ABSTRACT

ANALYSIS OF EFFECTS OF BAKAU WOOD CHARCOAL, COCONUT SHELL CHARCOAL AND WOOD CHARCOAL CHARCOAL ON PACK CARBURIZING PROCESS ON VIOLENCE OF CARBON STEEL ST. 37

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This research was conducted to determine the effect of variations in activated charcoal media and temperature variations on the price of rockwell hardness and the chemical composition of ST 37 steel in the carburizing process. The carburizing process is widely used to increase hardness and add carbon to steel which has a low hardness value and needs to be given special treatment to increase the hardness of the steel. In this study, the carburizing media used were mangrove charcoal, coconut shell charcoal, lebanese wood charcoal that had been made into powder and a mixture of BaCO3 as a catalyst. In this study, the carburizing process was carried out with temperature variations, namely 750^{o}C, 850^{o}C and 900^{o}C after reaching the desired temperature and then held with a holding time of 2 hours. The percentage of carbon absorption is more absorbed in lebanese charcoal at a temperature of 900^{o}C with the addition of carbon by 0.61%. Whereas for rockwell hardness testing the highest hardness value at 900oC was found in lebanese charcoal with a hardness value of 79.9 HRC.

Keywords: Carburizing, ST 37 Steel, Rockwell Hardness, Chemical Composition.