AUTOMOTIVE PLASTIC PRODUCTS ARE PRODUCED AT 1,591 PLANTS LOCATED IN 45 STATES. THESE PLANTS DIRECTLY EMPLOY 63,075 PEOPLE AND FEATURE A PAYROLL OF $3.3 BILLION.

STATE AUTOMOTIVE PLASTICS SHIPMENTS: MICHIGAN (OVER $5.3 BILLION), INDIANA (OVER $2.2 BILLION), OHIO (OVER $3.2 BILLION) AND TENNESSEE (OVER $1.6 BILLION).

THE VALUE OF AUTOMOTIVE PLASTIC PRODUCTS PRODUCED IN THE UNITED STATES WAS $21.3 BILLION.

CARBON FIBER HAS THE POTENTIAL TO REDUCE THE WEIGHT OF SOME VEHICLE COMPONENTS BY 75 PERCENT.

CF PLASTIC COMPOSITES CAN ABSORB UP TO 12 TIMES THE CRUSH ENERGY OF STEEL.

THE USE OF ADVANCED PLASTICS AND COMPOSITES IN AUTOMOTIVE HAS DOUBLED IN THE LAST 25 YEARS.

LIGHTWEIGHTING ONLY THE ASSIST STEP ON ALL 2007 TRAILBLAZERS SAVES THE EQUIVALENT ENERGY OF 2.7 MILLION GALLONS OF GASOLINE.

TODAY’S PLASTICS TYPICALLY MAKE UP 50% OF THE VOLUME OF A NEW LIGHT VEHICLE BUT LESS THAN 10% OF ITS WEIGHT, WHICH HELPS MAKE CARS LIGHTER AND MORE FUEL-EFFICIENT, RESULTING IN LOWER GREENHOUSE GAS EMISSIONS.

TODAY’S LIGHTWEIGHT PARTS ARE ESSENTIAL TO HELPING MANUFACTURERS REDUCE VEHICLE MASS AND ACHIEVE INCREASED STANDARDS BY THE YEAR 2025.

THE BUSINESS OF CHEMISTRY IS A $565 BILLION ENTERPRISE PROVIDING OVER 544,000 SKILLED AMERICAN JOBS.

WE ARE WORKING TO PROVIDE MANUFACTURERS WITH ADDITIONAL WAYS TO INCREASE PLASTICS IN AUTOMOTIVE, REDUCE VEHICLE WEIGHT AND LOWER GREENHOUSE GAS EMISSIONS.

THE USE OF ADVANCED PLASTICS AND COMPOSITE AUTOMOTIVE APPLICATIONS INCLUDING: EXTERIOR BODY PANELS, TRIM, AND BUMPER FASCIA, AS WELL AS INTERIOR TRIM PANELS, TRIMTACTS, FLOOR MATS, WINDOW CRANKS AND RAMPS, PRACTICAL AND BLADE COMPONENTS, DASHBOARD, INTERIOR PANELS AND RINGS, BUMPERS AND COVER PLATES, STEERING WHEELS AND STERING, AIRBAGS, SAFETY GLASS, EXHAUST, MANUFACTURING PLASTIC AND COMPOSITES, KNOBS AND BUTTONS, WIRING AND ELECTRICAL, SIDE LIGHTS, HEADLAMP HOUSINGS AND LENSES, MANIFOLDS AND VALVE COVERS, OIL PANS AND FUEL TANKS, UNDERBODY SHIELDS, TRUNK WELLS, WHEEL-WELL LINERS, ELECTRONIC/ELECTRIC PARTS AND COMPONENTS, CARBON FIBER, SAFETY GLASS INSERTS, TIRES, AND ON AND ON AND...

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MORE THAN 96% OF ALL MANUFACTURED GOODS ARE DIRECTLY TOUCHED BY THE BUSINESS OF CHEMISTRY, INCLUDING THE AUTOMOTIVE INDUSTRY.
AUTOMOTIVE LIGHTWEIGHTING WITH PLASTICS RESULTS IN REDUCED FUEL USE AND CO₂ EMISSIONS

FORD TAURUS FRONT END BOLSTER CRADLE-TO-GRAVE LCA
A cradle-to-grave, ISO compliant LCA for the bolster considered a total service life of 150,000 miles:
• A 46% lighter plastic bolster on the 2010 Ford Taurus replaced the 2008 plastic and steel bolster
Conclusions:
• Lighter plastic products performed better than the steel products for global warming potential and primary energy demand
• Even greater benefit potential exists when further mass reduction allows drivetrain reductions and adaptions, increasingly likely under new CAFE standards

ENERGY AND COMMUTER SAVINGS EQUIVALENTS
Lightweighting this automotive component on all 70,666 Ford Taurus 2010 models reduces the emission of greenhouse gases by the equivalent of combusting over 770,000 gallons of gasoline over the life of the vehicles, which is equivalent to removing 907 commuters from area roads for a year. Additional plastics lightweighting can bring additional savings of energy and CO₂ emissions.†

†Based on EPA Average MPG of 21.5 MPG and EPA value of 19.6 lbs. CO₂/gallon of gasoline, assuming adaptation and a 150,000 mile vehicle service life. Commuter estimate based on a 50 mile round-trip every day for 365 days.


STEEL & PLASTIC

LIGHTER WEIGHT
Saves Customer Fuel
Consolidates Parts – Easing Storage/Handling
Reduces Assembly Time
Meets Part Performance Tests
Less Primary Energy Used (LCA)†
Less Global Warming Potential (LCA)†

†Cradle-to-grave, peer reviewed, ISO 14040/14044 Standards, Life Cycle Assessment LCA conducted by PE International, Inc. 2012, incorporates inputs to manufacture both parts, and completes one pass for 150,000 miles with end-of-life disposal, including 98% recycling rate for steel end-of-life. Contact the Plastics Automotive Center for further information at (248) 244-8920 or on-line:

†Based on EPA Average MPG of 21.5 MPG and EPA value of 19.6 lbs. CO₂/gallon of gasoline, assuming adaptation and a 150,000 mile vehicle service life. Commuter estimate based on a 50 mile round-trip every day for 365 days.