

## DESIGN, MANUFACTURING AND QUALITY CONTROL OF THE TOOLS USED IN STAMPING PROCESS OF CAR BODY PARTS IN AUTOMOTIVE INDUSTRY

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**Rezumat.** În realizarea unei scule fie ea de ambutisare, fie pentru o operație de repriză, trebuie acordată atenție asupra calității proiectării, a calității suprafețelor generate prin modelare, a calității prelucrărilor mecanice. În realizarea unei piese de automobil prin deformare plastică la rece, trebuie să se acorde o atenție deosebită asupra calității totale a proceselor de elaborare a sculelor necesare realizării piesei. În procesul de analiză a calității este nevoie de experiență pentru a putea ajunge la o identificare rapidă a defectelor, a posibilelor riscuri, dar și pentru găsirea imediată de soluții fezabile. În continuare, la ajustare și la încercările la care sunt supuse sculele, trebuie să se lucreze inteligent, economic și să se rezolve cele mai multe probleme imediat ce sunt observate, pentru a micșora timpul total al proiectului.

**Abstract.** In the making of a tool whether it is a stamping machine or for a drawing operation, attention must be paid to the quality of the Design, the quality of the surfaces generated by Modeling, the quality of the machining. When creating a car part by cold plastic deformation, special attention must be paid to the total quality of the processes for the elaboration of the tools to make the part. Thus, attention must be paid to all the tools needed to make the piece. For a quality analysis it is necessary to have experience in order to be able to quickly identify faults, possible risks, but also to find feasible solutions immediately. Further to the adjustment and the tests to which the tools are subjected, they must work intelligently, economically and solve most problems as soon as they are observed, in order to reduce the time required for the project.

**Keywords:** Quality, Mold, Manufacturing process, Automotive industry

### 1. Introduction

The process of manufacturing by cold pressing acquires, in the last period of time, an increasing applicability, due to the important advantages: high productivity, high precision of the parts and low cost [1].

Therefore, the development stage of cold pressing, the extension of this manufacturing process in all branches of the machine building industry represents an indication of the technical progress that characterizes the last years.

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