

INTRODUCTION TO COMPOSITES -- MFG555

Fall 2011 – Exam 2

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Name: \_\_\_\_\_

All problems have the same value, although some problems may have several parts.

1. You work for a company that is making shells for snow mobiles out of fiberglass and polyester composites and the company has just decided to change their manufacturing process from spray-up to resin infusion. You have just started up the resin infusion process using the VARTM method and have found that several places in the preform have not been fully wetted. Give two possible causes and two corresponding solutions for the problem and in both cases list two negatives that you might encounter with each solution.

Solution 1

Solution 2

2. Identify in two or three sentences or appropriate diagrams and with sufficient detail to uniquely characterize the following terms:

a) Nomex honeycomb

b) scarf joint

c) bleeder layer

d) fiber tow

a) BMC

3. You work for an automotive company that is using compression molding to make body panels. You have been tasked with the job of reducing the molding time. Suggest and explain (justify) two methods in which you might accomplish this task and with each method suggest two negatives that might have to be overcome.

Solution 1

Solution 2

4. Give three reasons why vacuum bagging is almost always required for prepreg manufacturing but is rarely used for wet layup.