



***How to efficiently produce parts ?
From proper use of release agent to efficient cleaning***

*Nordic Roto Conference
E. Thilloy – Feb 2020*

ChemTrend Industry Segments



Composites



Die Cast



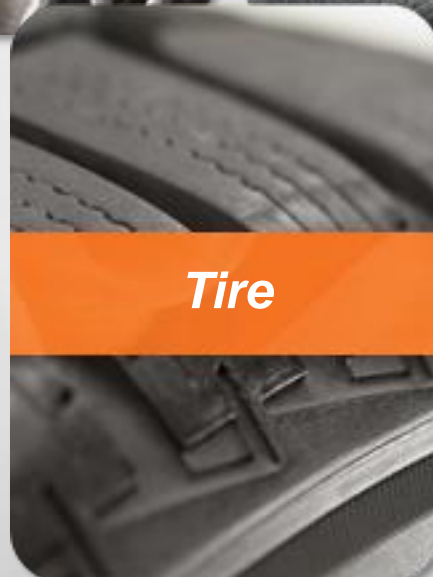
Polyurethane



Rubber & Roto



Thermoplastics



Tire



Wood Composite

**Your mold is Gold !!
even if it's old....**



What is a release agent ?

- A barrier between the mold and molded part
- A film that allows the molded part to be removed easily from the mold

It provides protection from chemical and mechanical attack

Mold need to be cleaned before applying to have a reactive surface

Type	Advantages	Disadvantages
Permanent Coatings	<ul style="list-style-type: none"> ● No transfer to part ● Long lasting ● No release agents in plant 	<ul style="list-style-type: none"> ● Very expensive process ● Molds need to be sent away ● Coating easily damaged ● Fixed “release-ease”
Semi-permanent Coatings Water or Solvent	<ul style="list-style-type: none"> ● Very low transfer to part ● Renewable in-situ ● Variable release properties ● Molds stay very clean ● Infrequent application ● Molds clean very easily 	<ul style="list-style-type: none"> ● Need good spray equipment ● Need discipline in application
Conventional or Sacrificial Coatings	<ul style="list-style-type: none"> ● Low material cost ● Easy to apply ● High lubricity 	<ul style="list-style-type: none"> ● Always transfer to part ● Labor intensive ● Need dilution equipment ● High mold fouling
Internal release agents	<ul style="list-style-type: none"> ● Part of the compound 	<ul style="list-style-type: none"> ● Can affect physical properties ● Can affect bonding capability ● Often needs external RA help

Our Rotomolding's products range

- Mold release agents
- Mold cleaners
- Flow Promoter
- Release agent for Flange mold area



The 5 C's of Release ease

CHOOSE – Slip level

Actively select the correct level of Release (Lubricity) and Chemistry for the job

CLEAN – Reactive metal

Semi-Permanent Release chemically bonds to reactive metal sites on mould

COAT - Apply release

Apply Base Coat to whole of mould.
3 coats to ensure full coverage

CURE* - BOND release to mould

Heat cure at mould temp of approx 150°C - Chemically bonds release to mould

CARE – Maintenance

Top up release at or before the first sign of tightness - **DO NOT** allow part to stick!!

1. CHOOSE Release Agent



- About 10 different formulation
- Water or Solvent based – ready to use
- Mostly semi permanent
- Selected according several parameters
 - Compound material (PE, PP, EVA,...)
 - Production process (mold more or less hot)
 - Part geometry
 - Slip level required (in combination with heating time)
 - Mold composition

5. CARE



CARE: Protect your base coat

- ▶ Your BASE Coat is your barrier – **Protect it!**
- ▶ Timely touch-up coats
- ▶ NEVER wait until the part actually sticks

▶ Question

At what point is it best to pump up your car tyre, 1, 2 or 3?



1



2



3

▶ ...then why do so many people wait until their product has **STUCK** in their mould before they top up their release?

4. CARE



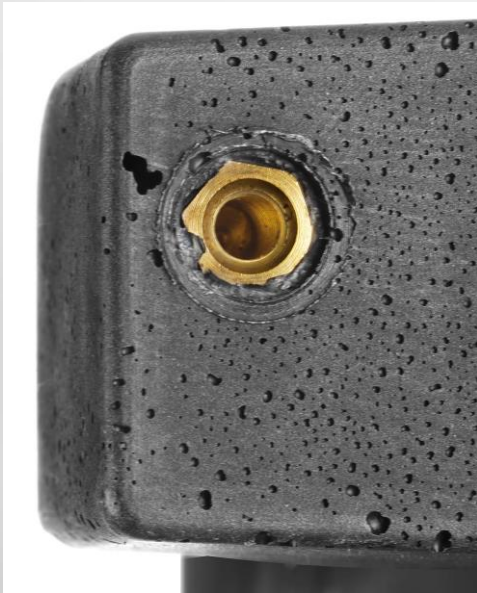
CARE: Protect your base coat

- ▶ Your BASE Coat is your barrier – Protect it!
- ▶ Applying Release AFTER a stick-up is like...



It may appear to work for a short time, but be prepared for it to FAIL.... and soon!

Flow promoter MC RM 6200FP



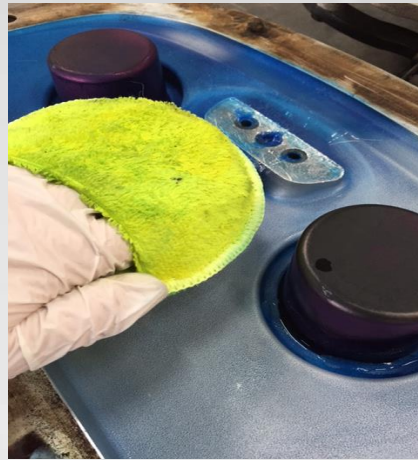
Flow promoter MC RM 6200FP



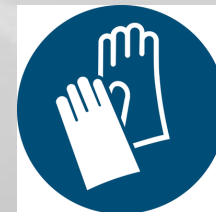
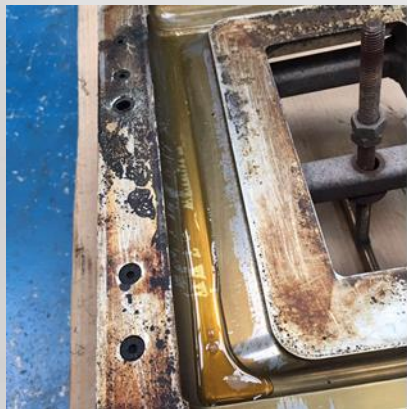
• Aerosol spray

- With an adapted nozzle spraying small quantity
- PE resin coverage
- Generate low mold build-up
- Reduce scrap rate
- Improve cosmetic appearance of final product

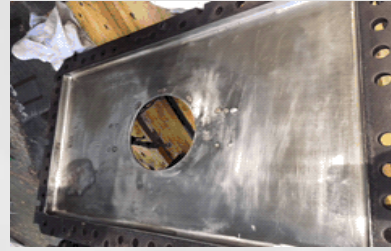
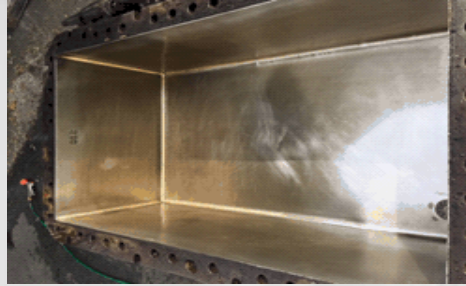
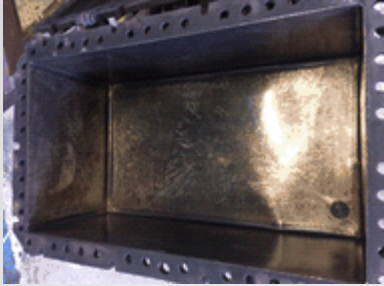
New WB Mold cleaner – MOC 1710W



- Ready to use product, free of solvent & non abrasiv
- Remove color pigment & residue of RA
- WB but corrosiv, need to clean/wash with water
- Very efficient on aluminium mold, on steel mold apply a solvent after cleaning to stop corrosion effect



Between 2 to 10 min / mold – MOC 1710W





Release Innovation™