



Soy Is Automotive Industries' Bumper Crop



The automotive industry continues to explore and develop new opportunities for soy as a component in parts manufacturing. The latest success story includes soy being incorporated into a Reaction Injection Molded (RIM) fascia.

Polycon Industries, a division of Magna International, makes fascia using conventional RIM technology and polyurethane

materials, which partnered with Dow Automotive to create the bumpers.

"We felt there was great potential for us to integrate Dow Natural Oil Polyols into our process, but wanted to understand the impact that different substitution levels would make," says Jim Moore, of Magna. "We have tested up to an 80 percent substitution level on the polyol side, but find from our test results that 50 percent is optimal for property and process characteristics at this time."

The soy polyol resin blend that makes up the bumpers in this achievement has been tested to all automotive specifications, and passed all automotive physical and paint adhesion test requirements.

"There are differences in the soy-based polyols that we tested from our petroleum-based polyol," says Moore. "The molecular chain lengths were different, which affected our performance, but Dow was able to modify as required. The viscosities were different between the polyols, but again can be controlled or modified with direction from their customers. In this case, the final viscosities were well within the capabilities of our standard RIM equipment."

Magna - Decoma is looking for partners that wish to use this material as is, or wish to partner with them to develop materials for higher flex modulus applications. Moore says they have completed enough work to understand the capabilities of the RIM systems based on soy polyols and are looking for targeted programs that will drive the final technology and implementation.

To learn more about new uses for soy, visit www.soynewuses.org.