

# Rotational Molding

**Stoner** Molding  
**Solutions**<sup>®</sup>  
You Mold It. We Release It.<sup>®</sup>

**Why do I get Fuzzy parts  
and how do I prevent it?**

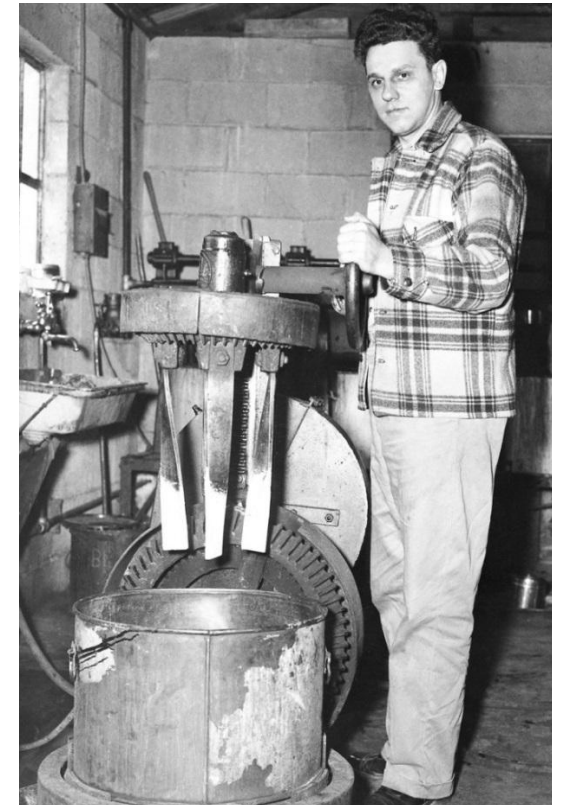


## Outline

- Stoner History and Mission
  - Molding Categories
- Why do I get Fuzz/Ghosting parts?
  - How do I prevent it?
- Mold Release options for different polymers
  - and different part shapes.
    - Safer Mold Cleaners
    - Flow Promoters
  - Parting Line protection

## Stoner history:

- Founded 85 years ago by Paul Stoner, in Quarryville, Pennsylvania.
- Offer a wide range of solutions to industry; Rotational Molding, Injection Molding, Composites, Plastics, Rubber, PU, Investment Casting, Fiber Spinning with over 350 products.
- We have our own R&D Laboratory where our own PhD chemists help improve existing formulations and constantly develop and test new ones.
- We carry ISO 9001 & ISO 13485 certification which is recognized worldwide.



## What are the key molding factors?

- Find the best combination of resin, release, temperature & speed
- Match the best release & resin
- For the best results start with a clean mold
- Pre-heat the mold surfaces to 130 °F.
- Apply release uniformly on the mold, when spraying do not exceed 20psi
- Provide even coating across a warm mold
- Release is drawn into mold pores
- Water evaporates leaving a uniform coating of un-cured release
- Run coated mold through an empty cycle first

## Why should we Cure the Mold Release?

You will get more pulls per application.

You will minimize whitening.

You will get the greatest value...you'll use less Mold Release

## What happens when you don't Cure the Mold Release?

It WILL Cure...when it gets into the oven.

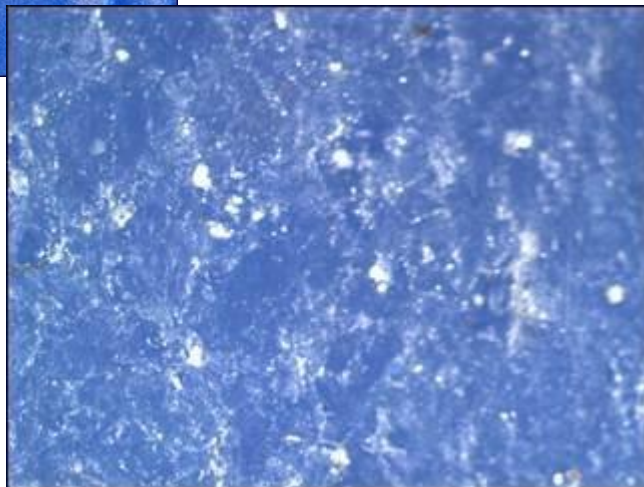
It should be Cured WITHOUT Resin in the tool, or some of the Resin will Cure into the Mold Release.

So...when the tool is charged for the next part, the new Resin will adhere to the little fingers of Resin that's Cured into the Mold Release.

## The Whitening Effect: What Is It and Why Does It happen?



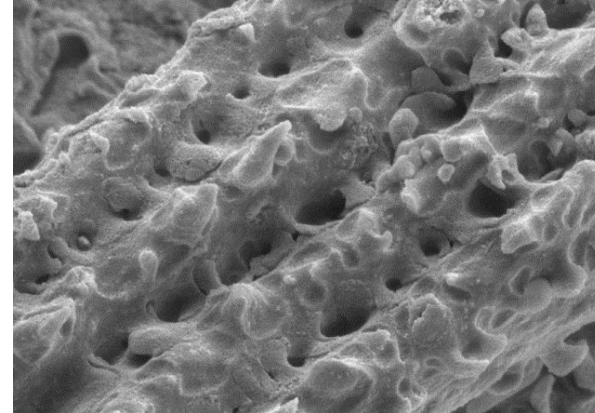
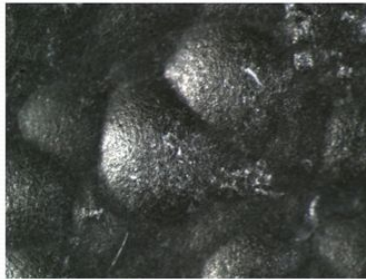
I would like to thank Jon Ratzlaff and Chevron Phillips Chemical Company for sharing many of the photographs on the next 2 pages.



## Results after Heating a Whittened Part with an LP Tank Torch

### White Haze Root Cause

- Part sticks and is literally ripped away from mold surface, leaving thin film of material on mold surface.
- White haze is microscopic polyethylene fibers from part pulling away from mold surface.
- Flame treat will shrink/melt fibers back into part surface.
- Severe cases – flame treat causes fibers to form into small balls on surface thus haze does not completely disappear.



## Minimizing the Whitening Effect

- Agitate the Mold Release before use and apply to a clean and dry surface.
- Preheat the mold surface until its 55–60°C (130–140°F) and feels warm to the touch.
- Use equipment that provides a fine spray mist (1 – 1.5 mm nozzle).
- When wiping, agitate the Mold Release and apply it to a clean cloth.
- Lightly apply onto the mold surface, ensure all areas are coated evenly.
- Check that the P.I.A.T. is a minimum of 132°C (270°F) for curing.
- Run the mold empty for 5 to 10 minutes of a full production cycle with the oven temperature at 170°C (350°F).
- For spot touch-ups, apply the Mold Release where needed and cure the freshly coated area with a heat gun or LP Tank Torch, applied to to the **outside** of the mold. This cures the Mold Release and enhances the bond between the coating and the mold's surface.

**Proper curing will give a bond between mold and coating that will ensure no transfer of coating to the molded part. It also ensures the most effective coating for a durable life cycle.**

## Summary

Find the best combination of resin, release, temperature & speed

Match the best release and resin to the heating mechanism (hot air, flame or electrical heating elements)

Start with a clean mold

Run coated mold through a cycle empty first

Can do spot curing with a heat gun on the outside of the tool

Apply release uniformly on the mold



## TraSys – Core products



414	420	715	500
High Release	General Purpose	Light Release	High Temperature
Heavy duty coating exhibits outstanding release properties. For customers looking for the max number of releases.	Our go to product for most applications. 80% of TraSys customers buy this.	Good for large flat surfaces and for customers experiencing warpage issues. Lowest price per gallon release.	For customers working up to 315 C and popular amongst open flame roto molding.
All are clean, non-oily, non-staining formula that is water based to meet H&S and environmental restrictions.			

## TraSys 4000 RotoFlow

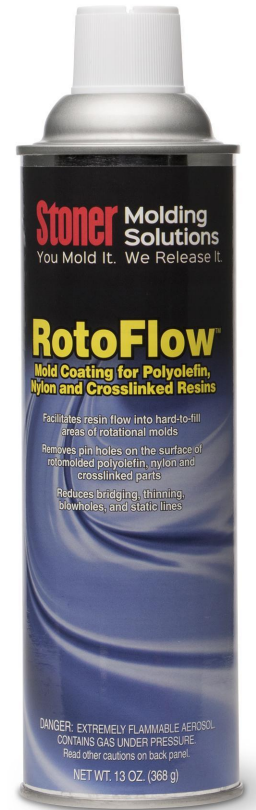
- Promotes flow of polyolefin and nylon to hard to fill areas
- Fills voids around inserts, tight radii, threads, and deep cavities
- Removes pinholes on the surface

NOW AVAILABLE IN A WATER BASED VERSION TOO!

### Customers that will Benefit:

- Production with hard to fill areas, inserts, threads or other complicated areas.
- Want a multi-material product to improve flow

Mold Temp Max	260 C
Paintable	No
Flammable	Yes
Food Grade	No



## Cleaners & Degreasers



### A320

All Purpose Cleaner

Time saving, concentrated, water based cleaner. For customers looking for the value of a concentrate.



### M520

Zip Slip Silicone Grease

Helps save time & money and improve part quality. Excellent preventative maintenance product and reduces build up on the parting lines of the mold.

Thank you!

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