

A predictive model for dimensional errors in fused deposition modeling - DTU Orbit (08/11/2017)

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This work concerns the effect of deposition angle (α) and layer thickness (L) on the dimensional performance of FDM parts using a predictive model based on the geometrical description of the FDM filament profile. An experimental validation over the whole a range from 0° to 177° at 3° steps and two values of L (0.254 mm, 0.330 mm) was produced by comparing predicted values with external face-to-face measurements. After removing outliers, the results show that the developed two-parameter model can serve as tool for modeling the FDM dimensional behavior in a wide range of deposition angles.

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