A Study of the Effect of Process Variables on the Stamp forming of Rectangular Cups using Fibre-Metal Laminate Systems

L. Mosse^{1,a}, W. Cantwell^{2,b}, M. J. Cardew-Hall^{1,c}, P. Compston^{1,d} and S. Kalyanasundaram^{1,e}

¹Department of Engineering, FEIT, Australian National University, Canberra 0200, Australia ²Department of Engineering, University of Liverpool, L69 3GH, United Kingdom ^aLuke.Mosse@anu.edu.au, ^bW.Cantwell@liverpool.ac.uk, ^cMichael.Cardew-Hall@anu.edu.au, ^dPaul.Compston@anu.edu.au, ^eShankar.Kalyanasundaram@anu.edu.au

Keywords: forming, composite, laminates.

Abstract. The quality of the part and the robustness of the process in stamp-forming of sheet materials are determined by a number of variables. This study looks at the application of the stamping process to a Fibre-Metal Laminate (FML) material system and the effect of the process variables on the formability characteristics of these material systems. The effect of pre-heating temperature on the splitting and wrinkling behaviour has been investigated for two different FML systems. It has been found that different FML systems exhibit different failure modes.