

THE INTERNATIONAL RESEARCH GROUP ON WOOD PROTECTION

Section 2

Test Methodology and Assessment

**How to Document the Performance of Super-Critical
Treated Wood in above Ground Situations?**

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How to Document the Performance of Super-Critical Treated Wood in above Ground Situations?

by

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Abstract

The paper presents practical experiences from the preparation of a new preservative treated wood product for introduction to the market. The product in question is Superwood™, which is treated with organic biocides using CO₂ in a supercritical state as a solvent.

The question is how to evaluate the performance of a new product such as Superwood™ in order to get an acceptance on the market and fulfil the formal requirements. In the European Union countries, the EN 599-1 is the standard that needs to be complied when approving a new product for the market, but it only focuses on the toxic limit against representative decay fungi according to EN 113. However, decay test, above ground and other forms of field tests are optional, this is not in line with the traditional test philosophy in the Scandinavian countries. The open question is to which extent treatment to the level of the toxic threshold value also ensures a long service life and expected performance of the treated commodity.

Superwood™ is evaluated using a strategy, in which basic laboratory tests are done to get the toxic value (according to EN 599-1) and in addition a number of field tests are done including accelerated testing in the tropics. These tests are focussed on the evaluation of the performance criteria such as durability and service life and maintenance requirements. These questions must be answered by the producer without having a full record of performance test for their new products.

A short status on the test performed on super-critical treated wood (Superwood™) is presented. Based on a comparison between field test in Scandinavia and in the tropical Malaysia a service life of more than 25 years for a specific supercritical treated product is estimated.

It is stated that the existing European standardisation system is insufficient when it comes to service life prediction. A number of important questions need to be addressed by the European standardisation system as soon as possible because the market and the public opinion change quickly due to environmental concern.

Keywords: Above ground test, Accelerated decay test, Leaching, Service-life, Super-critical treatment, Organic-based biocides, European standards