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PREPARATION AND CHARACTERIZATION OF NATURAL GLUES WITH CARBON NANOTUBES

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Abstract

The data presented in this work has been obtained from experimental research aiming towards the usage of natural resources of the National Park of Sila in Calabria, Southern Italy. Such resources are: "Laricio" pine resin, beeswax, mineral inert and charcoal to make natural glues. Furthermore, research has been done to find out if by using small quantities of carbon nanotubes, the strength of adhesion of prepared glues improves. Raw materials were characterized by physico–chemical techniques. In particular, the "Laricio" pine resin was characterized through the NMR techinique.
The data obtained have shown that each utilized component plays a specific role: the pine resin on the fundamental binding properties, the beeswax on the plasticity of the material, the coal and the mineral inert on raising the melting temperature, the carbon nanotubes on improvement of the adhesion resistance.

Key words: carbon nanotubes, glue, green building, pine resin

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