

Electron Beam Surface Quenching of X37CrMoV51 Tool Steel Swages

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X37CrMoV51 tool steel for plastic working and heat cutting is usually used in whole volume quenched state for secondary hardness. Using high-energetic sources like electron beam or laser is possible repeated surface quenching of chosen surface localities with complicated geometry. The treatment leads to local hardness improvement which results in local wear damage decrease.

Delivered specimens were surface quenched using electron beam technology. The paper deals with influence of individual technological parameters of the treatment on final properties of treated localities. Final properties of treated surface were examined by light and electron microscopy and microhardness testing.

Keywords: electron beam, swage, X37CrMoV51, tool steel

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