

Audi Q7 bumpers

The supplier

The front and rear bumpers of Audi's new SUV generation, the Q7, are manufactured and painted by Germany's REHAU. The company is a world leader in polymer-based innovations and systems, and its products can be found in every third car built in Europe and in nearly every top-of-the-line model.

Founded in 1948, REHAU today employs 14,000 people and operates from more than 170 locations in 54 countries. In 2005, turnover in Germany totalled EUR 1 Bn.

The case

To cope with increasing cost pressures, it is vital for automotive industry suppliers like REHAU to reduce development times and boost productivity (low cycle time, low scrap rate). With Audi Q7 bumpers, product consistency is also a key issue since the same material is used for the Audi TT bumper.

At the same time, both REHAU and Audi recognise that consumer quality perceptions are steadily rising, so expectations are high regarding surface aesthetics, dimensional stability and low gap tolerances.



The challenge

To meet these demands for the Audi Q7 bumpers, REHAU required a material that would satisfy all of the following criteria:

- Excellent impact stiffness/ratio
- Narrowest gap tolerances
- Highest surface aesthetics
- Dimensional stability
- Excellent paintability

The solution : Daplen™ ED223AE

Daplen ED223AE is a 20% mineral and elastomer modified polypropylene compound for injection moulding with an excellent impact/stiffness ratio. The superb surface aesthetics, very low CLTE values and excellent paint adherence were among the other key determinants in choosing this material.

Benefits of Daplen ED223AE

- Compliance with Audi specification
- Superb surface aesthetics
- Provides narrowest gap tolerances
- Very low CLTE

Daplen ED223AE	Physical properties (typical values)
MFI 230/2.16 [g/10 min]	9
E-Modulus [MPa]	1,300
Charpy notched impact +23°C [kJ/m²]	67
Charpy notched impact -20°C [kJ/m²]	10.5
CLTE [µm/mK]	50
Mould shrinkage [%]	0.75



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