



FireInTimber –

building with wood
CEI-Bois Roadmap 2010

Fire resistance of Innovative Timber structures

Nov 2008



FireInTimber is a project within the European Wood-Wisdom-Net framework with 14 participants from 9 countries. The project started in November 2007 and will be finalised by the end of 2009. It is supported by industry through the European initiative BWW Building With Wood and public funding organisations.



FireInTimber partners

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BWW industry representatives

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Further industries are participating on the national levels.

Supporting public funding organisations

FFG (AT), Bundesministerium für Bildung und Forschung (DE), Forestry Commission (UK), Norges forskningsråd, Ministère de l'Agriculture (FR), Tekes (FI) and Vinnova (SE).

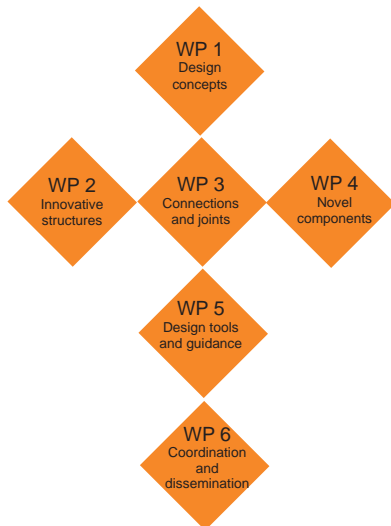
Expected results

The expected results from the FireInTimber project will be

- Analytical design concepts for load-bearing timber structures under fire conditions
- New models for load-bearing solid wood crosslaminated panel and light weight structures during fire exposure
- Performance principles of connections at fire exposure
- Guidance on joints between wall and ceiling elements and on fire stops within structures
- Critically reviewed novel innovative products and summary of new knowledge for product development
- **The first European wide guideline on the fire safe use of wood in buildings**

Work packages

Goals and 12 months results



WP 1. Design concepts for load-bearing timber structures

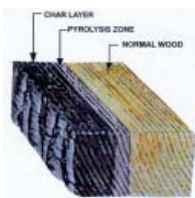
WP leader: VTT

Goals

Common basis of design concepts for load-bearing timber structures to be implemented at European and national level

Results at 12 months

Standard temperature-time curve is recommended to be used as the main fire exposure condition. However, advanced fire safety engineering is needed in designing large buildings and/or buildings with high risks for people and/or property.



WP 2. Innovative solid wood panel and light weight timber structures

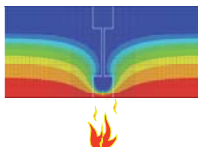
WP leader: SP Trätec

Goals

- Structural performance in fire of new innovative timber structures
- Guidance on protection by timber, gypsum boards and other panels
- Model and full scale fire test verification

Results at 12 months

First results of calculations of mechanical resistance of cross-laminated timber and I-joists available. Ongoing full scale testing of walls.



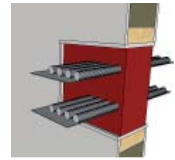
FireInTimber team at project meeting in Tallinn, May 2008.

WP 3. Connections and joints

WP leader: TUM

Goals

- Structural fire behaviour of timber-to-timber and steel-to-timber connections
- Joints and fire stops between building elements
- Fire shutters for service installations



Results at 12 months

Summary of test results and state of the art of connections, joints and fire shutters.

WP 4. Novel components and structural materials

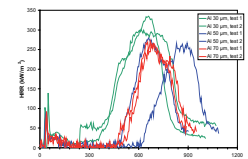
WP leader: VTT

Goals

Overview of potential innovations in products and systems aimed for the timber industry.

Results at 12 months

Main functional requirements for new adhesives for structural use, alternative insulation materials, encasing claddings and thin thermal barriers have been provided. Intumescent coating on aluminium has shown major reduction of charring rate in small scale testing.



WP 5. Design tools and guidance

WP leader: SP Trätec

Goals

- Design tools and methods for timber structures to be included in design manuals
- Guidance manual on Fire safe use of wood products and timber structures to end users incl assistance to industry development and to authorities

Results at 12 months

Agreement on draft structure and content of the guidance manual.



WP 6 Coordination and dissemination

WP leader: SP Trätec

Goals

Coordination and information transfer between the project, Steering group and BWW industries.

Results at 12 months

Four project meetings have been arranged: November 2007 in Stockholm, February 2008 in Berlin, May 2008 in Tallinn and October 2008 in Vienna. Detailed project plans, communication policy and status reports have been agreed. Further meetings have been planned and a final conference early 2010.



Birgit Östman, SP Trätec coordinator