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Influence of Extractives Leaching from Larch Wood on Durability of Semi-Transparent Oil-Based Coating during Accelerated Weathering

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Abstract : Extractives contained in larch wood (Larix decidua, Mill.) reduce the service-life of exterior coating systems, especially transparent and semi-transparent. The aim of this work was to find out whether the initial several-week leaching of extractives from untreated wood in the exterior will positively affect the selected characteristics and the overall life of the semi-transparent oil-based coating. Samples exposed to exterior leaching for 10 or 20 weeks, and the reference samples without leaching were then treated with a coating system. Testing was performed by the method of artificial accelerated weathering in the UV chamber combined with thermal cycling during 6 weeks. The changes of colour, gloss, surface wetting, microscopic analyses of surfaces, and visual damage of paint were evaluated. Only 20-week initial leaching had a positive effect. Both to increase the color stability during aging, but also to slightly increase the overall life of the tested semi-transparent coating system on larch wood.

Keywords : larch wood, coating, durability. extractives
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