

DuPont Automotive

Innovation Spotlight: DuPont™ Zytel®



PART OF THE 2016 SPE
AUTOMOTIVE INNOVATION
AWARDS PROGRAM
PROCESS / ASSEMBLY /
ENABLING TECHNOLOGIES
CATEGORY

Assisted Positive Locking Junction Box

Application

First single lever self-locking electrical center. Developed by system supplier, Yazaki North America, for General Motors.

Unmet Need

Managing the ever-increasing electrical load on today's vehicles requires optimizing engine compartment packaging space while providing additional capacity within the electrical center.

Challenges

- Component must be able to withstand harsh under-the-hood operating conditions.
- Component must be easy to assemble in a quick and safe manner.

Solution

The unique Yazaki design:

- Provides a 10% reduction in footprint size, enabling more content or reduced engine compartment size.
- Enables an additional 8% spare electrical content.

- Reduces weight by 7% for greater fuel efficiency and lower shipping costs.
- Enables improved sealing to ensure that water, dust and other contaminants remain outside of the critical areas of the electrical center—even during shipping and handling.
- Is more ergonomically friendly to assemble, requiring less time and significantly less operator effort.

DuPont Material Chosen and Why

DuPont™ Zytel® glass-reinforced PA66 was chosen for this application due to its excellent balance of properties, specifically:

- Strength and stiffness
- Dimensional stability
- Resistance to elevated temperatures and chemicals found under the hood
- Ease of processing/good moldability



For more information on the Assisted Positive Locking Junction Box and other SPE award winners and finalists, visit the [SPE Automotive Innovation Awards website](#).

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