

# Case Study

## Reduce cost of radio frequency press operations

### Project background

A large manufacturer of composites for aerospace customers ran production 7 days a week, 24 hours per day.

Cost of radio frequency press operations was excessive and management were unclear whether the press process led to scrapped product later in the production cycle.



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### Problem

Management perceived that the radio frequency press used for composite core production was a high cost work centre and sought to reduce costs of operating the press without increasing defects. A Lean Six Sigma project was set up.

The team discovered that the customer required that the core performed to specification for plate shear and compression, whilst management wanted no resin bonding failures, hardware component failure predictive information and to validate that the press process was not contributing to failures downstream.

The team found excessive data capture and but little analysis of the effects of the key parameters on the process. 15 operators determined the temperature and time variables when pressing the next 'similar' block. They decided cycle time from previous cycles, which may have been months earlier for similar material. The team noted excess variation in operator interpretation of block to block processing time.

### Solutions

Overall equipment effectiveness studies were set up.

Visible instructions for operators for processing key input parameters were introduced to minimise operator to operator time interpretation for the required processing time.

These guidelines were supported by correlation studies for time and temperature and statistical process control techniques were introduced, linked to more robust control plans.

Power usage calculations were introduced to scheduling to ensure high power usage production was carried out in cheap rate electricity periods

### Business benefits

Reduced recording of block temperatures and better understanding of process cycle time parameters, saved \$70K per year in press energy cost. Additional business benefits were realised in the cost of replacing rejects and increased opportunity to make alternative saleable products in a bottleneck operation.