

# The Nordic ARM Academy

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## Permanent Decorating & Enhancement Technologies

from Mold In Graphic Systems®

# The Proper Use of Mold In Graphics and Mold On Graphics

from Mold In Graphic Systems®

## NICK MOLDAN

INTERNATIONAL SALES

MOLD IN GRAPHIC SYSTEMS® FRANCE



- WHO ARE WE?
- THE IMPORTANCE OF BRANDING IN ROTOMOULDING
- WHY IS PE SO NOTORIOUSLY DIFFICULT TO DECORATE?
- **THE SOLUTION:** MOLD IN GRAPHICS, MOLD ON GRAPHICS AND POLYFUZE GRAPHICS
- ROTO-BRANDING FOR SUCCESS – EXAMPLES
- MIGS SURFACE ENHANCER PRODUCT LINE

# MIGS® Arizona, USA



**OVER 100,000 SQUARE FEET FACILITY –**  
HEADQUARTERS FOR SALES, CUSTOMER SERVICE,  
MANUFACTURING, R&D AND CORPORATE OFFICES

# Mold In Graphic Systems®

## **30+ Years of Innovation**

- IN **1983**, MOLD IN GRAPHIC SYSTEMS® REVOLUTIONISED THE WAY ROTATIONALLY MOULDED POLYOLEFINS WERE DECORATED.
- AFTER EXTENSIVE RESEARCH AND DEVELOPMENT, THE FIRST MOLD IN GRAPHIC® WAS SUCCESSFULLY CREATED, ALLOWING **WINDSURFER AMERICA®** TO BECOME THE FIRST COMPANY TO UTILIZE THIS EXCITING NEW GRAPHIC AT THE **1984 SUMMER OLYMPIC GAMES**.
- FOR **38 YEARS**, MOLD IN GRAPHIC SYSTEMS® HAS BEEN THE **LEADING GLOBAL SUPPLIER** OF PERMANENT GRAPHICS TO THE ROTOMOULDING INDUSTRY.

# MIGS® Worldwide Presence

**CANADA**  
MOORE INDUSTRIAL

**BRAZIL**  
A. SCHULMAN

**SOUTH AFRICA**  
ACD ROTOFLO

**AUSTRALIA /  
NEW ZEALAND**  
MATRIX POLYMERS

**ITALY**  
DRAM SRL

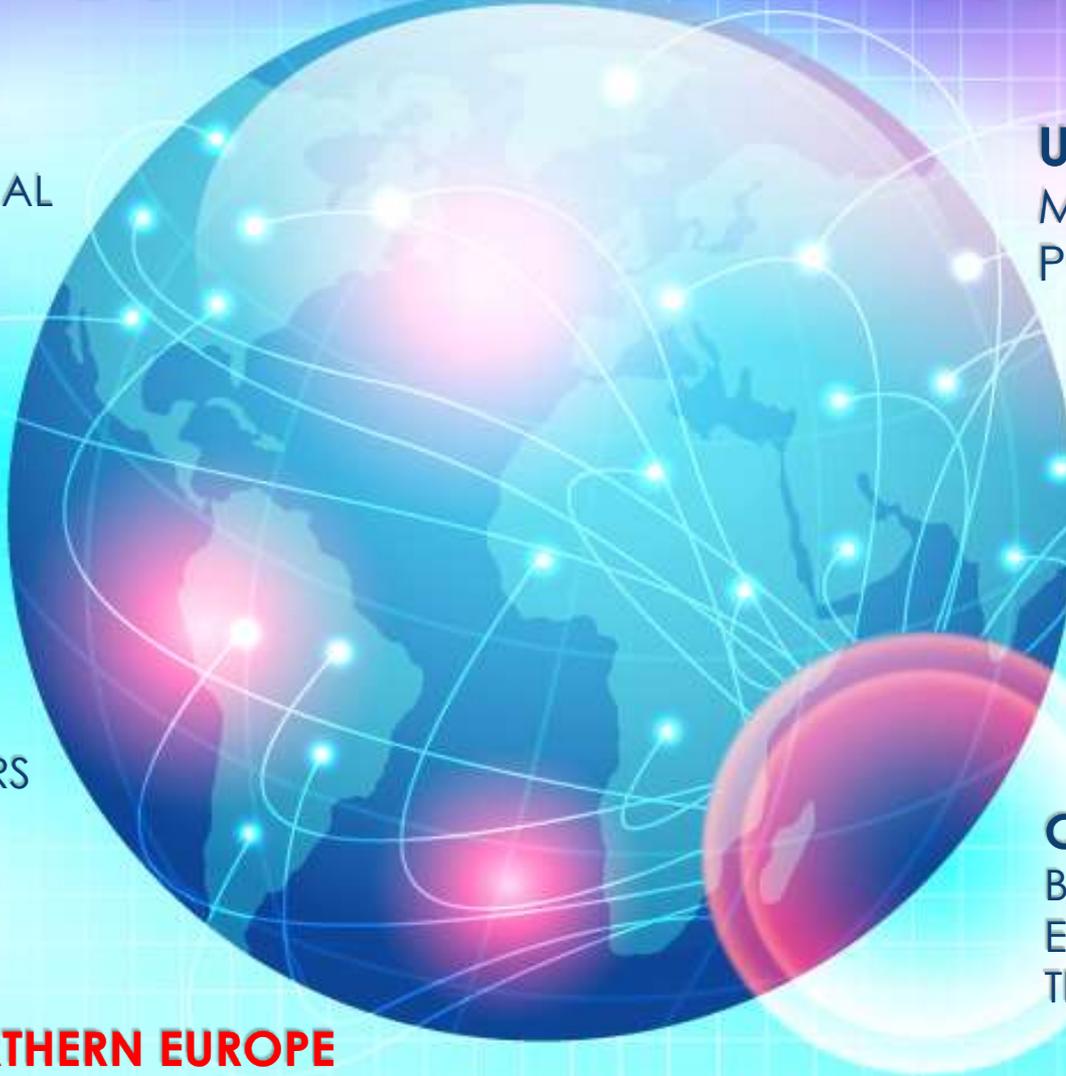
**FINLAND / NORTHERN EUROPE**  
ROTO LINK

**UK AND POLAND**  
MATRIX  
POLYMERS

**JAPAN**  
MURAKAMI  
JITSUGYO

**THAILAND**  
SCG ICO POLYMERS

**CHINA**  
BEIJING BESANO  
ELECTROCHEMICAL  
TECHNOLOGY LTD



# Branding

## A DEFINITION

The marketing practice of creating a name, symbol or design that evokes in customers a perception of **added value**, for which they will pay a premium price.

# Branding

## WHY IS IT SO IMPORTANT?

A PRODUCT CAN BE COPIED -  
A BRAND IS **UNIQUE** AND OUTLIVES THE  
PRODUCT –  
YOUR MOST VALUABLE ASSET – **BRAND  
EQUITY**

# Branding

## IMPORTANT FOR ROTOMOULDERS

A rotomoulded product with no branding is **just a hollow piece of plastic**. It might be technically impressive from a functional point of view, but it has no form, identity or personality.

# PE / PP PLASTIC DECORATING TRADITIONALLY VERY DIFFICULT

Polyethylene, polypropylene and other olefin resins are economical, tough and resistant to harsh chemicals and environments which makes them the attractive plastic of use for engineers and plastic processors..... **They also have an inherent resistance to traditional decorating methods.**



# PE / PP PLASTIC DECORATING DIFFICULTIES

- Plastic is known for being a difficult to decorate material, in any permanent sense.
- Foreign / non-compatible materials will be rejected from the molecular structure of plastic



# PE / PP PLASTIC DECORATING DIFFICULTIES

“Polyethylene, by its nature, does not lend itself to any method of paint adhesion. The polyethylene material is non-porous, it is resistant to attack by solvents useful in paint formulation, and it has a non-polar chemical structure”.

- Phil Dodge, former employee of Equistar Chemicals



# Branding

PE is notoriously difficult to decorate



# Branding

PE is notoriously difficult to decorate



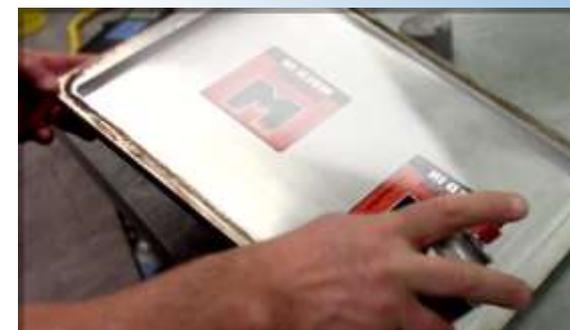
# Branding

PE is notoriously difficult to decorate





# The Classic HTM Mold In Graphic



- Measure mould temp with contact probe – **32 to 55 deg C**
- Light spray of MIGS Resin Tack directly onto the mould (to secure carrier film)
- Bend back a corner of the carrier film, to facilitate film removal after transfer
- Place MIG on mould surface, manually smooth out any trapped air around perimeter
- Moderate burnishing pad pressure to transfer graphic from carrier film
- Peel back film from mould surface at a steep angle. Back coat MIG with MIGS Resin Tack to minimise graphic erosion

# MIG5 Mold In Graphic introduced in 2014



- **5<sup>th</sup> Generation Mold In Graphic - innovation for over 30 years**
- **Can be applied at ANY mould temperature**
- **Can be applied to ANY mould surface – including Teflon and textured surfaces**
- **Separate aerosol MIGS Resin Tack no longer needed**
- **Strongly resists damage from the tumbling powder in the mould**
- **100% compatible with all polyolefin plastics**
- **Stronger, brighter and more opaque colours**

# MIG5 Mold In Graphics

## FOR ROTATIONAL MOULDERS

- Easily applied during the moulding process
- No special skills required
- Zero scrap if correctly applied



1. Position the Mold In Graphic in the mould – easy to slide into position
2. Fix MIG5 in place by burnishing down the middle. Pre-printed adhesive is pressure activated
3. Burnish the graphic firmly and thoroughly in a linear motion – from the middle outwards
4. Burnish around the edges
5. Peel away the transfer backing sheet and you are ready to mould

# Mold In Graphics®

## FOR ROTATIONAL MOULDERS



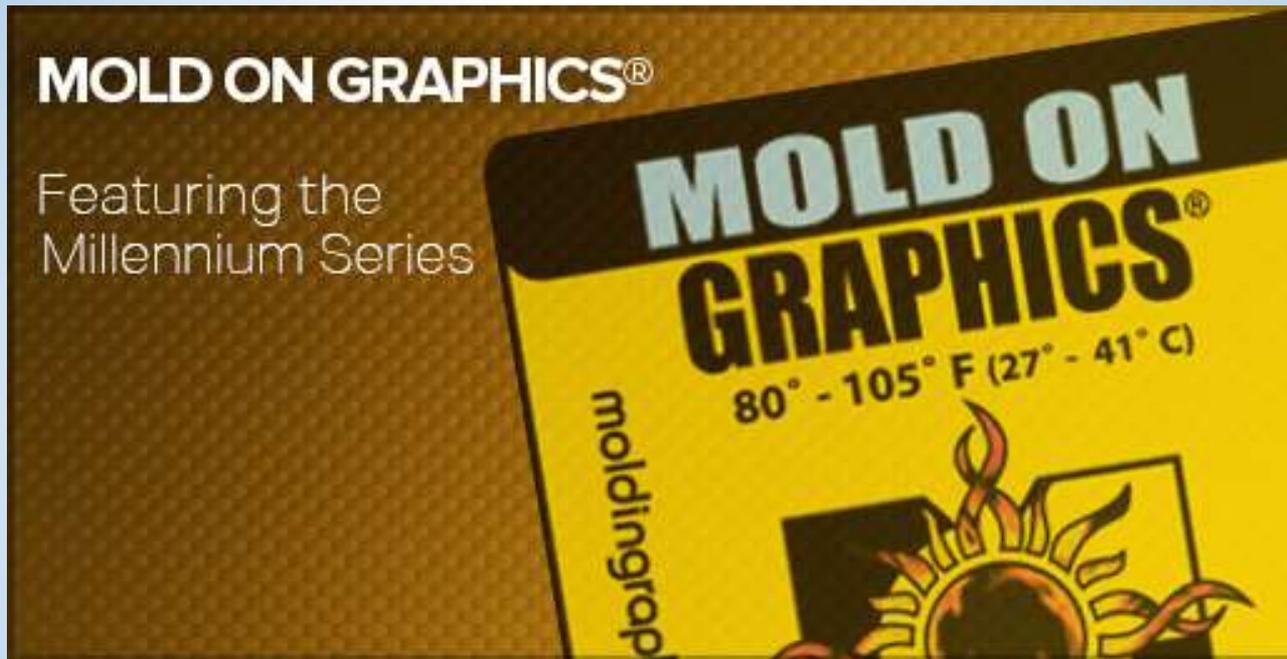
# Mold In Graphics®

## FOR ROTATIONAL MOULDERS



# Mold On Graphics®

FOR ROTATIONAL MOULDERS & MORE



- Add brand recognition at ANY time after moulding
- 100% compatible with all polyolefin plastics
- Tested for UV, chemical and weathering resistance
- Permanently welded to the PE/PP product – for life

# Mold On Graphics®

## FOR ROTATIONAL MOULDERS & MORE

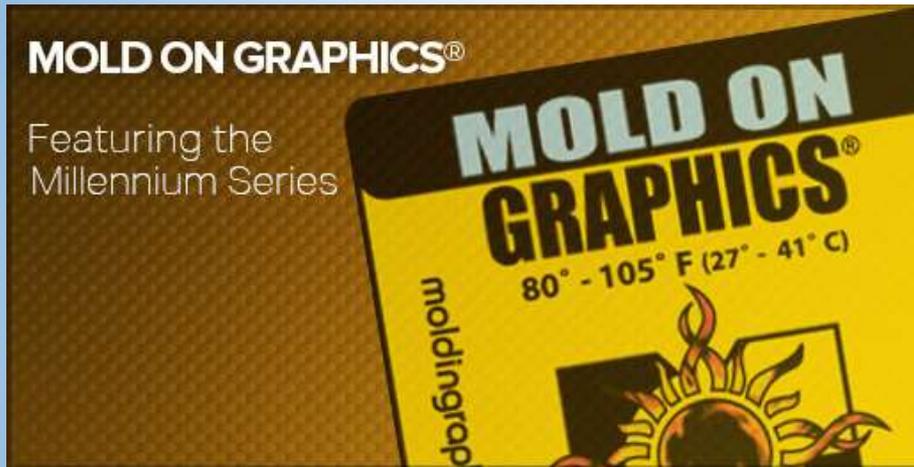
- Easily applied after the moulding process



1. Check Surface Temperature with pyrometer – **27 to 41 deg C**
2. Apply light coat of Mold On Graphic Adhesive Spray to printed graphic area
3. Position the graphic onto plastic surface
4. Burnish the graphic onto the plastic
5. Peel away the transfer film
6. Fuse the graphic to the part with an LPG flame – to at least **150 deg C**. Verify with pyrometer

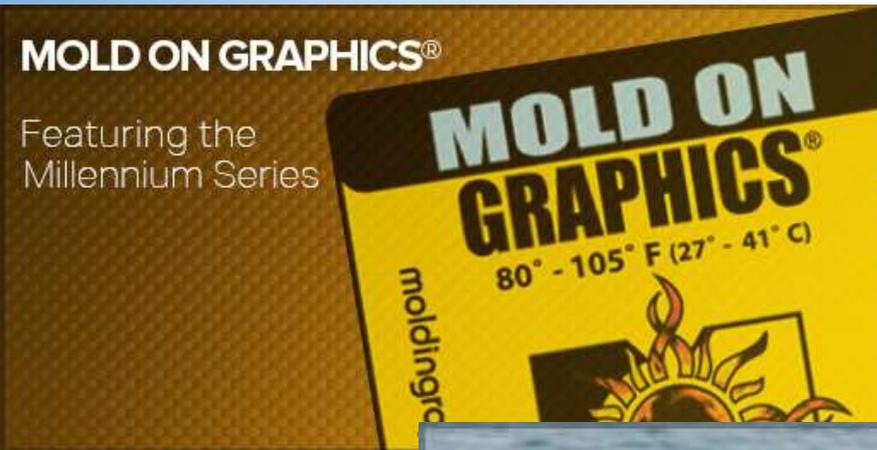
# Mold On Graphics®

## FOR ROTATIONAL MOULDERS & MORE



# Mold On Graphics®

## FOR ROTATIONAL MOULDERS & MORE



# Introducing the Polyfuze Graphic<sup>®</sup> for injection moulded PE and PP

A NEW polymer-based labeling technology:

- IT IS NOT THE SAME as other IMLs
- IT IS NOT THE SAME as other Heat Transfers
- IT IS NOT THE SAME as other Hot Stamp Foils
- IT IS NOT THE SAME as other Pad or Screen Prints

Melting two like materials together, our Polyfuze Graphic is the key to permanently decorating injection moulded polyolefin plastics



# How the Polyfuze Graphic<sup>®</sup> Works

- Uses standard hot stamp machinery
- Easy-to-use post-mould process



# How the Polyfuze Graphic® Works

## Polyfuze Graphics Technology / Materials:

- **Base Layer** - PET Clear Film Carrier. Strips away on take-up reel after stamping is completed and not part of the finished product
- **Print & Colorings** - The world's only polymer-based graphic that "heat fuses" into your part at a molecular level



# Branding

## ROTO-BRANDING FOR SUCCESS

### Examples and success stories

# FUNCTIONAL PRODUCTS – WATER TANKS

**BOLD, ONE COLOUR BRANDING IN MOZAMBIQUE**



# FUNCTIONAL PRODUCTS - WATER TANKS



**BRANDING – WARRANTY AND  
INSTALLATION INFORMATION**

# FUNCTIONAL PRODUCTS - WATER TANKS



**BRIGHT, MULTI COLOURED  
BRANDING IN PAPUA NEW  
GUINEA**

# FUNCTIONAL PRODUCTS – ROAD BARRIERS



**HIGH VIS. BRANDING, ASSET MANAGEMENT AND LOSS PREVENTION**



# FUNCTIONAL PRODUCTS - CREW TRANSFER POD



**GOOD  
DESIGN  
INCLUDES  
NOT ONLY  
FUNCTION  
BUT ALSO A  
HIGH LEVEL  
OF  
AESTHETIC  
APPEAL  
AND  
BRANDING**

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# WATER SPORTS INDUSTRY – KAYAKS AND BOATS



**LIGHT AND DARK  
CONTRASTING  
COLOUR LOGOS  
STAND OUT  
AGAINST ANY  
COLOUR PLASTIC**

# WATER SPORTS INDUSTRY – KAYAKS AND BOATS



**HIGHLY VISIBLE TWO COLOUR LOGOS**

# WATER SPORTS INDUSTRY – KAYAKS AND BOATS



**ONE OR TWO COLOURS IS ALL IT TAKES TO  
STAND OUT FROM THE CROWD**

# WATER SPORTS INDUSTRY – KAYAKS AND BOATS



**KAYAK FISHERMEN LOVE TO  
BOAST ON BLOGS!**

# WATER SPORTS INDUSTRY – DOCKS



**EZ® PORT PWC LIFT**

# MARINE INDUSTRY - BUOYS



**LABELLING FOR THE HARSHTEST  
OF ENVIRONMENTAL CONDITIONS**

# WATER TREATMENT - TANKS



**LIFESAVER® systems “WORKING TO END WATER POVERTY”**

# WATER TREATMENT - TANKS



**LIFESAVER® systems “WORKING TO END WATER POVERTY”**

# WATER TREATMENT – DISASTER RELIEF



**LIFESAVER® JERRYCAN - RELIEF AID IN PAKISTAN**

# CORPORATE RESPONSIBILITY



**HIPPO ROLLER – NEDBANK (CORPORATE SPONSOR)**

# CORPORATE RESPONSIBILITY



## SPONSORSHIP BRANDING ON FOOD STORAGE BINS – ACD ROTOFLO

# AGRICULTURAL PRODUCTS – SPRAY TANKS



**EUROPEAN SPRAY TANK  
MANUFACTURERS –  
LOGOS AND SAFETY  
LABELS**

# AGRICULTURAL PRODUCTS – STOCK TROUGHS



**STOCK  
TROUGH  
BRANDING  
IN  
AUSTRALIA**

# AUTOMOTIVE - SIGNAGE



**HIGHLY VISIBLE DRIVING SCHOOL SIGNAGE IN FRANCE**



# AUTOMOTIVE – SCOOTER BOXES



**CONVERSION FROM  
FIBRE GLASS TO POLY  
ENHANCED THE BRAND  
IMAGE**



# SWIMMING POOL EQUIPMENT



**OPERATING INSTRUCTIONS AND WARRANTY INFORMATION SHOULD LAST AT LEAST AS LONG AS THE WARRANTY**

# POINT OF SALE



**DRINKS  
CABINET IN  
AUSTRALIA**

# POINT OF SALE



**FLY BUYS® PROMOTION - AUSTRALIA**

# COOLER BOXES



**COOLER BOXES –  
SPORTS AND  
PROMOTIONAL  
BRANDING**

# TOYS



**LITTLE TYKES® COZY  
COUPE®  
DIAMOND JUBILEE  
EDITION 2012 -  
SET TO BECOME A  
COLLECTORS ITEM.  
“BRAND GB”**

# WASTE INDUSTRY



**DUMP-EZY FROM GOUGH  
PLASTICS AUSTRALIA –  
MULTI LANGUAGE  
GRAPHICS**



# WASTE INDUSTRY



## TRANSPORTABLE SEWERAGE TREATMENT SYSTEM FROM OZZIKLEEN AUSTRALIA

# WASTE INDUSTRY



**OZZIKLEEN AUSTRALIA - MOVING BILL BOARD**

# SIGNAGE



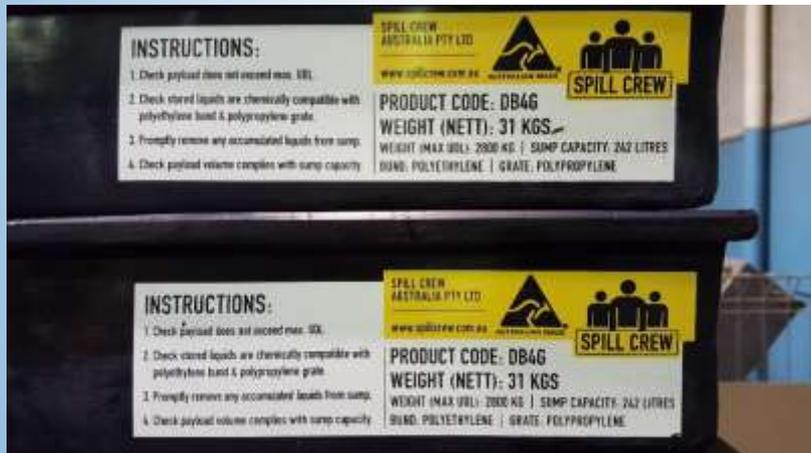
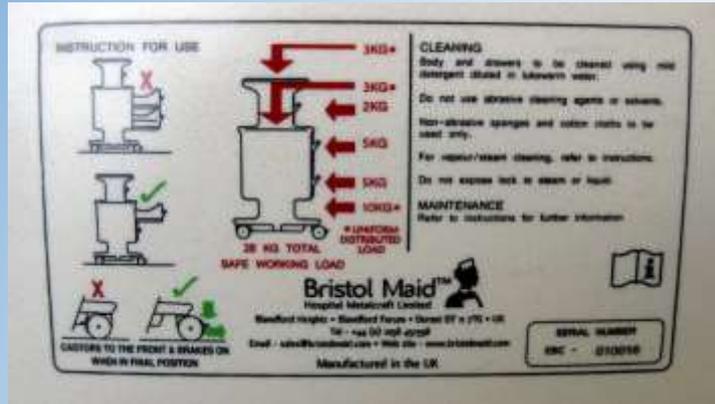
## DOG WASTE CONTAINERS

# SIGNAGE



## ROAD SIGNS

# SAFETY INFORMATION



**INSTRUCTION AND SAFETY LABELS HELP BUILD A POSTIVE BRAND IMAGE**

# Serial numbers and bar codes



# SURFACE ENHANCER PRODUCT LINE

- SURFACE ENHANCER™ 360°
- RMC3® ROTATIONAL MOLDING COMPOUND
- COLOR IN & ON SYSTEMS
- PL-S® PARTING LINE SEALER
- PATCH 'N GO®



# MIGS® Colours

## Colour In & On Systems



# MIGS<sup>®</sup> Colours Color In Systems<sup>™</sup>



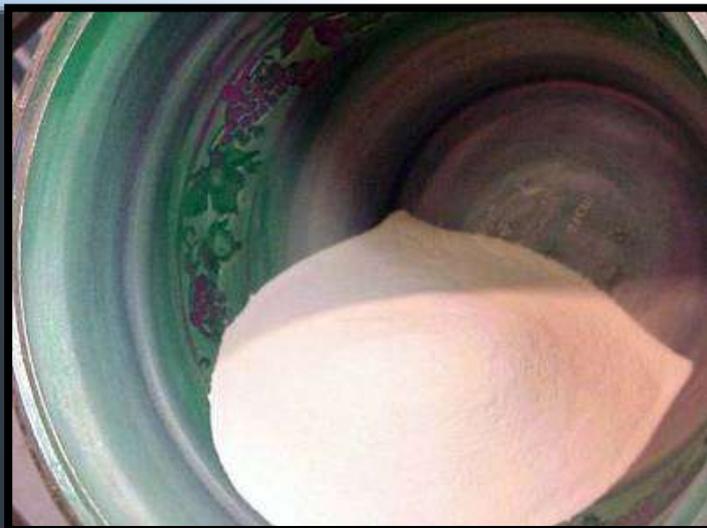


HVLP  
SPRAY GUN

Spray the mould



Use multiple colours



Pour the resin



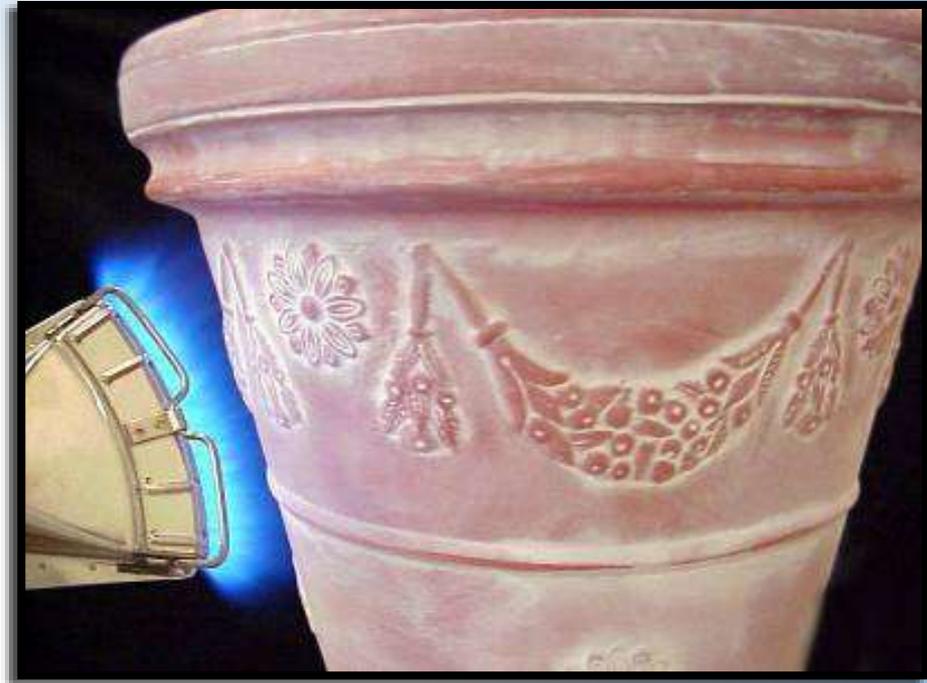
Permanent, customized decoration

# MIGS<sup>®</sup> Colours Color On Systems<sup>™</sup>





Spray the part with colour



Permanently fuse by heating.  
Part is done



# RotoWorld®

MAGAZINE FOR THE ROTATIONAL MOLDING & PLASTICS DESIGN INDUSTRIES

VOLUME VII, ISSUE 5 • 2011

## Philippe Starck

A giant of contemporary design



ARMSA Rotation 2011 Conference  
"A Success"

Rotomolded Inground Safety Shelter  
by Granger Plastics Company

Prevention of Failures IV Ribs  
A Production Perspective

# Patch 'N Go®



# Patch 'N Go®

For cosmetic repair of poorly moulded or damaged polyethylene products

- Easy to use
- Packaged in cans and tubes
- Custom-colourisation possible
- Permanently bonds to your products
- Low cost to patch a product that might have to be discounted or scrapped
- Saves you money



# Patch 'N Go®

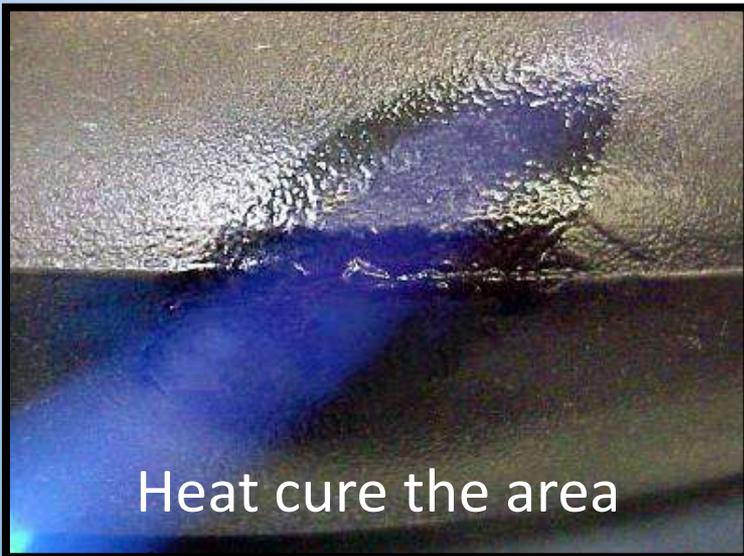
**Repair pits & punctures in polyethylene products with MIGS® Patch 'N Go®**

Comes in natural colour and can be easily custom-matched to any resin colour.

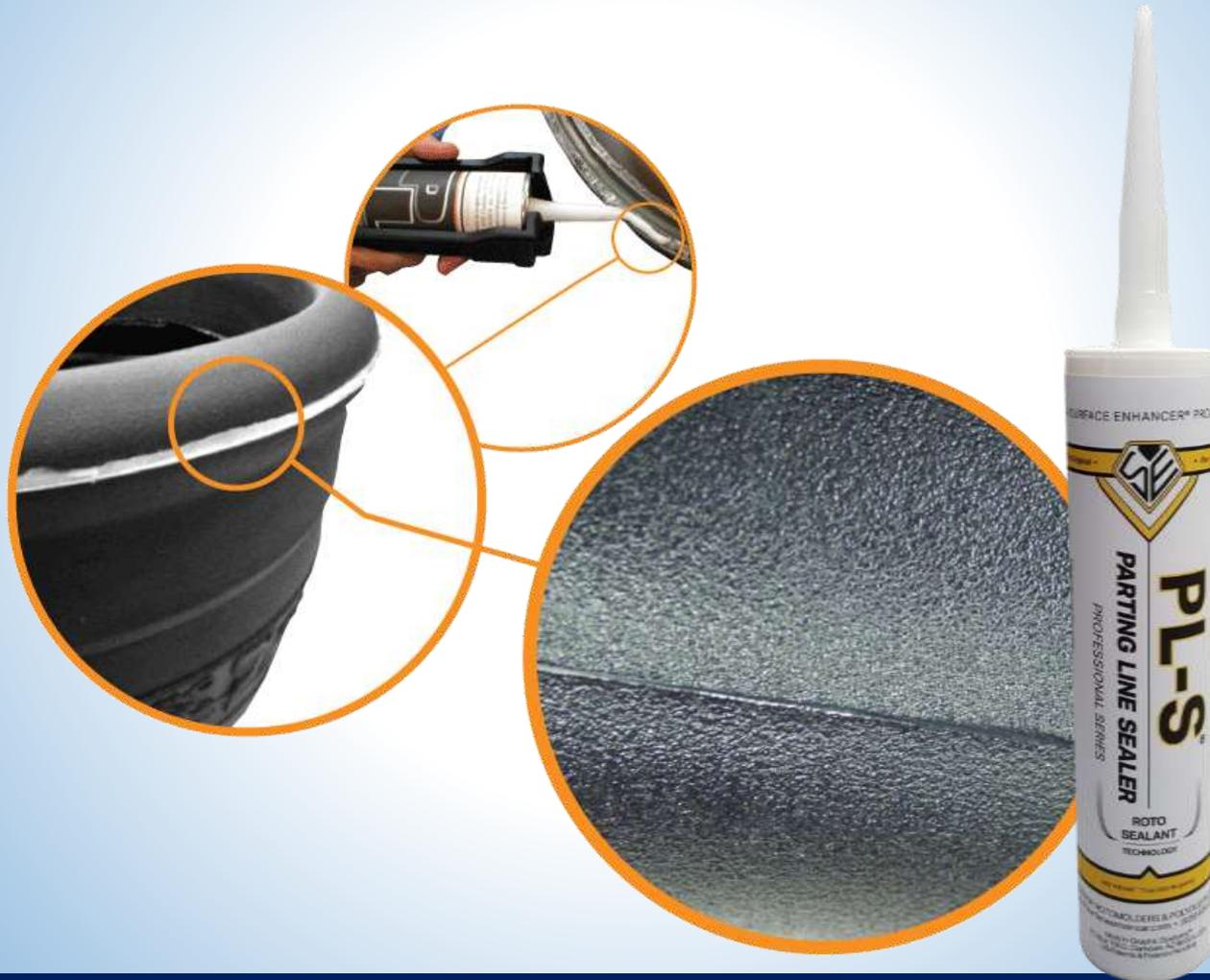
## **Easy to apply:**

1. Just mix your coloured pigment (if desired) into a container.
2. Apply the product with a putty knife to the area to be repaired.
3. Use a heating source to complete your repair.
4. Amazing results!

# It's easy to apply.



# PL-S<sup>®</sup> Parting Line Sealer<sup>™</sup>



**PL-S<sup>®</sup> Parting Line Sealer<sup>™</sup> works with a standard caulking gun.**



# PL-S<sup>®</sup> Parting Line Sealer<sup>™</sup>



- ✓ **Overcomes problems associated with damaged, worn or mismatched parting lines.**
- ✓ **Keeps moulds up and running by avoiding costly and untimely mould repairs.**
- ✓ **Allows a rotational moulder to completely seal any gaps or voids that exist between opposing sections of rotational moulds.**

# PL-S<sup>®</sup> Parting Line Sealer<sup>™</sup>



- ✓ Closure and clamping pressures allow PL-S<sup>®</sup> to spread evenly and conform to the exact shape of the irregular parting line surfaces.
- ✓ Completely cures during the normal moulding cycle and fuses directly onto the outer skin of the rotationally moulded part.
- ✓ It resists flow when subjected to high temperatures associated with rotational moulding. PL-S<sup>®</sup> is a unique polymer material.

# Damaged Parting Line on Mould

Needs repair  
before  
moulding





Cut the tip off of the PL-S®

It is easy to apply!



Puncture the seal



**Apply PL-S<sup>®</sup> directly to damaged areas of the parting line.**



**After PL-S<sup>®</sup> is applied, close the mould per normal operating procedure.**



**PL-S<sup>®</sup> forms a complete seal at the parting line. This prevents escape or entrance of internal and external gases.**



**PL-S<sup>®</sup> forms a solid bead which is easily removed by standard trimming operation.**

# RMC3<sup>®</sup>

## ROTATIONAL MOLDING COMPOUND

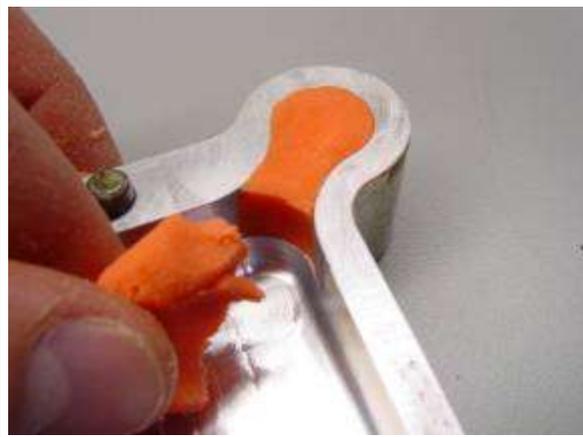




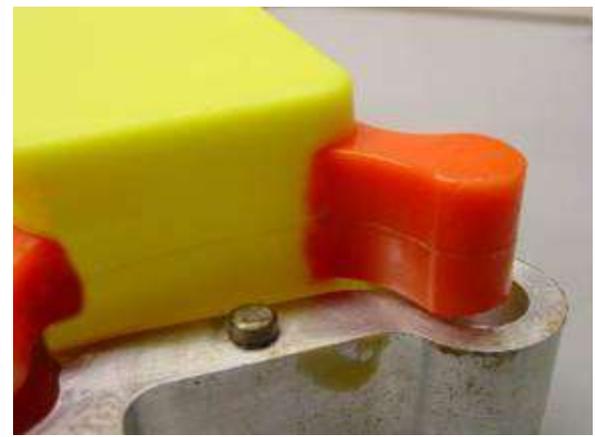
**Comes in Easy-to-Use,  
Easy-to-Form, Pliable Material!**



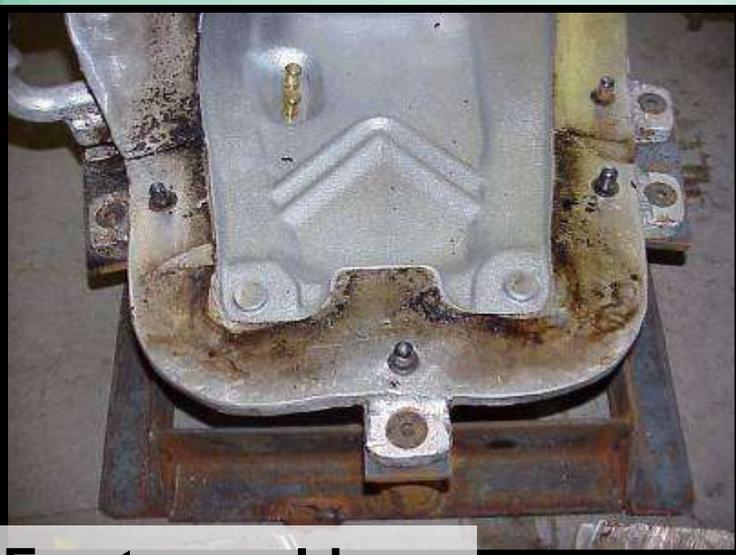
**Position the RMC<sup>3</sup>® into designated  
areas of mould as shown.**



**Remove excess RMC<sup>3</sup>® then load  
polyethylene resin charge into hollow  
mould and follow normal rotomoulding  
procedure.**



**Hollow part now features solid,  
moulded in flanges for drilling and  
wall mounting.**



**Empty mould**



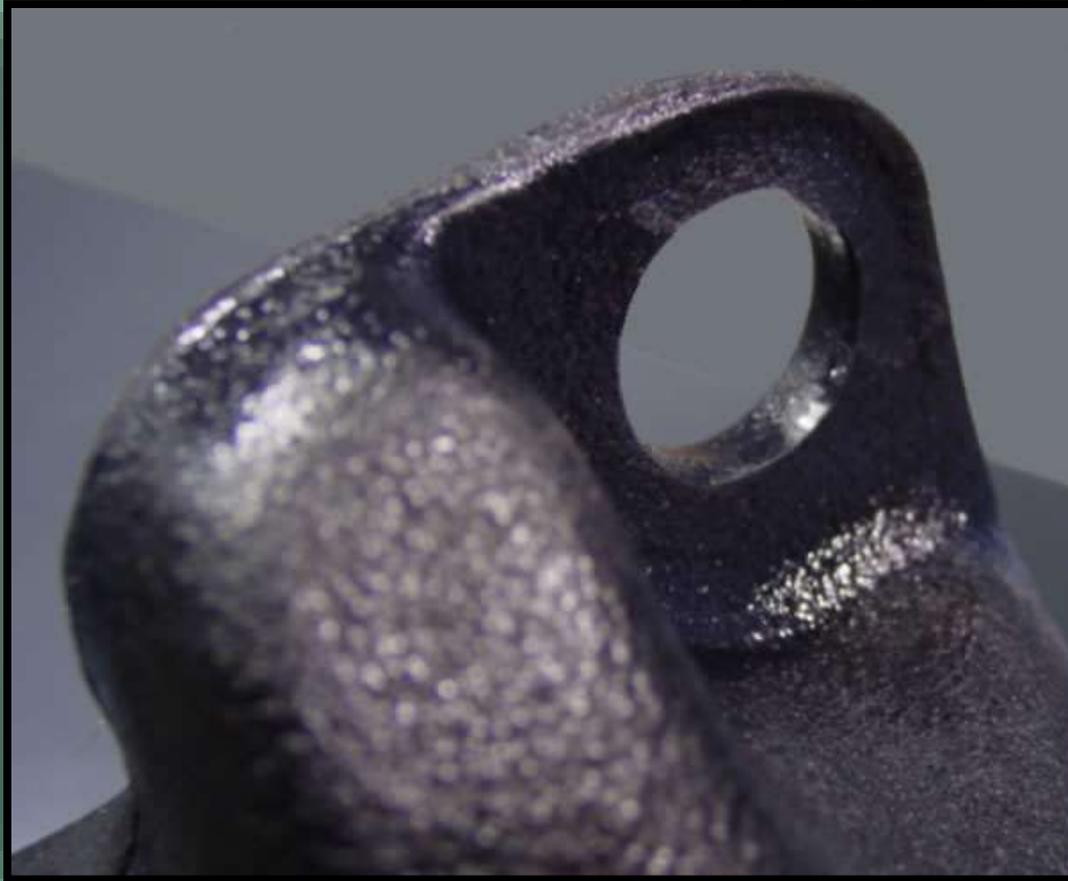
**Add the RMC<sup>3</sup>**



**De-moulding of tank**



**Finished Product**



**Hollow tank  
now features  
solid external  
mounting  
flanges!**



**Close-up  
view of  
flanges  
mounted to  
motorcycle  
frame**

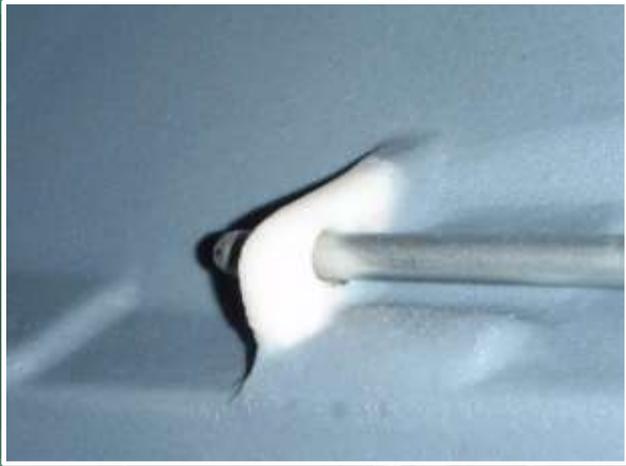


**0.1875" New  
Solid  
Moulded  
Flange**



*All product photos courtesy of  
Mainland Products, Inc. – Ontario, CA  
and IMS Products, Inc. – Riverside, CA*

**RMC<sup>3</sup>® being used by Waltex New Zealand to create a hinge section in a tool box!**



# Surface Enhancer<sup>®</sup> 360 by Mold In Graphic Systems<sup>®</sup>

**The original and best solution to fix typical powder flow related problems experienced daily by rotomoulders – now in it's 25<sup>th</sup> year!**





# Surface Enhancer® 360

## BENEFITS

- Removes pits and blowholes
- Pinhole-free surface keeps out germs and dirt
- No more thinning and bridging

Also  
comes  
in  
Gel!



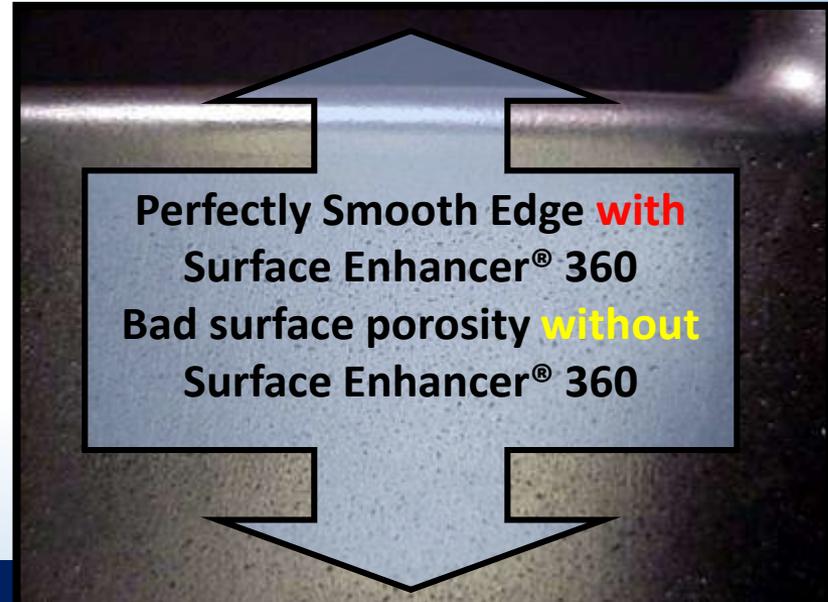
# Surface Enhancer<sup>®</sup> 360

## BENEFITS

- Makes stronger inserts
- Makes smoother, stronger threads
- Reduces scrap
- More profit for YOU



# Easy to Apply



## COMPARE



Product moulded **WITH**  
Surface Enhancer<sup>®</sup> 360



Product moulded  
**WITHOUT** Surface  
Enhancer<sup>®</sup> 360



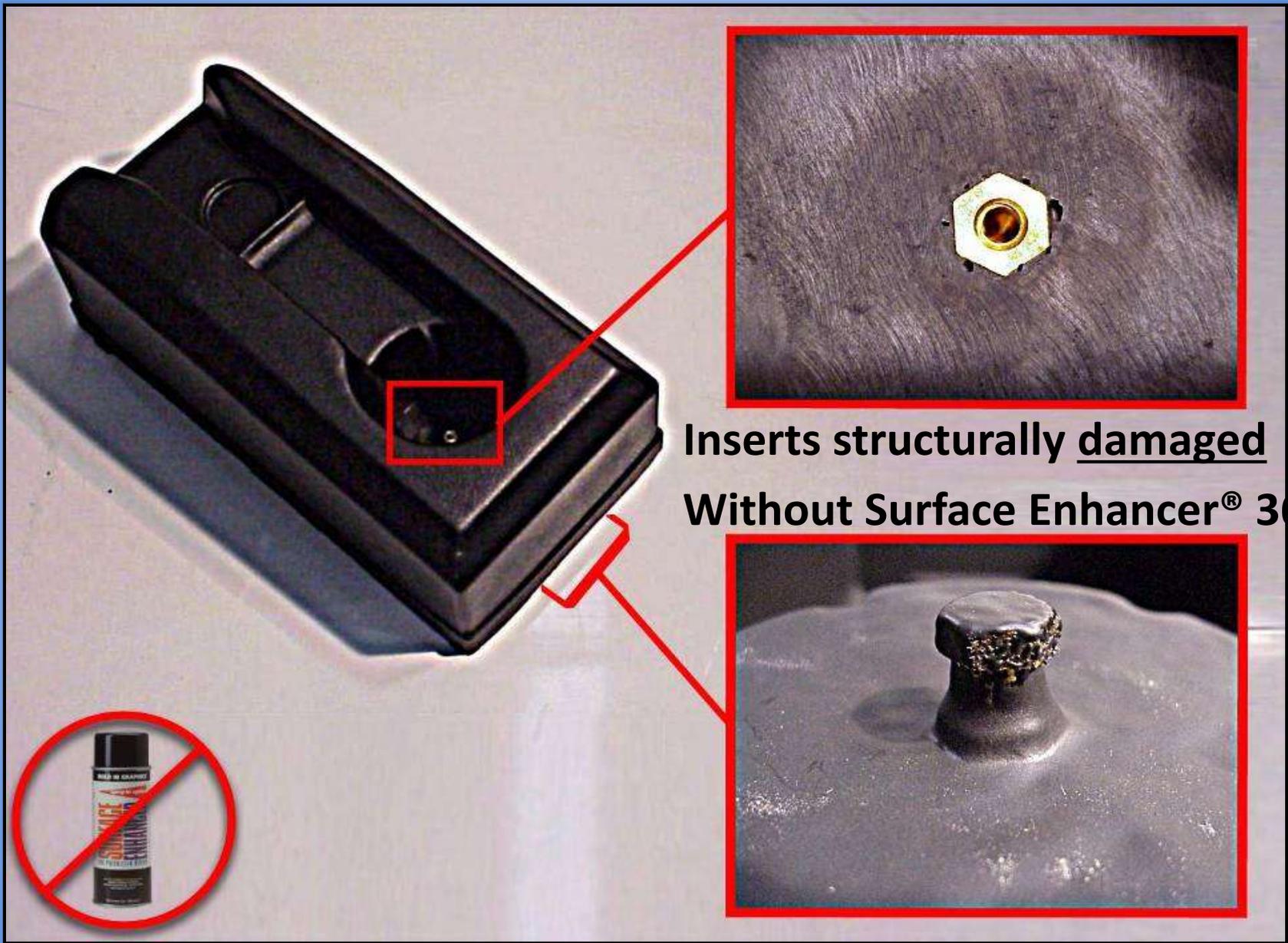
Bad, unworkable Threads  
Without  
Surface Enhancer® 360



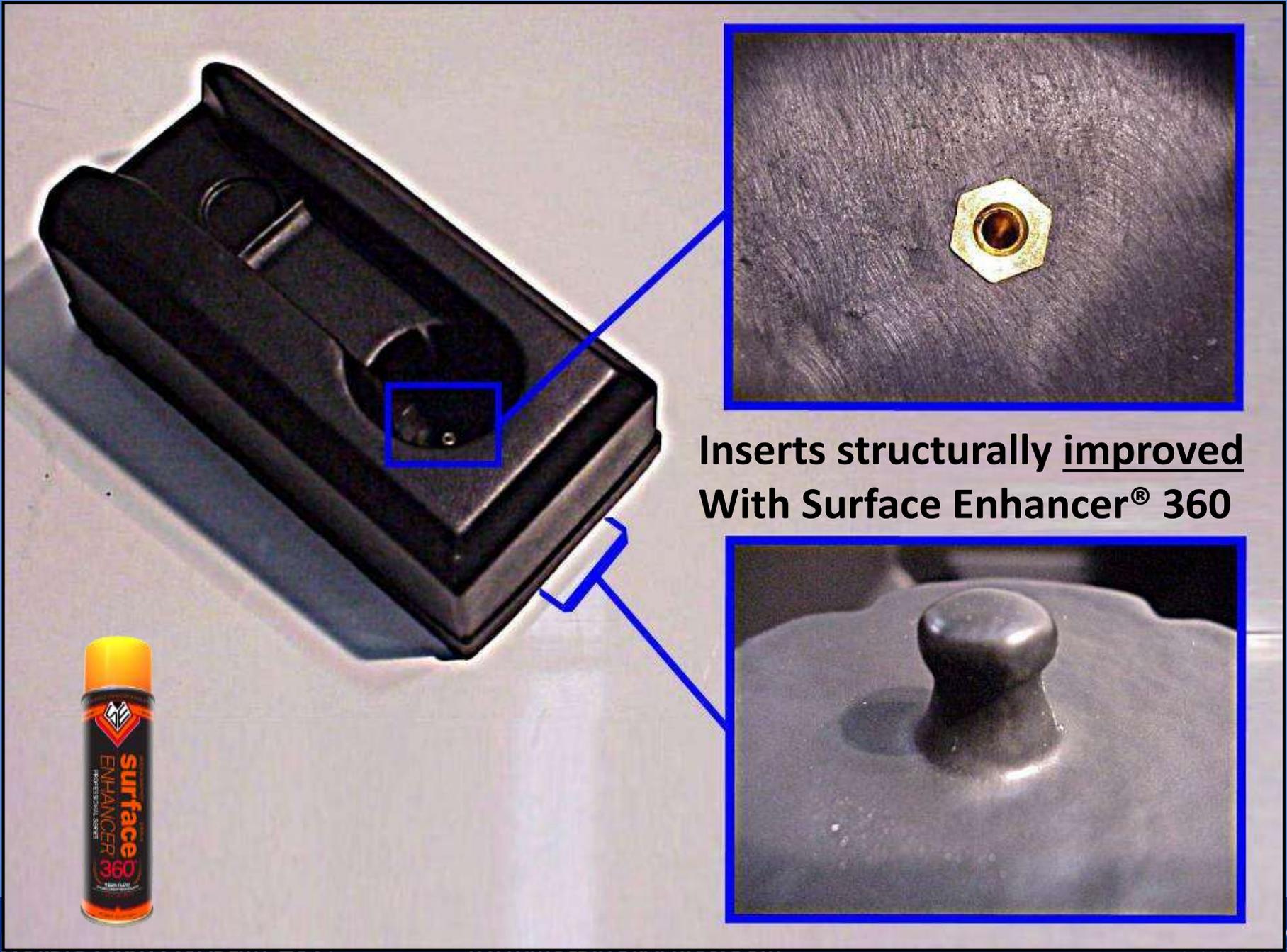


Smoother, stronger Threads  
With  
Surface Enhancer<sup>®</sup> 360





Inserts structurally damaged  
Without Surface Enhancer® 360



Inserts structurally improved  
With Surface Enhancer® 360



**Thank you for attending our workshop today!**

**For more information, please contact Nick Moldan (France):**

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**Email: [nickmoldan@moldinggraphics.com](mailto:nickmoldan@moldinggraphics.com)**