

Case Study 214



Solution / Results:

Currier Plastics developed a package that included a housing for the fragrance engine with enough open air space front and rear that would attach to all vent louvers in the time frame set by the client. Other critical features Currier Plastics was able to meet include:

- Top cover re-designed to include the shape of the corporate logo
- Rosette created as a 1 piece molded component to base clip for an overall reduction of components to the end user
- Ease of application and removal from the vent louvers and optimized retention once installed
- Met the variety of temperature cycles both hot and cold
- Met fragrance emanation target in both passive and active states
- Prototype molded parts helped meet production deadline by enabling product fulfillment house to set up their filling line ahead of production
- Currently in production

1. Opportunity:

A popular manufacturer of automotive air fresheners had developed a design brief for a new style of air freshener that would clip onto the vent louvers. The original design was comprised of 3 Injection Molded (IM) components: base, top and gator clip. The client was already engaged with a product development firm who was having difficulty meeting the product design requirements in the tight timeline provided.

2. Evaluation:

The product development firm shared their preliminary data including their evaluation of materials and the initial design of the fragrance engine. They did not have a multifunctional clip that fit the variety of automotive louver vent sizes targeted by the client and that could function in extreme temperatures.

3. Process:

The first step was to analyze the data and perform Design for Manufacturability (DFM) on the form, fit and function of all (3) components. Cross functional team meetings with the client and the product development firm were held to determine the key characteristics. Currier Plastics built 3 prototype molds and determined an over mold process using TPE would work best and changed the original gator clip design to a rosette. A Finite Element Analysis (FEA) determined the appropriate durometer TPE that would produce the best grip for the rosette to fit all louvers in the study. The top clip also had design changes to enhance the snap and latch features for proper function.



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CUSTOM DESIGN / INJECTION MOLDING / BLOW MOLDING

**CURRIER
PLASTICS**
V²

V² = VALUE x VELOCITY

Currier Plastics is driven to provide two elements of outstanding capabilities to our customers; speed or true **velocity** in everything we do multiplied by superior **value** that incorporates total quality, operational efficiency and established organizational core values.