

# RESEARCH INTO POSSIBILITIES OF CHROMIUM CAST IRON MACHINING USING EDM WIRE TECHNOLOGY

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## Abstract:

*The main aim of this paper is to present the research findings dealing with possible machining procedure for the cast iron with increased chromium content. This kind of materials is very widely used for their positive mechanical properties as resistance to abrasive wear or hardness. Cast irons with increased chromium content are suitable for use e.g. as pressing tools, where the high durability and abrasive resistance are required. But on the other hand, such mechanical properties are factors that in most cases harm their machinability. In this research study, the identification of machining possibilities and determination of machining procedure using electro-discharge (EDM) wire technology was the goal. Several parameters of EDM wire technology were selected on different levels and the 3 possible machining procedures were designed for experimental research of their effect on the final surface quality. The surface quality assessed by the surface roughness has shown the using of EDM technology can ensure suitable surface quality.*

## Keywords:

Machining; electro-discharge machining; EDM; higher chromium content alloy; wire feed; wire tension; surface roughness;