

Converting from Fiberglass to Thermoformed TPO

RV manufacturer Lance Camper reached out to Kal Plastics for assistance with converting its parts from fiberglass to TPO thermoformed plastic for its very large exterior parts.

Kal Plastics started with the nose of their extremely popular camper shell line, delivering tremendous value to Lance and the consumer. This was a difficult part to make with a new material that had just come to market. A. Schulman's (now LyondellBasell) HGSR TPO was selected for the typical benefits afforded by TPO, and more specifically, its high-gloss, scratch-resistant product features.

Lance identified the front, curved surface area as the most critical area of the part. Structural and aesthetically pleasing design elements were incorporated, and several starting thicknesses were tested. The mold was made in (2) cast aluminum sections: a left and a right. In such a large part, two castings allowed flexibility to work out any imperfections in the finished mold. Additional consideration was given to the thermal cooling system/placement and bracing of the mold.

The plastic TPO parts weigh less than their fiberglass counterparts and significantly reduced the weight of their units. This resulted in better fuel efficiency for the consumer. The TPO parts also perform better and have virtually eliminated costly in-field repairs and warranty claims, thereby improving the overall consumer experience.

Lance increases its profitability each time it converts a fiberglass part to thermoformed plastic TPO because TPO parts are less expensive than fiberglass. By phasing out its fiberglass parts and converting to thermoformed TPO, Kal Plastics also helped Lance reduce its carbon footprint. TPO is recyclable; fiberglass is not. The market responded positively to the transition from fiberglass to plastic, further elevating Lance Camper's brand.

This part won the first-place gold award in the Cut Sheet Heavy Gauge TPO category of the 2019 SPE Thermoforming Conference Parts Competition.