

Challenge Accepted.



**CUSTOM
FORMULATION
IMPROVES
PRODUCTIVITY AND
MANUFACTURING
EFFICIENCY**

 **AVIENT™** **» CASE STUDY: TRILLIANT™ HC SPECIALTY ENGINEERED MATERIALS**



CONDUCTIVE PIPETTE TIP MANUFACTURER ACHIEVES SIGNIFICANT SAVINGS

THE CHALLENGE

A manufacturer of high-quality laboratory research products was eager to expand into the conductive pipette tip market. Conductive pipette tips are primarily used in automated laboratory and production settings with robotic pipettors to measure and dispense exact amounts of liquid. High-quality conductive pipette tips must meet a number of demanding performance criteria, including:

- Accurate measurement of minute quantities of liquid
- Hydrophobic properties to minimize fluid retention
- Concentric dimensions and warp resistance
- Excellent chemical resistance

The manufacturer asked Avient for a specialized solution to meet these exacting needs in a timely and efficient manner so they could capitalize on its market opportunity

THE SOLUTION

Avient's sales and technical professionals worked closely with the manufacturer to understand the demanding requirements of the end-use application, manufacturing considerations and cost. Avient determined that the manufacturer required a material with a unique combination of properties, including:

- **Processing ease** – high flow rate, ability to fill multi-cavity molds, thin-wall capabilities
- **Superior toughness** – strength and durability to ensure dimensional integrity of the part
- **Repeatable performance** – consistent conductivity for accurate measurement of liquids

While several off-the-shelf compounds were evaluated, a new formulation was developed to meet the manufacturer's specific needs as well as provide significant benefits in reduced cycle time, increased production and reduced scrap rate.

THE IMPACT

For the manufacturer, Trilliant™ HC specialty engineered materials provided a number of advantages that contributed to the success of the new product line:

- **Reduced Cycle Time:** The high flow properties of the Trilliant HC formulation allowed the manufacturer to produce warp-free parts that require less packing and cooling time, resulting in a 40% cycle time reduction.
- **Increased Production:** Additionally, the high flow properties of the Trilliant HC formulation allowed for an increase in the number of cavities in the mold, resulting in a machine cost-per-part savings of over 30%.
- **Reduced Scrap Rate:** The consistent conductivity, improved warp resistance, reduced flash, and improved durability provided by the Trilliant HC formulation meant less breakage, fewer rejects and a 40% reduction in scrap rate.
- **Total Manufacturing Cost Savings:** Despite an increase in price per pound over the competition, the manufacturer's total cash costs were reduced by over \$45,000 on an annualized basis as a result of the proven, quantified savings in cycle time, productivity and scrap.

Through customer intimacy, Avient's Trilliant HC formulations offered an effective solution that allowed the manufacturer to improve its bottom line and increase its operating income.

To learn more about Trilliant™ HC, contact Avient at +1.844.4AVIENT (1.844.428.4368) or visit us at avient.com.