AGS TECHNOLOGY CASE STUDY: ENCORE PERFORMANCE FOR FUEL TANK REGRIND

PRODUCT PROFILE

Industry: Automotive (Fuel Systems)
Application: Stone Shield
Material Description: Multilayer Fuel Tank Regrind (HMW HDPE+EVOH+LLDPE Adhesive)
Requirements: • Impact Strength • Weld Strength • Chemical Resistance

CUSTOMER ISSUE

An automotive fuel tank supplier for General Motors light duty trucks needed to add a stone protection shield with an integrated handle on its 26 and 34 gallon tanks. The shield provides an added level of protection from road debris as well as an ergonomic handle for assembly plant operators to retract the tank from its shipping rack. To keep engineering change costs to a minimum the shield needed to be welded directly to the tank. Given a surplus amount of fuel tank regrind being generated from its blow molding operation the Tier 1 supplier also wanted to redirect this material stream to this new application.

AGS INJECTION MOLDING SOLUTION

AGS Technology set-up a closed loop recycling program. One major concern with the fuel tank regrind is the presence of ethylene vinyl alcohol (EVOH) that can potentially reduce impact properties. Incoming customer supplied fuel tank regrind is 100% cleaned, blended, and tested to verify conformance to specifications. AGS Technology also re-verified toughness with Gardner drop impact tests on samples of molded parts throughout the production run. Dimensionally maintaining weld pad parallelism results in a strong welded bond between the part and tank. In the end, customer achieved all its engineering objectives at the lowest possible cost using its own fuel tank regrind material.