Research into the causes cracking of aluminum alloys of Al – Cu during mechanical machining

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The aim of the work was carried out research on the causes cracking formed aluminum work pieces in the assortment of rods, which sometimes occur in the mechanical machining (turning, drilling) for alloys of Al-Cu. A typical representative for the machining of aluminum alloys is AlCu4MgMnPb alloy, most of which performs heat treatment for hardening increases the ultimate strength. For the given alloy were carried out qualitative and quantitative fractographic analysis of fracture surfaces after machining in order to determine possible causes cracking of the material and thus his insufficient strength. This paper clearly documented that the fractographic analysis methods can clearly and in the extent required to provide answers to the causes of insufficient strength of the material when cutting. At the same time points out the possible causes of cracks in this alloy in machining and ways for their elimination.

Keywords: AlCu4MgMnPb alloy, hardening, eutektikum, EDX analyses

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