



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Impact of Impregnation with Imersol-Aqua on the Yellow Color Tone of Some
Woods and Varnishes

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Abstract: This study was performed to determine the effects of impregnation on the yellow color tone (YCT) of some woods and varnishes. For this purpose, the test specimens prepared from Oriental beech (*Fagus orientalis* Lipsky) and oak (*Quercus petraea* Liebl.) according to ASTM D 358 were impregnated with Imersol-Aqua according to ASTM D 1413-99 and the manufacturer's instructions by short-term, medium-term, and long-term dipping, and were then coated with synthetic, acrylic, waterborne, and polyurethane varnishes according to ASTM D 3023. The YCT of test specimens after the varnishing process was determined according to ASTM D 2244-02. As a result, the highest YCT value was obtained in oak, with medium-term dipping and synthetic varnish, whereas the lowest YCT was in Oriental beech with long-term dipping and waterborne varnish. Considering the interaction of wood type, period of impregnation, and type of varnish, YCT was the highest in oak + short-term dipping + synthetic varnish, and the lowest in Oriental beech + short-term dipping + waterborne varnish. Varnishing increased the YCT in oak and Oriental beech, but impregnation period increased the color tone in Oriental beech and decreased it in oak. This effect must be taken into consideration in applications where the YCT of wood is important.

Key Words: Oriental beech, oak, Imersol-Aqua, yellow color tone, varnish

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