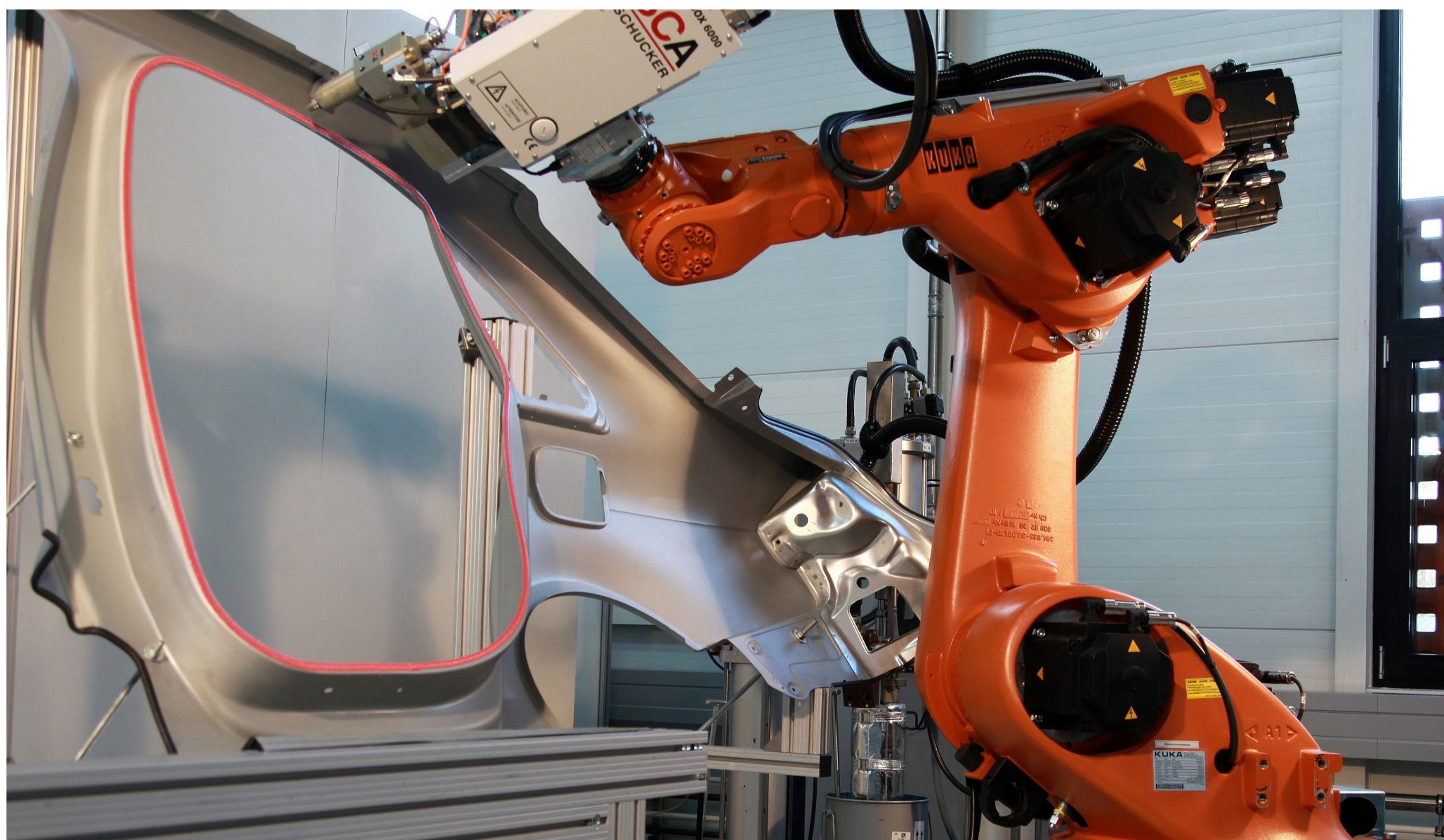


NOMINEE



Dow Automotive Systems BETAMATE™ Crash Durable Adhesive

BETAMATE™ Crash Durable Adhesive (CDA) from Dow Automotive provides a reliable joining solution for multi-material designs enabling OEMs to use advanced ultra-lightweight materials to reduce weight and improve fuel economy.



- The new 2014 Chevrolet Corvette uses continuous aluminum hydro-formed main frame rails. The main rails each feature five aluminum segments, including extrusions at each end, a center main rail section and hollow-cast nodes at the suspension interface points. All rails consist of as-received aluminum, chemically treated aluminum and cast aluminum chassis. Manufacturing is done in the body shop.
- The all-aluminum frame is 99 pounds lighter and 57% stiffer than the previous steel hydro-formed rail-based frame.
- Choosing aluminum over steel for the frame and utilizing the adhesive bond line distributes the stresses over a continuous area.
- Use of adhesive and mechanical fasteners eliminated significant arc welding content and concerns about heat effect zones and thermal distortion.
- Benefits of the BETAMATE CDA include increased load bearing capability, static and dynamic stiffness. These lead to improved safety and crash behavior, reduced vibrations and noise, optimized ride, driving and handling characteristics and extending the vehicle life span and long-term value via higher durability.



Automotive Systems

Presented in collaboration with:

CAR
CENTER FOR AUTOMOTIVE RESEARCH