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
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Reduction By Natural Resin of Water Uptake in Various Wood Species

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Abstract: Straight and clear sapwood specimens of 3x3x1.5 cm were prepared from spruce (*Picea orientalis* L.), pine (*Pinus sylvestris* L.), beech (*Fagus orientalis* L.), and alder (*Alnus glutinosa* Geartn. L.). The specimens were impregnated in solution consisting of 10% natural resin and 90% cellulosic thinner, with dipping for periods of 1/3, 3, and 24 hours. Test and control specimens were soaked in distilled water for periods of 1/4, 1, 4, 16, and of 24 hours. Both tests were carried out under room conditions: 20±2°C temperature, 65±5 percent relative humidity and atmospherical pressure. Result showed that there were significant differences according to treatment times, wood species, and periods of immersion in water. The solution absorption, retention of resin, and water repellent effect 10.0-34.5 Kg/m³, 2.0-9.5%, and 10.0-68.0%, respectively. For each treatment, it was determined that solution absorption, retention of resin, and water absorption were highest in alder whereas water repellent efficiency was highest in spruce. Water absorption was lower in treated wood than in untreated, but water repellent effect increased. As a result, natural resin reduced water uptake of wood with air-dried humidity. It was shown that the degree of improvement varied according to treatment time, wood species, and period of immersion in water.

Key Words: Wood, Water absorption, Natural resin, Water repellent effect.

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