



NSAI
Standards

Irish Standard
I.S. EN 301:2013

Adhesives, phenolic and aminoplastic, for load-bearing timber structures - Classification and performance requirements

I.S. EN 301:2013

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:
EN 301:2006

This document is based on: EN 301:2013
Published: 18 October, 2013

This document was published under the authority of the NSAI and comes into effect on:
18 October, 2013

ICS number:

83.180

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English Version

Adhesives, phenolic and aminoplastic, for load-bearing timber structures - Classification and performance requirements

Adhésifs de nature phénolique et aminoplaste, pour structures portantes en bois - Classification et exigences de performance

Klebstoffe, Phenoplaste und Aminoplaste, für tragende Holzbauteile - Klassifizierung und Leistungsanforderungen

This European Standard was approved by CEN on 19 July 2013.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Contents		Page
Foreword.....		3
Introduction		4
1 Scope		5
2 Normative references		5
3 Terms and definitions		6
4 Classification		7
5 Requirements		9
5.1 General		9
5.2 Tensile shear test		10
5.3 Delamination test		11
5.4 Fibre damage test		11
5.5 Shrinkage test		12
5.6 Static load test		12
5.7 Type testing of separate application finger joint adhesive		12
6 Working properties of the adhesive		12
6.1 General		12
6.2 Physical properties of adhesive prepared for use		12
6.3 Use of the adhesive		13
Annex A (normative) Delamination test for finger joints with separate spread of adhesive and finger		14
A.1 Production of the specimens		14
A.2 Testing		14
Bibliography		16

Foreword

This document (EN 301:2013) has been prepared by Technical Committee CEN/TC 193 "Adhesives", the secretariat of which is held by AENOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 301:2006.

Compared to EN 301:2006 the following changes have been made:

- a) three subclasses for adhesives have been added: for general purpose, for finger jointing and for gap filling purpose;
- b) further classification of adhesives according to temperature resistance and for mixed and separate application of adhesive and hardener specified;
- c) application of Type II adhesives limited to service class 1;
- d) provisions for small modifications of already approved adhesives;
- e) requirements for thick glue line in the range of 0,3 mm to 2,0 mm;
- f) provisions for delamination tests of hardwood added;
- g) pH value for performance of fibre damage test reduced;
- h) additional tests for static loads and for separate application of finger joint adhesives.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document is one of a series of standards dealing with phenolic and aminoplastic adhesives for use with timber structures, and is published in support of product standards for load-bearing timber structures in connection with EN 1995-1-1 *Eurocode 5: Design of timber structures – Part 1-1: General – Common rules and rules for buildings*. The series consists of one standard for classification and performance requirements (EN 301), five test methods (EN 302, Parts 1 to 4 and EN 15416-2) used to assess the performance of adhesives after specified heat and humidity treatments, and three test methods (EN 302, Parts 5 to 7) to characterise the working properties of the adhesive.

SAFETY STATEMENT — Persons using this document should be familiar with the normal laboratory practice, if applicable. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory conditions.

ENVIRONMENTAL STATEMENT — It is understood that some of the material permitted in this standard may have a negative environmental impact. As technological advantages lead to acceptable alternatives for these materials, they will be eliminated from this standard to the greatest extent possible.

At the end of the test, the user of the standard should take care to carry out an appropriate disposal of the wastes, according to local regulations.

1 Scope

This European Standard establishes a classification for phenolic and aminoplastic polycondensation adhesives according to their suitability for use for load-bearing timber structures in defined climatic exposure conditions, and specifies performance requirements for such adhesives for the factory manufacture or factory-like manufacturing conditions of load-bearing timber structures only.

This European Standard only specifies the performance of an adhesive for use in an environment corresponding to the defined conditions.

The performance requirements of this European Standard apply to the adhesive only, not to the timber structure. This European Standard does not cover the performance of adhesives for on-site gluing (except for factory-like conditions) nor the production of wood-based panels, except solid wood panels, or modified and stabilised wood with considerably reduced swelling and shrinkage properties, e.g. such as acetylated wood, heat treated wood and polymer impregnated wood.

This European Standard is primarily intended for the use of adhesive manufacturers and for the use in timber structures bonded with adhesives, to assess or control the quality of adhesives. The requirements apply to the type testing of the adhesives. Production control activities are outside the scope of this European Standard.

Adhesives meeting the requirements of this European Standard are adequate for use in a load-bearing timber structure, provided that the bonding process has been carried out according to an appropriate product standard.

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 302-1, *Adhesives for load-bearing timber structures - Test methods - Part 1: Determination of longitudinal tensile shear strength*

EN 302-2, *Adhesives for load-bearing timber structures - Test methods - Part 2: Determination of resistance to delamination*

EN 302-3, *Adhesives for load-bearing timber structures - Test methods - Part 3: Determination of the effect of acid damage to wood fibres by temperature and humidity cycling on the transverse tensile strength*

EN 302-4, *Adhesives for load-bearing timber structures - Test methods - Part 4: Determination of the effects of wood shrinkage on the shear strength*

EN 408, *Timber structures - Structural timber and glued laminated timber - Determination of some physical and mechanical properties*

EN 923, *Adhesives - Terms and definitions*

EN 1245, *Adhesives - Determination of pH*

EN 1995-1-1, *Eurocode 5: Design of timber structures - Part 1-1: General - Common rules and rules for buildings*

EN 12092, *Adhesives - Determination of viscosity*

EN 13183-2, *Moisture content of a piece of sawn timber - Part 2: Estimation by electrical resistance method*

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