

# FIBRE-REINFORCED PLASTICS THE INVISIBLE STRENGTH

## polyplex

### *The standard for*

- *Vehicle construction*
- *Mechanical engineering*
- *Electrical engineering*
- *Transportation*
- *Aviation*
- *Construction*
- *Sanitary sector*



*We are established as significant  
Swiss supplier Europe-wide*



DAIMLER SUPPLIER AWARD 2009

CATEGORY:

TRUCKS AND BUSES - EXTERIOR

## SMC - hot compression moulding



Front panel

Bumper

Bumper corners

Customer: DaimlerChrysler - EvoBus „Top Class 400“

- *just-in-time production aligns perfectly with customer needs*
- *high quality with grey cast iron moulds*
- *ready for decorative painting and perfect finish*





*Cover*

*Vacuum lid*

*Front section*

*Vacuum packaging machines for foodstuffs - SMC-process*

- *highest hygienic surface-finish requirements*
- *partial wall thickness: 45 mm*





# Moulding compounds in perfection

*Our machinery includes:*

- SMC-, BMC-, CF-SMC-presses
- Presses from 150 to 2'500 tonnes pressure
- CNC milling machines
- Tool and mould making
- State-of-the-art paint shop



## **SMC- and BMC hot compression moulding**

*The material is processed in press tools as resin mats, consisting of thermoset resins and glass fibres, to create components that meet demanding technical requirements. In particular SMC and CFRP achieve very high mechanical values that reach into the high-performance composite material class.*

*The excellent flow behaviour of SMC/BMC/CFRP means that complex moulded parts can be created which combine many individual parts in one component. The classified resin mat types fulfil special requirements such as Class "A" colouring and rigidity.*

*Another plus is the temperature stability from minus 40 °C to 160 °C.*

*Other arguments for the successful use of these technologies are:*

- short cycle times
- very good price-performance ratio (pressing, painting, completion)

*contour milling machine*



*paint shop*



## Shaped parts at your fingertips



Front

Door

Base

Customer: Gossenbacher - Temperature control unit  
SMC-process, with structured surface and pad  
printing

- Besides high-performance technology: it's all about people!
- Our competent and reliable employees working together to re-write the quality and success story every day and our customers are feeling it.





## Take advantage of our know-how



Roof spoiler

“

Customer: Irmischer Opel Corsa-L  
SMC-process, surface Class "A“

- Benefit from long-term experience and the most recent technical insights
- As early as during phase of design we start by offering expert advice and jointly draw up the requirement profile
- Thereby we work closely with the customer, seeking consensus with its specialist departments
- Thanks to lean structure and fast manufacturing processes - one step ahead
- Just-in-time production aligns perfectly with customer needs
- Synergy effects



## Plastic is our passion



Customer: DaimlerChrysler - EvoBus  
„Coach Travego“

*The good things in life still exist:  
SMC-sheet moulding compound*



## Hand lay-up production (GFRP)



Hand lamination is widely used for the production of parts in various dimensions, especially of large parts. It is considered as the oldest production method of FRP composite products.

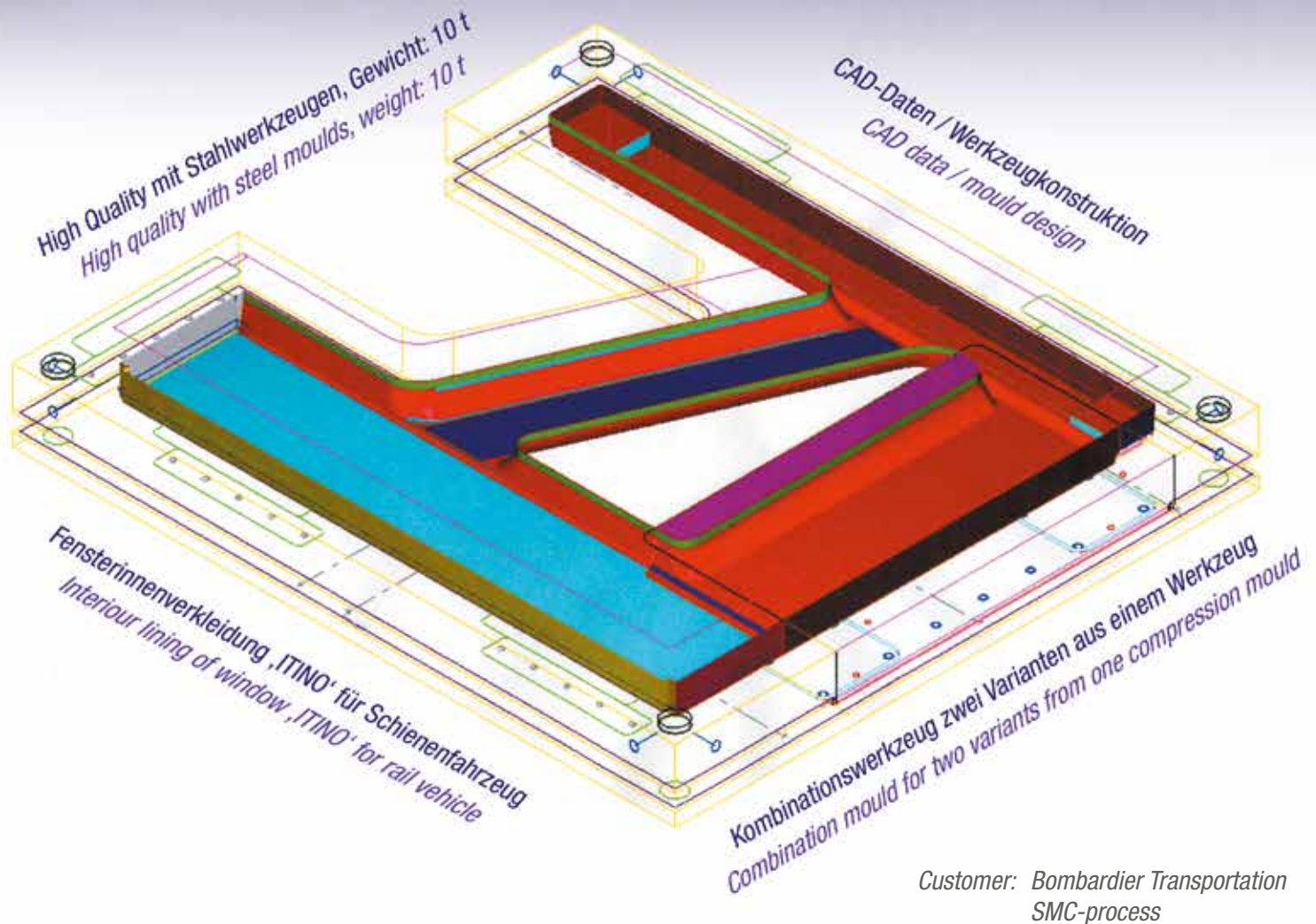
### Benefits of hand lay-up manufacturing

- very flexible design and shape
- low costs
- Ideal for small quantities





## Increase profitability, reduce costs



**The key to success in processing SMC is the Polyplex moulding technology**  
prototype tool, grey cast iron mould, steel mould

- For small and medium-sized production runs grey cast iron moulds are used with great success: „DaimlerChrysler - EvoBus“ appreciates this moulding technology for years.
- The advantages of grey cast iron moulds over steel moulds, which are used depending on the requirements profile, are: enormous savings and faster mould manufacturing at the same quality.



## Materials and techniques



Customer: Hilti, glue gun  
SMC-process

- As a manufacturer in plastics processing we are able to draw from a large pool of knowledge and 40 years experience. We are familiar with many different types of material to meet the widest variety of challenges.

The manufacturing processes used are:

- SMC-, BMC-, GMT-compression moulding
- CF-SMC compression moulding
- Vacuum evacuation
- Hand lay-up laminate
- Expanding epoxy
- Prototype construction

Fibre-reinforced plastics offer a wide scope of functions and comfort:

- design-friendly
- strong, light-weight and dimensionally stable
- high quality
- corrosion-resistant
- environmentally sound and recyclable
- economical

We use our own paint shop for perfect surface finishing.



Underbody protection, C-SMC



Medical technology, digitizer housing, undercoated and varnished, suede-like surface





## *Perfection made of plastic*

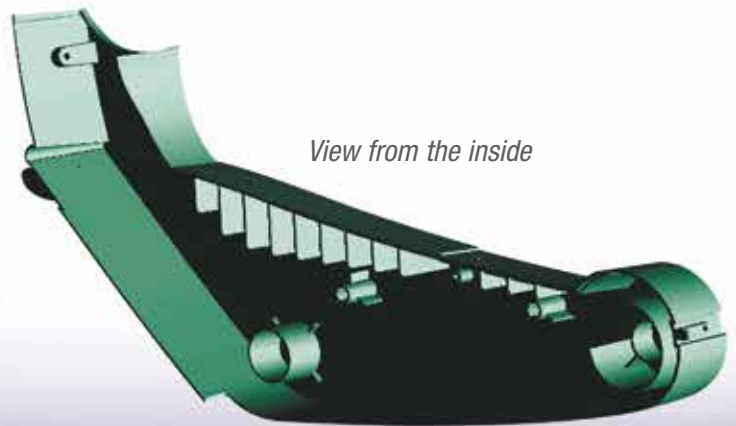


*Bull bar  
with collision barrier and step*



*Customer: Recaro for American Airlines  
(Aircraft seating)  
SMC-hot compression moulding*

- fulfils all requirements of the aviation sector*



*View from the inside*





*Grey cast iron mould  
Measure: 2000 x 1500 x 1100 mm  
Weight: approximately 5 t*



*Customer: DaimlerChrysler - EvoBus  
„Luxury coach BR400“  
bumper corners front L/R BR400*

- Grey cast iron moulds are being used for more than 20 years with great success*





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