PART# 4 (004)

2015 Chevy Silverado & GMC Sierra Vacuum Brake Tubes

COMPETITION WINNER OF: Automotive Division Innovation Awards Gala – Materials Category Winner

SUBMITTED BY: General Motors

PROCESSOR: Cooper Standard

DESIGNER: General Motors

MOLDMAKER: Cooper Standard

OVERVIEW:

A high-performance thermoplastic was needed for vacuum brake tubing to replace reinforced rubber. This newly developed TPC-ET elastomer was required to meet a broad temperature performance profile(-40-150C), chemical resistance, burst strength to 60 bar min. and flexural strength to 50 N min. DMS Engineering Plastics Arnitel CM622 TPE was also developed to resist vacuum collapse after 2 hrs. @ 150C and provide impact retention after 336 hr @ 150C. The part design was changed to use a smaller diameter tube with a thinner wall to simplify engine/undercarriage routing, eliminate the need for heat shields and allow for quick connects. The new design is 30% lighter, less costly, and eliminates brackets.