

215-013

IZOD IMPACT TEST IN POLYESTER MATRIX COMPOSITES REINFORCED WITH HEMP FIBER

Rohen, L.A.(1); Muylaert, F.M.(2); Monteiro, S.N.(3); Neves, A.C.C.(1); Vieira, J.S.(1); Mantovani, D.P.(1); Vieira, C.F.(1); De Almeida Pontes, L.(1);

Universidade Estadual do Norte Fluminense Darcy Ribeiro(1); Faculdade Redentor(2); Instituto Militar de Engenharia(3); Universidade Estadual do Norte Fluminense Darcy Ribeiro(4); Universidade Estadual do Norte Fluminense Darcy Ribeiro(5); Universidade Norte Fluminense(6); Universidade Estadual do Norte Fluminense Darcy Ribeiro(7); Universidade Estadual do Norte Fluminense Darcy Ribeiro(8);

Alternative materials is a really important theme in these recent days and much has been released about the uses of natural compounds such as natural fibers used as reinforcement of polymeric matrices. The use of lignocellulosic fibers, for example, justifies its uses instead of synthetic ones by economical and environmental advantages. The natural fiber also presents interfacial characteristics with polymeric matrices, like polyester, what favor a high impact energy absorption by the composite structure. However, discussing about polymeric composites reinforced with hemp fibers much needs to be investigated. This present study aims evaluate the impact resistance of polyester matrix composites reinforced with 0, 10, 20 and 30% in volume fraction of hemp fibers incorporation. The samples were prepared by laying down the fibers unto de plate matrix and cut following the ASTM D256 standard. Those specimens were tested into a PANTEC Pendulum set in Izod configuration. The impact resistance has substantially increased the relative amount of hemp fiber incorporated as reinforcement in the composite. This performance was associated with the difficulty of rupture imposed by the fibers.