



**INVESTIGATION OF THE RAPID PROTOTYPING MACHINE (MULTI JET
MODELING) CAPABILITY IN PRODUCT DESIGN**

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ABSTRACT

This paper focuses on design and fabrication method of specimens with different geometry using multi jet rapid prototyping machine and on the investigation of the affecting factors on product quality, such as dimensional geometry, part strength, hardness and surface finish. Part strength and hardness will be tested and investigated after post heat treatment and under environmental exposure. Dimensional geometry and surface finish will be determined based on following aspects such as part orientation, part location, part thickness, environmental exposure and wall thickness etc. The specimen design will be in form of solid and hollow cubic/plate/circle. The measurement will be taken by using highly precise testing or measuring machine such as Tensile and Hardness test machine, Coordinate Measuring Machine (CMM), Profile Projectors Machine and Stylus for surface roughness. The finding of this research will be useful for obtaining important aspect such as quality, cost and time in order to develop a new model design for research and development.

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