ABSTRACT

The aim of this research was investigating the effect of Municipal Solid Waste (MSW) weight fraction to the physical and mechanical properties of MSW composite. The filler used in this research were leaf, plastic, glass and paper which blended with two kind of binders i.e. unsaturated polyester Yukalac® 157 BQTN-EX and cassava starch. The composite was made by pressing method with 60 %, 70 % and 80 % weight fraction variations. The samples was characterized to mechanical and physical testing i.e shear and tensile testing based on ASTM D 1037 and density testing based on ASTM D 792. The surface of broken area was observed by Scanning Electron Microscope and stereozoom microscope.

The results of this research show the increasing filler weight fraction and the decreasing the mechanical properties of MSW composite. On the same weight fraction shear strenghted the MSW-UPRs higher than waste-cassava starch composite. On the tensile test MSW-cassava starch composite higher than waste UPRs.

Key words: Municipal Solid Waste, weight fraction, cassava starch, UPRs.