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**WYDZIAŁ MECHANICZNY TECHNOLOGICZNY  
PRACA DOKTORSKA**

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MATERIAŁOWEJ W WYBRANYCH WYTWÓRCZYCH  
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## *Abstract*

### **The analysis and the research on the manufacturability of material in the selected manufacturing material processes**

This work consists of the analysis of the literature on manufacturability, in particular the manufacturability of material, the manufacturability of construction and the manufacturing of production process in the context of the design process of construction and the design manufacturing of production processes. The approach to the issue of the manufacturability of material, construction and production processes in various studies was presented. The analysis of the literature and the research made it possible to formulate a simple and unambiguous definition of the manufacturability of material, the manufacturability of construction and the manufacturing production processes with particular emphasis on the correlation between them. In the research section, the criteria for the manufacturability of material, the manufacturability of construction and the manufacturing of production process were determined. On this basis, the methodology for assessing the manufacturability of the product development process was developed which was performed on the example of the product development process in three enterprises. This allowed checking the adopted assumptions and the level of awareness of the manufacturability of material, the manufacturability of construction and the manufacturing of production process taken into account in the product development process.

During the analysis of the literature and the research, the issue of technology inheritance was distinguished, and then a definition of the technology inheritance was formulated, indicating the need to analyze it during the development of technology.

The presented methodology and research results are of an illustrative nature requiring further analysis and research, which will enable the use of the manufacturability assessment questionnaire as a tool for analyzing the correctness of design and construction activities in the automotive industry immediately before the FMEA analysis. The research results were analyzed.

The thesis was finished with conclusions that illustrated the usefulness of performing a product manufacturability analysis as an effective method of analysis in the process of preparing and modifying the product development process.