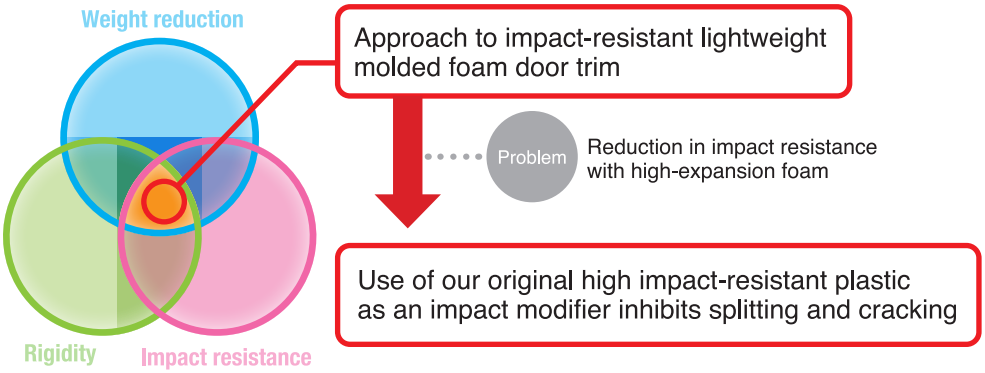
Lightweight Molded Foam Door Trim with High Impact Resistance

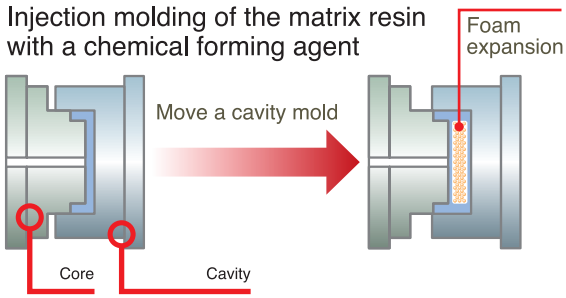
This door trim utilizes Toyota Boshoku's high impact-resistant plastic, a plastic material featuring world-class impact resistance. Our foam molding technologies enable us to create a door trim that reduces weight by approximately 20% compared to conventional base materials while maintaining high impact resistance.

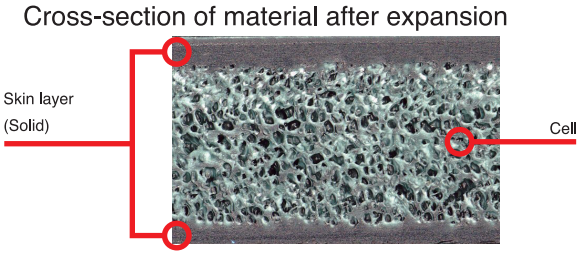
Vehicle: TOYOTA CROWN

Design concept



Foam molding process





Mechanism in suppressing splitting

During an impact, the soft rubber within the "salami" structure efficiently generates crazing*, dispersing and absorbing the energy of the impact.

Craze: Generation of microscopic cracks when energy is input in an impact.

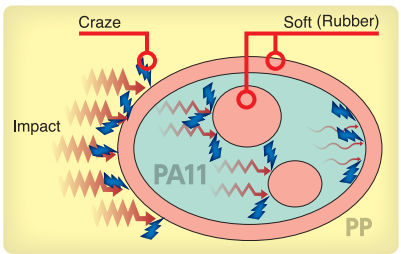
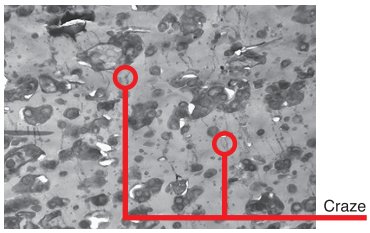


Illustration of impact absorption



Transmission electron microscope image of material after vehicle collision test

TOYOTA BOSHOKU

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