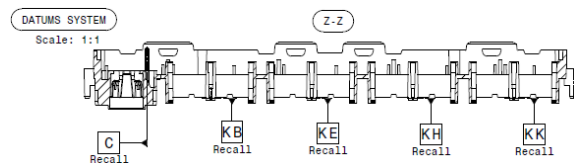
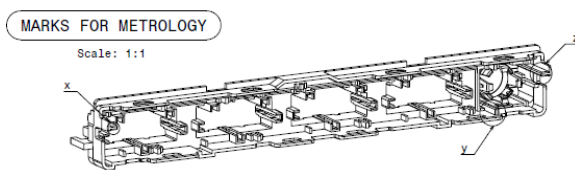


## RESEARCH AND INVESTIGATION REGARDING THE QUALITY IMPROVEMENT AT 3D MEASURING OF INJECTED PLASTIC PARTS

### Goal of the project

To transfer knowledge to the technical staff from the quality department in order to improve the quality of the parts by understanding the geometrical product specification method (GPS) and the 3D measuring strategies used to measuring the injected plastic parts from the automotive industry.



### Short description of the project

Developing the 3D measuring strategies for the injected plastic parts according to the GPS.

### Project implemented by

3D Measuring Laboratory/Quality department, S.C. PLASESS SRL, Romania

### Implementation period

21.07.2016 - 30.09.2016

### Main activities

- study the real plastic parts and their drawings
- identify the datums and define the parts coordinate systems
- establish the measuring strategy in Tactile Coordinate Metrology, according to the characteristics of the part, shape, accuracy and the quality of the real part (warpage of the part caused by shrinkage)
- 3D measuring program: datums measuring, features measuring, establishing the number of measuring points and their distribution on the surface
- 3D measuring of the plastic parts on a CMM with contact sensors
- analyse the measuring results and establish the factors which may lead to effects on the measuring result and measuring uncertainty

### Results

Transfer to the technical staff of the company the drawings interpretation method according to the GPS, tolerance analysis and 3D measuring strategies in order to improve the quality of the products. For each plastic part studied were formulated conclusions regarding the measuring strategies and the factors which lead to the effects on the measuring results and measuring uncertainty.

### Applicability and transferability of the results

All the research results are transferred to the company. These results lead to an improvement in 3D measuring process by reducing measuring time, costs and measuring uncertainty. Based on these results, in the mold testing phase, some corrections at the injection mold can be made. During the part production period the results could be used to change the injection process parameters in order to fit the part in the technical specifications.

### Financed through/by

S.C. PLASESS SRL, Romania

### Research Centre

Integrated Engineering Research Center

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