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EFFECT OF POLYPROPYLENE OXIDE IN THE MELT PHASE AS A COMPATIBILIZER TO IMPROVE THE PRACTICAL PROPERTIES WPC COMPOSITES FROM WOOD FIBERS - POLYPROPYLENE - NANO CLAY

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In this study, effect of oxidized polypropylene, as compatibilizer, on Properties Practical of wood fibers - polypropylene - nano clay composites was investigated. For this purpose, polypropylene was oxidized in melt phase and in the presence of air oxygen in 2 hours. Then, wood fibers and polypropylene (with 50% wood fibers loading) were mixed in an extruder in presence 3% oxidized polypropylene and 4% Nano Clay. Extruder was mixed and sheets with nominal thickness 2mm and dimension 15×15 cm and thicknesses were made using a hot press. Also, for comparison, wood fibers - polypropylene - nano clay composites without compatibilizer and with 2% MAPP (Maleic Anhydride Polypropylene) were manufactured. Then, mechanical properties such as bending strength and Tensile strength were tested according to ASTM standard. Results showed that the use of oxidized polypropylene increase mechanical properties. Resulting composite compared to No matter the mode compatibilizer and MAPP, oxidized polypropylene exhibited Better adaptation.