

# DeltaMax Performance Modifiers for improving carbon footprint and profitability



**CUSTOMER NEED :** A manufacture of material handling containers is attempting to improve the output of their injection molding machines as market demand for their product increases sharply.

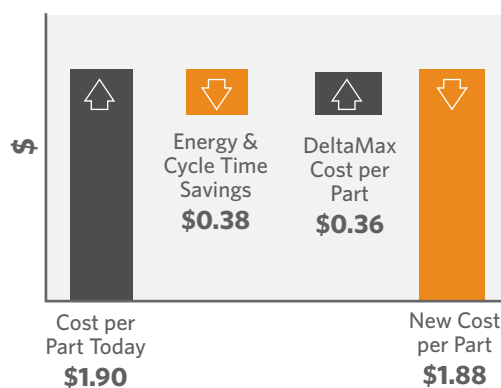
## CURRENT SITUATION

The manufacturer is investing in new machines to keep up with customer demand, but continues to delay or refuse orders due to capacity restraint. This hinders their ability to grow topline and satisfy key account orders.

When considering the use of resins with better melt flow characteristics for faster processing, the physical performances were not acceptable. Notably, the cold temperature impact properties fell below an acceptable range disqualifying the resin for this application.

## RESULTS

Using DeltaMax a200 at 1.0% LDR allowed for a cycle time reduction of 20%, resulting in an estimated annual throughput increase of 110,000 containers. Productivity improvements and energy savings offset the add-on costs of the masterbatch and yield an additional 58 days of production with no equipment wear or unplanned capital expenditures. Added capacity results in \$2 million in additional revenue at 20% margin.



**65°F**  
reduction in  
processing  
temperature



**12.5%**  
energy  
reduction



**20%**  
reduction in  
cycle time



**58 days**  
added capacity



— or —  
**110k**  
additional  
parts per year

## MILLIKEN SOLUTION

DeltaMax a200 All Purpose Modifier allows converters to improve melt flow rate while maintaining or improving impact properties. By maintaining or improving non-break performance, converters can reduce cycle time and energy usage, increase throughput and ultimately sell more product.

**IMPACT FROM**  
**11 to 10**  
(ft-lb/in)\*at 73°F  
**MAINTAIN**  
**NON-BREAK**

**MFR FROM**  
**20 to 38**  
(dg/min)  
**18%**  
IMPROVEMENT

**STIFFNESS FROM**  
**131 to 124**  
(kpsi)  
**MINIMAL CHANGE**  
**IN STIFFNESS**

PLEASE NOTE: As each customer's use of our product may be different, information we provide, including without limitation, recommendations, test results, samples, care/labeling/processing instructions or marketing advice, is provided in good faith but without warranty and without accepting any responsibility/liability. Each customer must test and be responsible for its own specific use, further processing, labeling, marketing, etc. All sales are exclusively subject to our standard terms of sale posted at [www.milliken.com/terms](http://www.milliken.com/terms) (all additional/different terms are rejected) unless explicitly agreed otherwise in a signed writing.

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