Simulation Study on Influence of Blank Alignment in Deep Drawing of Circular Cups

The blank alignment in deep drawing process is very much essential for draw of quality pars. The use of FE simulation software to predict the forming quality of various sheet metal forming processes such as deep drawing, enhances the efficiency and lowers the development time and cost. The deep drawing tests through numerical simulation were conducted to determine the effects blank alignment error with center of the die and punch tool assembly. The deep drawing tests were conducted on AA6111 aluminum alloy with 2.5 mm, 5 mm, 7.5 mm and 10 mm alignment error. The deep drawing process was simulated using the FE code PAM-STAMP. Having knowledge on error tests helps to take preventive measures for proper alignment in drawing of defect free parts.

***Keywords*:** Deep drawing, Blank alignment error, FE simulation, PAM-STAMP