The Effect of Polyurethane Mounting Compound Variations on Hardness Tests and Tensile Tests. Dicky Adi Tyagita, S.T., M.T (*Chief Counselor*)

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ABSTRACT

The selection of the type of rubber used for compound processing will determine the properties of the final product produced. Polyurethane is a combination of two chemical components polymer and urethane. Widely used in automotive applications because it has advantages and excellent damping and energy absorption characteristics. This research aims to determine the effect of variations in the addition of 35 phr, 45 phr and 55 phr polyurethane on hardness and ultimate tensile strength values. The method used is experimental using polyurethane material. The research was carried out at the November 10 Institute of Technology. The research results show that the higher the polyurethane added, the greater the hardness value obtained. The best variation is obtained at 55 phr with a value of 89.3 Shore A, meeting the quality requirements of SNI 06-1540-1989, the minimum bearing standard requirement is 60 ± 5 shore A. 2. The greater the phr value of the polyurethane material in the vulcanizate compound formula, the greater the value. the tensile stress also becomes higher. The best variation was obtained at 55 phr of 13.12 N/mm2 and 274.17%, meeting the quality requirements of SNI 06-1540-1989, the minimum tensile stress requirement of 10 N/mm2 and minimum strain of 250%.

Keywords: *Rubber, Polymer, Urethane, Tensile Strength*