

## Activities

### Efficacy tests of wood preservatives against fungi, insects and marine organisms to determine natural durability of wood species in accordance with European standards:

- Efficacy against basidiomycetes fungi with laboratory test (application by vacuum - pressure: EN 113, threshold value or conferred durability; application by surface treatments: UNI ENV 839)
- Efficacy against basidiomycetes fungi with *in field test* (EN 252)
- Efficacy against soft rot (ENV 807)
- Efficacy against blue stain fungi (EN 152-1 e EN 152-2)
- Efficacy against *Hylotrupes bajulus* (preventive action: EN 46-1 and EN 46-2; eradicant action: EN 1390)
- Efficacy against *Lyctus brunneus* (EN 20-1 and EN 20-2)
- Efficacy against marine organisms (EN 275)

### *In situ* evaluation of biotic decay of historical and civil buildings



Wood ceiling of Stanza degli Otto in Palazzo Vecchio. Florence

Consiglio Nazionale delle Ricerche

## Istituto per la Valorizzazione del Legno e delle Specie Arboree

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## Istituto per la Valorizzazione del Legno e delle Specie Arboree

(Trees and Timber Institute)



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### **Mission**

- Promoting sustainability of new technologies for wood preservation by testing new environmental-friendly, metal-free wood products and processes
- Studies on natural durability against fungi and insects

### **Keywords**

Wood decay, fungi, insects, wood preservatives, biocides, laboratory test, in field test

### **National and International memberships**

- IRG – WP International Research group of wood protection
- Management Committee COST Action E 37 “Sustainability Through New Technologies For Enhanced Wood Durability”
- National coordination of UNI Working Group 2 “Wood treatments”



*In field test*

### **Research**

#### **In field and laboratory tests for the evaluation of low environmental impact wood treatments**

Recently concluded or still in progress:

- Regional project – CNR IVALSA / Tecnolegno Fantoni srl Company / Regional Agency for Agriculture Developing and Innovation – Promotion and *in situ* use of *Pinus pinea* timber derived from the Regional Natural Reserve of San Rossore - Massaciuccoli – Migliarino (Tuscany) for products in use classes 3 and 4 (EN 335-1).
- Regional project – CNR IVALSA / Regional Agency for Agriculture Developing and Innovation – Improvement of the durability of chestnut vineyard poles by an oleothermic treatment.
- Wood preservatives based on borate and other borate-fixative compounds (proteins, silicates). CNR IVALSA / TFL srl Company / Legnodoc Study project.
- Laboratory tests on natural durability of High Temperature Thermal Treated wood of Cherry and Walnut species coming from thinning in Italian plantations.

#### **Determination of natural durability**

- Laboratory tests on the natural durability of wood species obtained from Italian plantations (eg. Eucaliptus spp., Paulownia, Chestnut) and other species (eg. Prosopis spp.)



#### **Innovation on diagnostic techniques**

- X-ray microdensitometry as a tool to determine the durability of wood against wood decay fungi.



#### **Timber pests**

- Start and maintenance of some timber pests laboratory breedings: *Hylotrupes bajulus*, *Lyctus brunneus*, *Trichoferus holosericeus*.
- Documentation about presence and spreading of timber pests in Italy (in the past)



*Hylotrupes bajulus*