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## Tannin based wood preservatives



### Short Description

We have developed several tannin based formulations to apply as wood preservative through vacuum–pressure impregnation.

The process requires three steps:

1. Drying of the wood specimens
2. Impregnation with a tannin– boron hexamine solution
3. Hardening of the polymer in situ for exposition at 103°C for 12–24 h.

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The so–produced samples were tested against multiple decay systems:

- Biological attacks: Fungis, termites and insects
- Fire: Short and long exposure
- Water leaching: EN84, EN1250–2 and 5 days dipping
- Mechanical stress: Compression and bending
- Ageing: artificial and natural weathering and also ground test

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Chemical analysis was done on the wood surface through visible and infrared wavelength.

NMR investigation has been also done in order to understand the mechanism of interaction between boron and tannin.

**Title of project:** Tannin–boron wood preservatives

**Support Program/Supported by/Sponsored by:** Not Founded

**Duration:** Still in progress

**Partner:** CIRAD France – CNR IVALSA – ENSTIB University of Nancy –

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