

STN P	Náterové látky Náterové látky a náterové systémy na drevo používané vo vonkajšom prostredí Časť 9: Stanovenie pevnosti v odtrhnutí po vystavení vo vode	STN P CEN/TS 927-9 67 2010
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Paints and varnishes - Coating materials and coating systems for exterior wood - Part 9: Determination of pull-off strength after water exposure

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Paints and varnishes - Coating materials and coating systems for exterior wood - Part 9: Determination of pull-off strength after water exposure

Peintures et vernis - Produits de peinture et systèmes de peinture pour le bois extérieur - Partie 9 : Détermination de la résistance à l'arrachement après exposition à l'eau

Beschichtungsstoffe - Beschichtungsstoffe und Beschichtungssysteme für Holz im Außenbereich - Teil 9: Bestimmung der Abreißfestigkeit nach Wasserbeanspruchung

This Technical Specification (CEN/TS) was approved by CEN on 11 June 2018 for provisional application.

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CEN/TS 927-9:2018 (E)

Contents	Page
European foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Principle	5
5 Apparatus and materials	6
5.1 Test apparatus.....	6
5.2 Test dollies	6
5.3 Adhesives	6
6 Test panels.....	7
6.1 Wood substrate.....	7
6.2 Conditioning.....	7
6.3 Coating of test panels.....	7
6.3.1 Coated panels not exposed to weathering	7
6.3.2 Coated panels exposed to weathering	7
7 Procedure.....	8
7.1 Testing conditions	8
7.2 Preparation of the samples	8
7.3 Order of the test samples	8
7.3.1 Non-standard panels.....	8
7.3.2 Standard EN 927 exposure panels	8
7.4 Testing procedure.....	10
7.5 Evaluation of fracture.....	10
8 Calculation and expression of results.....	11
9 Precision statement	11
10 Test report.....	11
Annex A (informative) Interpretation of test results	13
Bibliography.....	14

European foreword

This document (CEN/TS 927-9:2018) has been prepared by Technical Committee CEN/TC 139 “Paints and varnishes”, the secretariat of which is held by DIN.

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CEN/TS 927-9:2018 (E)**Introduction**

This Technical Specification is one of two methods for assessing the resistance of the coating system to removal by external forces provided by either cross-cutting or direct pull-off, both methods carried out under wet conditions. Two existing ISO Standards (EN ISO 2409 and EN ISO 4624) specify similar test methods for dry substrates in general, but make no provision for wet conditions, where wood coatings are known to be particularly vulnerable. Both of the new methods take full account of the special nature of wood as a substrate in terms of the method of wetting and the selection of the substrate.

Most of the currently used exterior coating systems are characterised by their propensity to being penetrated by moisture both into and out of the wood. It might therefore be difficult to achieve a good adhesion of these coatings under high moisture conditions. In cases of an already damaged coating film or an increased presence of moisture in the boundary zone to the wood surface, even a short-term exposure to water can be sufficient to weaken the adhesion of a coating film either to the substrate or within the coating system. The described method is suitable for the testing of coatings for exterior wood or wood based materials and applicable for testing the wet adhesion of a single coat or multi-coat system. In this test procedure the force, which is necessary to detach or pull-off the coating perpendicular to the substrate is measured.

Furthermore, the nature of fracture of the coating is assessed to validate or reject and assist in the interpretation of the result.

1 Scope

This Technical Specification specifies a method for assessing the resistance of a coating system on wet wood to separation from the substrate by measuring the force necessary to detach or rupture the coating system by a normal tensile strain applied through an attached stud (dolly). Additional information is gained by noting the type and locus of failure. The force required for detachment will depend on several factors including the adhesion of the coating to the substrate and between intermediate coating layers. The procedure is not regarded as a direct means of measuring adhesion but an indicator of adhesive performance (adherence) under wet conditions.

A procedure for wetting the wood substrate is described. The test method is only suitable for wood and wood based substrates.

For dry adhesion the test method is allowed to be carried out without wetting in which case it will differ very little from EN ISO 4624.

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.

EN 927-3, *Paints and varnishes — Coating materials and coating systems for exterior wood — Part 3: Natural weathering test*

EN 927-6, *Paints and varnishes — Coating materials and coating systems for exterior wood — Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water*

EN 23270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing (ISO 3270)*

EN ISO 4624, *Paints and varnishes — Pull-off test for adhesion (ISO 4624)*

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