ANALYSIS OF THE EFFECT OF BRONZE ALLOYS FOR CYLINDER LINER ON HARDNESS TESTING

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ABSTRACT

Changing the quality of a component material is indeed an important issue in today's society where it has the specter of "there is quality, there is price". This means that official manufacturers, local factories, and even students also take part in this matter. With the aim of considering and making efforts to improve the quality of components in order to achieve satisfactory value. The influence highlighted in this research is what impact influences the quality of the hardness values in nodular cast iron alloys with AB2, whether they produce significant values or values that are sloping or even decreasing. This is based on finding the ideal mass percentage quantity to obtain a satisfactory hardness value. Due to the limited quantity of gray cast iron in cast furnaces, an approach was taken using nodular cast iron as an example if the cast iron affects the value of its mixture with AB2. In the process from start to finish, there are several aspects that occur in this process, where the increase in the use of AB2 in nodular cast iron makes the quality of the molten metal become liquid, visually, the impact of the aluminum element, on the other hand, the nickel element increases, although not too high, but the final value of the alloy 37% greatly increases the hardness value. This type of iron is widely used in automotive products. The indications that occur in the values in this test can be taken into consideration if production parties, especially automotive components, can see illustrations of the achieved values for chemical composition and hardness. Because the development of material improvements has been very rapid in recent times. The hardness value achieved by the non-alloy was recorded at 372.92 HVN, the 14% AB2 alloy was 509.94 HVN, the 25% AB2 alloy had a value of 408.79, and the 37% AB2 alloy increased 2x from the value without the alloy, namely 679.96 HVN.

Keywords: *quality, material, ductile cast iron, AB2, HVN.*