



## Safety

# Volt Battery Impact Shield

### *OEM/Vehicle*

**General Motors  
2017 Buick Enclave**

### *System Supplier*

**CSP Teijin**

### *Material Processor*

**CSP Teijin**

### *Material Supplier*

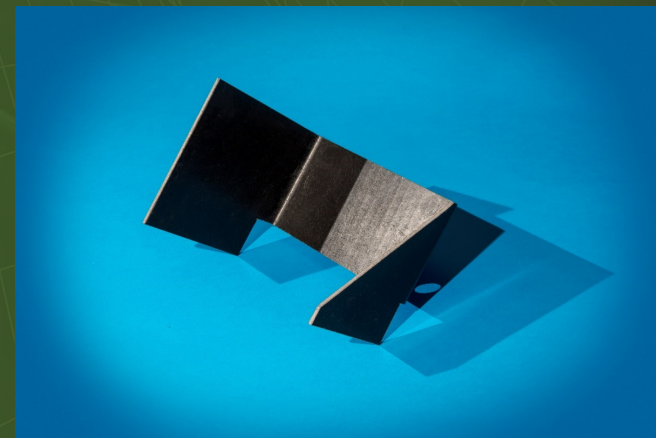
**Quadrant Plastic Composites**

### *Resin*

**GMTex X103F61-4/1-0/90° PP**

### *Tooling/Equipment Supplier*

**Laval Tool and Mould**



This low cost, simple crash barrier protection shield boasts rapid development and implementation with innovative materials and molding. Six parts were molded together as one mold, requiring calculating the materials reaction when secondary waterjet cuts out each piece. Three composite material constructions were tested (polypropylene with 40%, 50% then 60% glass) while tooling and 12 sets of prototype parts were developed over a 6 week period. A test vehicle was crashed, with production intent parts, passing all test criteria the following week. Production tooling and fixtures were also completed during that time (week 7). Full production was initiated in week 12. A 75% mass and 60% cost saving vs traditional high strength steel stamping with metal fabrication was achieved.