

Study the effect of reinforcement on tensile and hardness properties for some polymeric materials

In this research was the study of tensile and hardness properties of some composite material consisting of, polypropylene and high density polyethylene as a matrix reinforced with glass fibers (random, woven roven, and a random +woven roven), for different volume fraction (22%, 24%, 26%, 28%, 30%). The results showed an increase of volume fraction increases the values of all of the tensile and hardness. A comparison was done between random samples, woven roven samples and sandwich composite samples which consists of (woven roven and random). Finally the results show that the sandwich composite gives higher tensile strength, while the composite reinforced with woven roven fiber has maximum hardness values.