

News on Wood Standardisation

News on CEN and ISO standardisation
for wood and wood-based products

December 2009



Contact persons

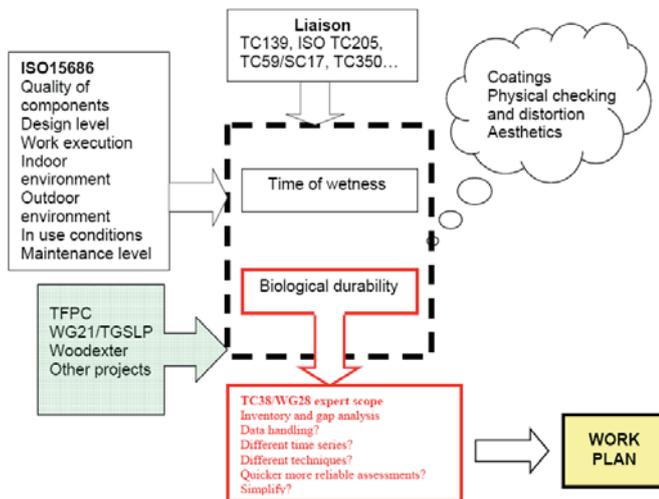
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Wood durability CEN/TC 38 WG 28 Performance classification

The first meeting of WG 28 was held on 9 September 2009 in Paris and convened by Dr Ed Suttie, BRE. Dr Finn Englund, SP Trätekt, is appointed by SIS/TK 182 AG 3 to represent Sweden on this working group.

The task of this Group is to consider performance classification for wood products in the context of TC 38 expertise – biological durability, indicated in red in the scheme below.



Experts felt that issues beyond biological durability were also of key importance to service life of wood products, such as physical checking and distortion. In addition it was noted that the aesthetic properties are crucial for many wood products. This is important when considering ultimate service life and limit states.

Ongoing projects related to service life aspects of wood and wood-based products/components, such as the WoodWisdom-Net project “WoodExter” and the Swedish national project “WoodBuild” will provide input to different aspects of WG 28 work.

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Gradewood – new grading procedures are being developed



The Gradewood project has now been running for two years and one year is left. Thousands of timber pieces have been graded and tested until failure in bending and tension. Another part of the project deals with development of new grading procedures and that part is led by SP Trätekt. We work on both new methods for derivation of settings for grading machines according to the “machine control” procedure and on the “output control” method. At the last project meeting in November 2009 it was decided to develop three methods further. As an alternative to the present “cost-matrix” method in EN14081 a simpler method based on so called “prediction limits” and an adaptive method denoted the “input control method” are being evaluated. Results of settings calculated by using the two proposed methods and description of the mentioned methods will be presented continuously during spring 2010. Papers will be presented at the COST E53 conference in Edinburgh, May 4-7, 2010, and at the World conference on timber engineering in Riva del Garda, June 20-24, 2010. In parallel with the work on alternative methods for derivation of machine settings the output control procedure is evaluated and developed.

The goal is to have a draft of an improved grading standard available at the end of 2010. It is a tough goal but the project is progressing in a good way.

If you want more details about the project and details about the development work that is being done, please contact Charlotte Bengtsson, charlotte.bengtsson@sp.se,
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Structural timber, glued laminated timber, roof trusses etc

Structural timber

The co-existence period for the harmonised standard for structural timber, EN 14081-1, was in June 2009 extended for the third time. The co-existence period now ends on September 1, 2012. The reasons for the extension by the EU Standing Committee on Construction were that the requirements in the standard regarding factory production control and individual piece marking of the timber are complicated and expensive especially for small and medium enterprises (SMEs). Belgium, France and NORMAPME (a SME interest organisation) put forward the reasons. Many other countries afterwards questioned the decision and therefore EU called to a meeting in September to discuss the marking requirement. On December 8 a compromise regarding marking was reached at a CEN/TC 124/WG 2 meeting.

The clause on Marking in EN 14081-1 will now give two options:

- Method A: individual piece marking
- Method B: package marking

Visually strength graded structural timber shall be marked according to either Method A or Method B. Then there is an essential NOTE saying that national regulations may exist on which method should be used.

Machine strength graded timber shall be marked according to Method A.

This compromise gives the possibility for countries, like Sweden and the UK, to prescribe in their building regulations that all structural timber shall have an individual piece marking while countries, like Belgium and France, satisfied with package marking can use that option.

EN 14081-1 revised as above will be sent out for Enquiry in the beginning of 2010 and will hopefully be approved and published long before the end of the co-existence period. The period might then be shortened and the standard would become mandatory earlier than September 1, 2012.

Also the other parts (2, 3 and 4) of EN 14081 dealing with machine grading are under revision but will not delay the publication of part 1.

Glued laminated timber

The co-existence period for the harmonised standard for glued laminated timber, EN 14080, has also been extended and now ends on December 1, 2011. An extensive revision of the standard is ongoing and will take more time than expected when earlier decisions on the co-existence period were taken.

Roof trusses

Finally the standard for roof trusses, EN 14250, has passed the voting procedures and is sent to CEN to be published. The publication will accordingly take place before the co-existence period ends on October 1, 2010. Technically the new standard does not lead to any important changes compared to present production rules in Sweden.

Finger jointed structural timber

Finger jointed structural timber cannot be CE marked according to EN 14081-1. A separate standard, prEN 15497, is under preparation and the comments from the Enquiry are right now being discussed in order to prepare a final draft for Formal vote. This standard is very similar to the presently used EN 385.

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Durability of the Reaction-to-Fire performance of Fire Retardant Wood products

A new European standard, prEN 15912, with Durability of Reaction-to-Fire performance (DRF) classes has been developed in order to guide potential users to find suitable Fire Retardant Treated (FRT) wood-based products, and encourage producers to supply competitive products. The system is summarised in the table below. It consists of a control system for the durability properties of FRT wood-based products and suitable test procedures. The European system is based on an existing Nordic system, Nordtest Method NT Fire 054, and on experience from North America.

Fire retardant treatments of wood products e.g. by chemical modification, may considerably improve their reaction-to-fire properties, to the extent that the highest fire classifications for combustible products can be reached, e.g. Euroclass B. This allows a wider use of visible wood, both as interior wall and ceilings linings and as exterior claddings, e.g. in facades.

However, the durability of the fire retardant treatments needs to be addressed. Two cases of effects or mechanisms that can affect the durability of the fire retardant treatment of wood-based products can be identified. One is the risk for high moisture content and migration of the fire-retardant chemicals within the wood product and salt crystallisation on the product surface. The other case is the risk for decreased fire performance due to loss of the fire retardant chemicals by leaching or other mechanisms. This risk is mainly pronounced for exterior applications and is the main challenge to the development of new fire-retardant-treated wood products.

The draft European standard prEN 15912 was on Enquiry during the first half of 2009, several comments were received and handled at a meeting in Stockholm in September 2009. A revised version is underway and Formal vote can be expected to be launched during 2010.

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Requirements for DRF (Durability of Reaction-to-Fire performance) classes of FRT wood-based products in interior and exterior end-use applications according to prEN 15912.

DRF class	Existing fire requirements	Additional performance requirements for different end uses of fire retardant wood-based products		
Intended use	Reaction-to-fire class, initial	Hygroscopic properties	Reaction-to-fire performance after weather exposure	
ST	Short term	Relevant fire class	-	-
INT 1 	Interior, dry applications	- " -	- Moisture content < [20] % - Minimum visible salt with no increase at surface - No exudation of liquid	-
INT 2 	Interior, humid applications	- " -	- Moisture content < [28] % - Minimum visible salt with no increase at surface - No exudation of liquid	-
EXT 	Exterior applications	- " -	- " -	Maintained reaction-to-fire performance after - Accelerated ageing or - Natural weathering - Other referenced ageing method

Editorial board

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