



Plastics Systems

## Kautex Textron Mallersdorf

**Project:** Deflashing saddle tank F1X  
**Customer:** Kautex Textron GmbH  
**Technology:** New development of a fully automated deflashing station

Kautex manufactures plastic fuel tanks for new vehicle models. Given that these tanks - which are manufactured in a coextrusion process - are installed amongst others in North America they have to be in conformity with the legal regulations as to the emission of hydrocarbons.

Although the 6-layer coextrusion structure prevents the permeation of fuel vapours, excess material - also called flash - has to be removed from the tank after the extrusion blow moulding procedure. For minimizing the risk of damaging the mash seam when deflashing this step should be automated.

### **Project scope realized by SAR:**

- Requirements list
- Evaluating different deflashing methods
- Establishing a concept for the favoured die solution
- Dimensioning calculations for the deflashing force to be applied
- Detail engineering and generating the corresponding drawings

By request of the customer, deflashing by means of a die has been chosen as solution after having evaluated the different methods, because this process offers great potential also for other products.

During the process of removing excess material the tank is supported by means of contour pieces and pressed through a die which for its part consists of single segments perfectly matching the geometry of the fuel tank and being adjustable relative to one another. The die parts that can be made of commonly used steel offering the advantage that the cutting edge is almost wear-free and cheap to manufacture.

The critical areas of the saddle tank - fixing attachments and fuel filler neck - are perfectly supported using some contour pieces. To remove excess material safely from the fuel filler neck, the die is recessed in this area. A guided blade with separate stroke cuts through this part prior to the deflashing process itself.

SAR implemented this development and realized a completely automated production of the Audi B8 fuel tank at the Kautex facilities in Mallersdorf. After deflashing, a 6-axis industrial robot ensures that the tank is transported to the further process steps called „component scales“, „label station“ and „tightness check in the water bath“.



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