

# Case Study

## Car seat foam scrap reduced



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### Project background

A manufacturer of three million foam pads per annum for production of complete seats for the automotive industry operated a three shift system on 3 carousel lines. The three most frequently occurring foam fault types from 100 product variants in all production lines in the plant featured high on the problem lists of foam manufacturing plants worldwide.



### Problem

The reported foam scrap rate was running at 1% of production. Hard costs were €100,000 p.a. excluding any related late delivery or customer satisfaction effects. 50% of the scrap was due to tears, voids and inserts.

The foam was being torn during removal from the mould or was sticking to the mould. Air pockets were forming within the foam causing a 'void' in the finished pad, due to dirty air vents. Furthermore, variation in operator performance and process resulted in trim wires being missing or in an incorrect position.

At a plant level there was inconsistent reporting of scrap and its causes, so that management were unaware of the true scale of problem.

### Solutions

The Black Belt led the team to conclude from multi-vari studies and hypothesis tests that the top 3 scrap outputs were correlated to a key variable in the shift to shift family of variation. They discovered a systematic way of addressing operator performance differences particularly between shifts.

The team then determined the best level of base wax application to the mould to aid foam removal. New standard operating procedures were written for correct insertion of the trim wires. The operators were re-trained to new standard operating procedures.

A Total Preventative Maintenance (TPM) system was introduced to ensure air vents were cleaned on regular basis. A new scrap recording system was implemented to correct track issues and to speed up any rectification not already eliminated.

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### Business benefits

Scrap due to tears, voids and inserts was reduced by 60%. The ideas from this project were shared so that €60,000 savings in one plant were repeated across six other foam plants within the group