

Properties of Composite Materials Made from Surface Treated Particles from Annual Plants

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Abstract : Annual plants are becoming more and more popular source of lignin and cellulose. In those days a lot of research is carried out in order to evaluate the possibility of utilization of fibres and particles from these plants in composite materials production. These lingo-cellulosic materials seem to be a great alternative to wood, however, due to waxy and silica layers on the surface of these stalks, one additional technological step is needed-erosion of the layers for the purpose of achieving better adhesion between particle and adhesive. In this research, we used several kinds of particle pre-treatment, in order to modify surface properties of these particles. Further, an adhesive was applied to the particles using laboratory blender and board were produced using laboratory press. Both physical and mechanical properties of boards were observed. It was found out that the surface modification of particles had statistically significant effect on properties of produced boards.

Keywords : annual plant, composites, mechanical properties, particleboard

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