Accepted Manuscript

Dimensional accuracy analysis of coupled fused deposition modeling and vapour smoothing operations for biomedical applications

Jasgurpreet Singh Chohan, Rupinder Singh, Kamaljit Singh Boparai, Rosa Penna, Fernando Fraternali



PII: S1359-8368(17)30152-X

DOI: 10.1016/j.compositesb.2017.02.045

Reference: JCOMB 4932

To appear in: Composites Part B

Received Date: 14 January 2017

Accepted Date: 28 February 2017

Please cite this article as: Chohan JS, Singh R, Boparai KS, Penna R, Fraternali F, Dimensional accuracy analysis of coupled fused deposition modeling and vapour smoothing operations for biomedical applications, *Composites Part B* (2017), doi: 10.1016/j.compositesb.2017.02.045.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

DIMENSIONAL ACCURACY ANALYSIS OF COUPLED FUSED DEPOSITION MODELING AND VAPOUR SMOOTHING OPERATIONS FOR BIOMEDICAL APPLICATIONS

Jasgurpreet Singh Chohan

Research Scholar, I.K.G. Punjab Technical University, Kapurthala, 144601, India E-mail: jaskhera@gmail.com

Rupinder Singh

Professor, Production Engineering Department, GNDEC, Ludhiana, 141006, India Email: rupindersingh78@yahoo.com

Kamaljit Singh Boparai

Assistant Professor, Mechanical Engineering Department, MRSPTU, Bathinda, 151001, India Email: kamaljitboparai2006@yahoo.co.in

Rosa Penna

Post-Doctoral Scholar
Department of Civil Engineering
University of Salerno, Italy
84084 Fisciano (SA), Italy
Email: rpenna@unisa.it

Fernando Fraternali

Professor of Structural Mechanics Department of Civil Engineering University of Salerno, Italy 84084 Fisciano (SA), Italy Email: f.fraternali@unisa.it

ABSTRACT:

Fused Deposition Modelling (FDM) is one of the most extensively used Additive Manufacturing technique which has substantially shortened the product development time and cost. The application has been extended to fabricate biomedical implants through investment casting process. But the FDM replicas exhibit poor surface quality which requires further post finishing. Thus, it is very difficult to achieve adequate dimensional accuracy as surface finishing techniques resulted in material removal and erosion of upper surface. The

Download English Version:

https://daneshyari.com/en/article/5021749

Download Persian Version:

https://daneshyari.com/article/5021749

Daneshyari.com