**Proposal of manufacturing and characterization test of binderlesshemp shive composite**

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**Abstract:**

In recent years, there has been increasing interest in producing an alternative environmentally friendly composite instead of the non-biodegradable (plastic) or formaldehyde emission composites. With this goal, composites of 100% hemp waste were converted through the one-step thermoforming process to obtain ecological binderless particleboard. In this study, the effects of the particle sizes, the moisture content and the heating temperatures under fixed pressure and time were studied to investigate the physical, thermal and mechanical properties of these composites.We observed that the composites of fine particles always had the better properties, at an optimum temperature of 170 oC. Interestingly, this composite had a maximumflexural strength of 27±11MPa and amodulus of elasticity of 3122±763 MPa. This resistance satisfied the requirements of (NF EN 312:P6) for particleboards. On the contrary, these composites were very sensitive to water; they completely collapsed within 5 min of direct water contact. This behavior is preferable from the point of view of the biodegradability. Actually, after the end of service life of this lignocellulosic composite, the fermentation process can be achieved to generate ligninolytic fungi and enzymes which are involved in the degradation of the complex and recalcitrant polymer lignin.