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DISAGREEMENT OF HARDNESS AND TENSILE PROPERTIES IN SOME STEELS AND BRASSES

***Abstract:** Both hardness and tensile properties belong to a very important group of physical properties of metals/alloys, which certainly determine the general quality of every machine component. The measuring of hardness values has an advantage especially in the field conditions in comparison to tensile testing, when an extra sample should be taken. Frequently, the measured hardness values further serve for mathematical calculation in obtaining the proper values of tensile or yield strength. When tensile properties were directly determined by testing, than a disagreement will be found in regard to calculated values from hardness data.*

In this paper are discussed results in relation hardness-tensile properties, based on experimental data obtained on some structural steels and tin bronzes, as commonly wide used materials in industry. Some engineers often used the principle of calculation the strength on the basis of measured hardness values, but in some cases this principle could be quite unadequate.

Key words: hardness values, tensile properties, disagreement, steels, bronzes