A BROAD PERSPECTIVE OF FORMING BEHAVIOUR DURING PREFORMING AND CURE OF PREPREG COMPOSITES

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KEYWORDS: Hot Drape Forming, Radius Thinning, Bulk Effect, UD-prepreg System Friction, Forming Forces, Thermoplastic Toughener

INTRODUCTION

Radius thinning after cure of UD-prepreg (Uni Directional) laminates, creases after Hot Drape Forming of UD-prepreg and bulk effect of the prepreg are well known phenomena in composites manufacturing. All these phenomena are related to each other since they are all depending on the size of the shear forces which are built up in the laminate during the processes.

BODY OF THE ABSTRACT

The work in this paper has been performed to explain the influence of material and process behaviour on the phenomena above.

The experimental work has been performed both in laboratory scale and manufacturing equipment.

In this work the shear forces that creates the radius thinning and the HDF behaviour were found to depend on the stiffness and friction in the bag material

The effect of the applied shear forces (on the prepreg lay-up) were found to depend on the friction in the prepreg system.

The friction in the prepreg system was found not only depending on the viscosity of the matrix. Other material parameters were found to have a greater influence on the friction of the prepreg system.

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