

REGENESIS™



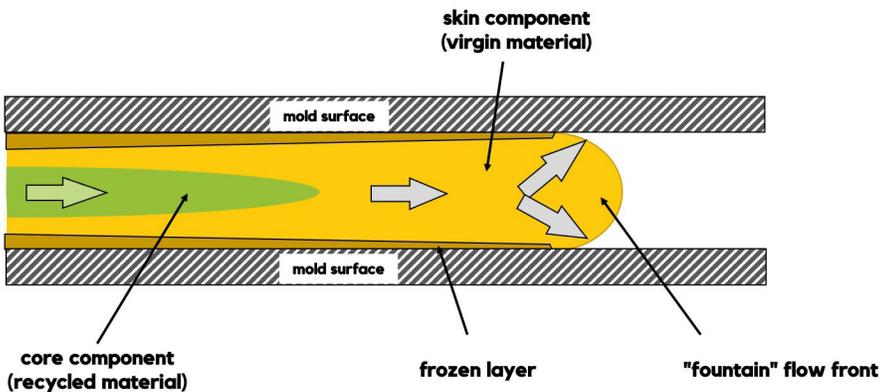
**INNOVATIVE PACKAGING SOLUTIONS TO SUSTAINABILITY LEGISLATION
BASED ON ADVANCED ANALYTICS AND STRATEGIC THINKING**

Revitalizing Recycled Material for Pail Development

There is always a need for evolution. The pail manufacturing industry is no different as there's been a growing demand and increased pressure to use recycled content for pails.

More recently, the pail manufacturing industry found itself at a crossroads between old processes and the future. It was at this juncture we developed a brand-new manufacturing process – **Regenesis**.

REGENESIS LAMINAR “FOUNTAIN” FLOW OF POLYMER



Developing Solutions

On paper, using recycled content to build a new product sounds ideal for creating and sustaining a circular economy for plastics. But, those in the industry know that incorporating recycled materials has the potential to compromise product quality and/or performance if executed incorrectly.

Historically, two molten plastics were combined into a homogenous melt to form the pail.

In collaboration with ENGEL and Top Grade Molds, our team at M&M Industries provided the pail mold to develop this approach that defies conventional processes for sandwich injection molding.

The product quality and performance stayed top of mind during the development stage of this innovative manufacturing process.

Through the Regenesis process, a five-gallon pail is produced using a core that's made from post-consumer recycled material and is then encapsulated with layers of virgin material.

Regenesis alternates between the recycled material and the virgin material at the cavity injection point through a co-injection valve gate.

PCR HOW DO RECYCLED PLASTICS BECOME A PAIL?



Everyday plastic recycling



Various types of plastic articles, including containers, bottles, jugs are reprocessed



Recycled plastic becomes resin pellets known as PCR: Post Consumer Resin



Virgin resin and PCR coinject into Regenesis machine



Regenesis pail is produced

What is an RPPC?

- Rigid Plastic Packaging Containers made entirely of plastic, except incidental portions of the package (lids, caps, handles)
- Have a capacity of at least 8 fluid ounces but no more than 5 gallons (actual capacity)
- Capable of at least one closure
- Can maintain its shape while holding a product

Who is Subject to RPPC Regulations?

- Product manufacturers - the entity responsible for "causing a product to be produced that is held inside of an RPPC and sold or offered for sale in California"
- Container manufacturers are not subjected to the Regulations, but M&M would have to support any customer being audited
- Rigid plastic articles that are sold empty are not subjected to the regulations

EXAMPLES OF PRODUCTS SUBJECT TO RPPC REGULATIONS

Kitty Litter • Coatings • Water & Oil Based Paints • Stucco • Driveway Sealers • Tar Plant Food • Inks • Fasteners/Hardware • Ice Melt • Rodent Bait • Detergent

CA SB-54

This bill was signed into law on June 30, 2022, with bi-partisan support in both the California Senate and House

Key features of the bill include:

- Setting a 65% recycling rate target by 2032 (currently 13% for plastics)
- 25% reduction in single-use plastics
- Putting in place an extended producer responsibility (EPR) system for packaging that will require companies to pay more than \$500 million a year for a decade into an environmental cleanup fund
- Materials to be compostable or recyclable within 10 years
- Plastic beverage bottles must contain an average of 15% recycled plastic, with percentages increasing to 50% by 2030

NJ Bill 2515

This bill was signed into law on January 18, 2022, with the intention to stimulate recycling marketing in New Jersey

Key requirements for rigid plastic containers:

- Contain at least 35% recycled content (OR)
- Be made of a plastic that is being recycled in the state at a rate of 35%
- Producers must register with New Jersey Department of Environmental Protection within six months

Nationwide

- Washington along with 17 other states have PCR (Post Consumer Resin) and EPR (Extended Producer Responsibility) legislation under consideration.

Through thorough testing of the system we are able to maximize the recycled content



VIRGIN MATERIAL



RECYCLED CONTENT

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