

A REVIEW OF THE EFFICACY AND USES OF DELTAMETHRIN FOR WOOD PRESERVATION

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The synthetic pyrethroid deltamethrin, is one of the most active insecticides available for protecting and curing wood from attack by beetles and termites. Freshly felled trees can be protected against bark beetles by spraying to run off with a 0.025% AI solution with negligible leaching. Alternatively, sawn timber may be dipped in a 0.0125% AI solution for short to medium term protection.

Trials data and European Norm (EN) test results have demonstrated that vacuum pressure impregnation (VPI) of deltamethrin as an LOSP treatment needs to provide retention levels of as little as 10 g AI/m³ for the protection of timber for use in Hazard Classes I-III (above ground). When deltamethrin is included in glueline applications, then protection of plywood for container flooring and construction purposes is provided by levels of <50 g AI/m³ (against beetles) or <100 g AI/m³ (termites). EN test results for the protective (EN46) and remedial (EN22, EN48, EN118) application of ready to use (RTU) and water-dilutable products support surface application rates of <50 mg AI/m² (Table 1).

Results

Table 1. EN test data for deltamethrin

EN Test	Target Insect	Toxic values (g AI/m ³)
EN47	<i>Hylotrupes bajulus</i>	0.4-0.6
EN21	<i>Anobium punctatum</i>	4.6-9.1
EN117	<i>Reticulitermes santonensis</i>	4.4-11
Effective dose (mg/m ²)		
EN22	<i>H. bajulus</i>	46.9
EN46	<i>H. bajulus</i>	6.8-7.8
EN48	<i>A. punctatum</i>	46.9
EN49	<i>A. punctatum</i>	0.1-0.3
EN118	<i>R. santonensis</i>	20