



Case Studies

PROJECT: Interior Tram Ceiling Components

CLIENT: State Government Contract – Replacement Parts

LOCATION: NSW, Australia

PRODUCT: Auspreg UV MTT 964 VE

DESCRIPTION: UV Curable VE + Modar FR Triaxmat 750+CSM 600

YEAR OF PROJECT: 2005

OVERVIEW: A manufacturer of interior passenger tram parts was seeking a faster, cleaner, easier methodology for producing large quantities of each of up to a dozen different shaped internal parts without needing autoclaves and expensive moulds. Products needed to be light weight, strong, flame resistant to Fire, smoke and toxicity transport standards BS 476 parts 6 & 7, able to meet transport rated flexural requirements and offer a cost effective alternative to wet hand lay composite manufacturing methods or resin infusion.

The company produced first prototype samples using Australian Composite's UV curable FR + Modar pre-preg. A single layer of Auspreg UV MTT 964 was applied to moulds by hand. The approximate thickness prior to vacuum bagging was 2mm. The prepreg was smoothed out into the edges of the mould and vacuum bagging film placed onto the prepreg. Suction to 0.8 bar was applied. The Triaxial reinforcement was selected to provide strength from the twisting motion in all direction experienced by internal transport parts.

A row of 4 metal halide lights per part was set up to ensure the whole part was exposed to light. Parts were also cured outside in direct sunlight. Curing took 10 minutes inside and 6 minutes outside.

A gel coat was applied initially with the chop strand mat side placed against this. The finish was smooth with no show through of the fibreglass pattern.

Auspreg UV light curing material was selected for its ability to provide increased parts manufacturing compared to wet hand lay up whilst meeting all the necessary safety standards for material used in transport applications.

