



Effects on retention by applying liquid nitrogen to some woods

Hüseyin Yörür^{1,*}, Muhammed Nuri Günay¹, Kadir Kayahan², Suat Altun³, Belgin Şeker¹

¹ Karabük University, Forest Faculty, Forest Industry Engineering Department, Karabük, Turkey

² Bartın University, Vocational High School, Material and Material Processing Technologies Department, Bartın, Turkey

³ Karabük University, Technical Education Faculty, Department of Furniture and Decoration Education, Karabük, Turkey

* Corresponding author: huseyinyorur@karabuk.edu.tr

Abstract: The wood materials are a material which uses in almost every area of daily life, such as decoration, landscape, construction and furniture. They have some disadvantages like flammable and affected by biological factors. For increase service life of wood materials against to these factors are treated coated or impregnated materials. Many methods are being studied to improve the permeability of wood. But, alternative methods are still researched to increasing amount of retention. In this study, Scots pine and Oriental spruce wood materials impregnated with Firetex and before impregnation exposed to liquid nitrogen for 15 minutes. According to research results increased the retention amounts of applying liquid nitrogen. The liquid nitrogen treatment can use as a new method to improve the permeability of the wood.

Keywords: Retention, Liquid nitrogen, Scots pine, Oriental spruce