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REVERSE ENGINEERING AND FORMING SIMULATION OF INDOOR OF AN AUSTENITIC DISHWASHER.

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Abstract.

Majority of automotive, aerospace and appliances components have been designed for a methodology based on metal forming simulation. Besides this, there is a growing demand for new products, with more complex geometric design and production time shorter. Fortunately, nowadays we have more tools intended sheet metal forming simulation and reverse engineering like HyperWorks and Geomagic Design

In this paper a real case of electrical appliance component "Door Lining of an austenitic dishwasher" is discussed. The main objective is to develop a methodology to combine and evaluate several tools employed in the Reverse Engineering and the Forming Simulation.The basic steps used for conducting the door lining forming simulation, including the reverse engineering process, are given next.

The process begins with the 3D scanning and point cloud processing to generate a CAD Surface; furthermore the cad model inspection and quick feasibility study for the blank development; besides that, the tools generation for the triple action draw to the incremental formability analysis; finally, the thickness comparison and whole deviation between the simulation results and the real part.