to protect against discoloration caused by wood extractives. Discoloration can be characterised as tannin staining or as knot staining.

This document provides a method for assessment of discoloration of coatings on wood caused by wood extractives in knots, i.e. it relates to knot staining only.

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1 Scope

This Technical Specification specifies a test method for assessing the discoloration of coating systems on wood due to wood extractives from knots. The discoloration is measured by colorimetry and the result is stated as the colour difference between the coated surface on the knot and the coated surface beside the knot.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14298, *Sawn timber — Assessment of drying quality*

EN ISO 4892-2:2006, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps (ISO 4892-2:2006)*

EN ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling (ISO 15528)*

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*

ISO 7724-2, *Paints and varnishes — Colorimetry — Part 2: Colour measurement*

ISO 7724-3, *Paints and varnishes — Colorimetry — Part 3: Calculation of colour differences*

3 Terms and definitions

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

3.1

tannin staining

appearance of discoloration on coated surfaces caused by wood extractives in the substrate

3.2

knot staining

appearance of discoloration on coated surfaces caused by wood extractives in knots

3.3

wood extractives

low-molecular wood components soluble in organic solvents or water

3.4

sound knot

knot that, at the relevant surface, is intergrown with the surrounding wood along more than 75 % of its circumference and is free of decay

[SOURCE: EN 844-9:1997, 9.1.14 and EN 844-9:1997, 9.1.18].

4 Test panels

4.1 Wood

The raw material for the test panels shall be panels of pine (*Pinus silvestris*) free from visible cracks, blue stain, bacterial attack and rot damage. The panels shall be dried to target moisture content 18 % in