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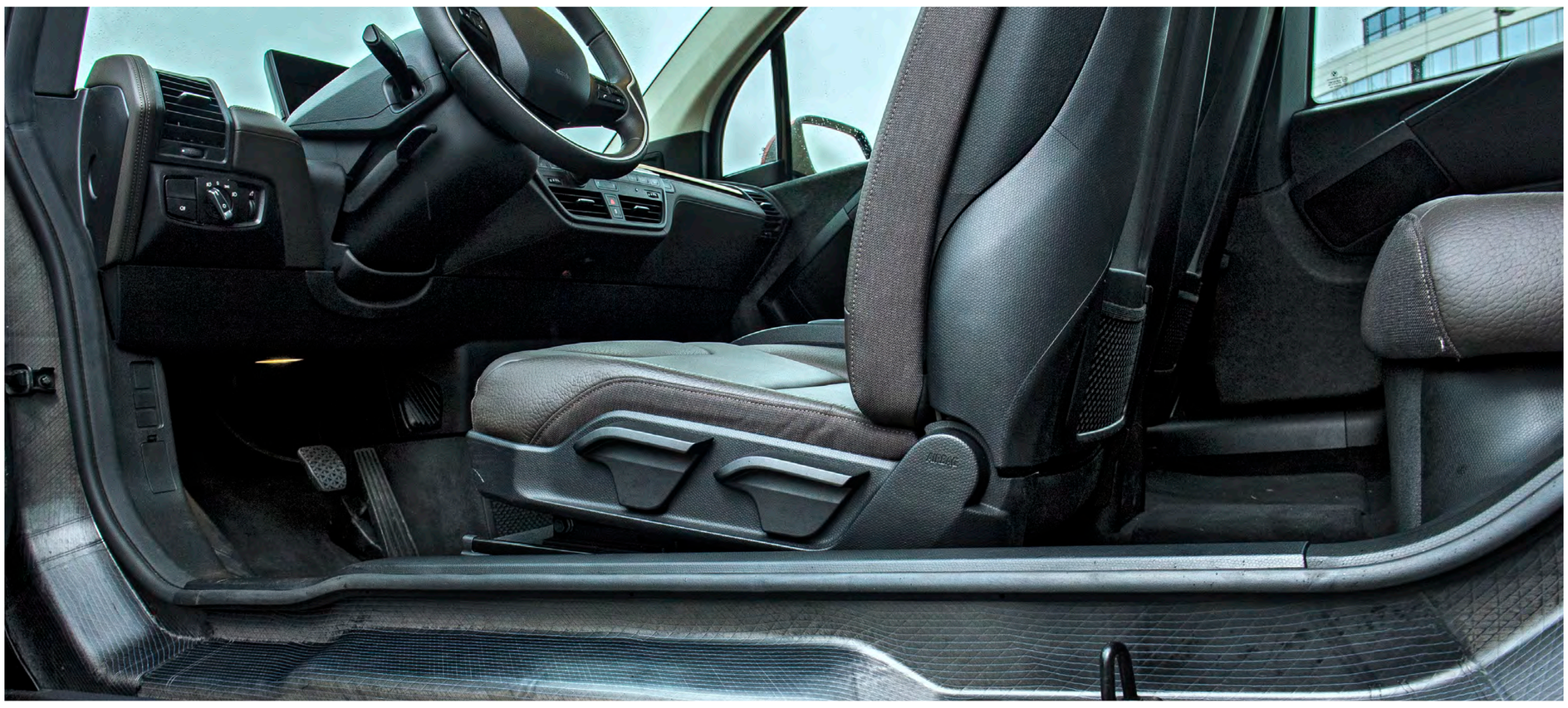
Dow Automotive Systems

BETAFORCE™ Structural Polyurethane-based Adhesives for Automotive Lightweight Applications

BETAFORCE™ structural adhesives are designed for demanding automotive applications. The two-component polyurethane adhesives enable lightweight vehicle construction for significantly reduced carbon dioxide emissions, fuel consumption and pollution by durably joining thermo- and duro-plastic substrates in the trim shop. The use of plastic substrates, especially fiber-reinforced epoxy-based composites is increasing significantly for maximum weight savings.

- BETAFORCE was developed to combine a high durability of the joint at high static and dynamic force levels. Humidity exposure resistance is proven to be excellent.
- Following the development of this new adhesive technology, special pre-polymer, polyol and accelerator technologies were developed offering superior thermal modulus stability and excellent adhesion to challenging substrates like coated metals or carbon fiber-reinforced plastics (CFRP) and highest bulk elongation for superior energy absorption under crash conditions.
- BETAFORCE is the key structural joining solution on the BMWi3 carbon fiber compartment. The specific grade of BETAFORCE used on the i3 model was optimized to meet BMW process requirements including a cycle time of one minute, open times that can be adjusted to accommodate specific mounting requirements in the plant (such as a quicker curing time by infrared treatment), and technology that allows for initial adhesion requiring no additional fixing tools.



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