Proper Prototype

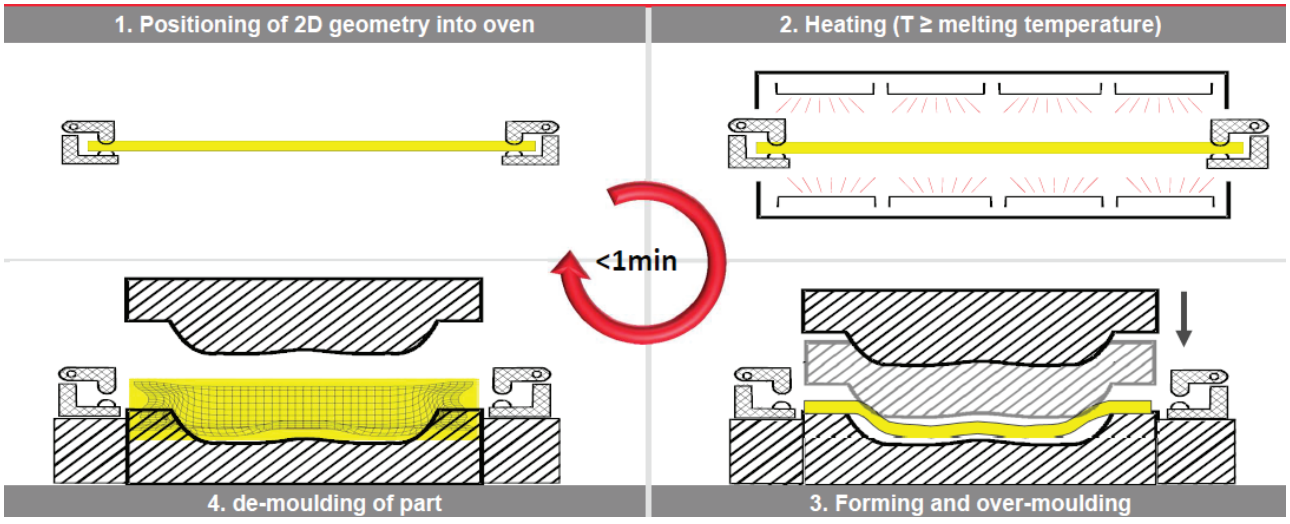
Back in late October of 2016 and taking us into the early months of 2017, Proper Tooling and Proper Tooling's Prototype division teamed up with a new customer, Hi-Lex and Bond Laminate material supplier Lanxess, to design and produce a prototype tool for a Structural Door Carrier.

This development/R&D project is an ongoing vision to a lighter vehicle without compromising structural strength or performance. The truly exciting part for Proper Tooling, as an injection mold tool shop and injection molder, that these types of technologies are replacing, normally sheet metal stamped parts with plastic injection molded parts. Light, high-performance plastics today are so stable that they can replace heavy metals in automotive construction. In addition they are rust-free and flexibly formable, which allows for the implementation of new design concepts and better integration of other components and functions.

This Process is a combination of draping, forming and over mold injection molding. The sheet stock supplied by Lanxess is a woven glass –reinforced high-performance composite sandwiched between a layer of polypropylene. The sheet stock used for this application was only 0.5mm thick.

In order to obtain some measurable data in comparison to a scenario, before and after, a current Door Carrier design was used and modified to fit this process. With early measurable information, the new Door Carrier is 37% lighter and has passed the first build and structural testing performed.

Here is the general process.



Prototype Development - Overview