



Don't just purge...*ULTRA PURGE!*TM

presents

Produced by
MOULDS PLUS
INTERNATIONAL

Innovating purging technology for the packaging industry

ULTRA-X™



Packaging Webinar

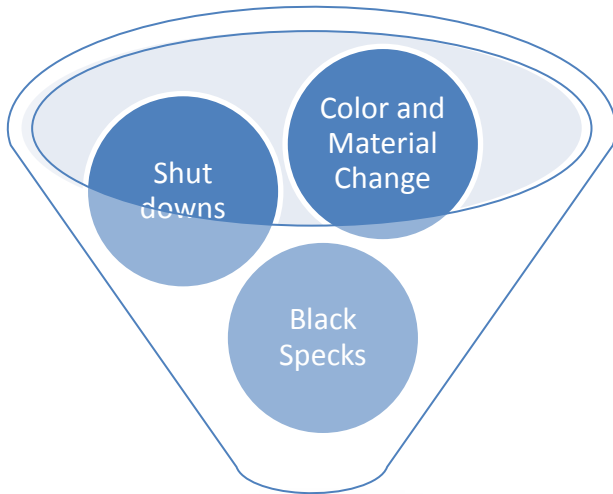


**ULTRA
PURGE**

Don't just purge...*ULTRA PURGE!*TM

1. DIFFERENCES BETWEEN PURGING COMPOUNDS
2. WHY USE A COMMERCIAL PURGE COMPOUND
3. ULTRA-X BENEFITS
4. ULTRA PURGE 5150
5. ULTRA PURGE 5160
6. APPLICATIONS
7. COST ANALYSIS
8. TRAINING

WHY USE A PURGE COMPOUND?



Increase
Productivity

Reduce
scrap

Increase
Profits

Reduce
downtime

**MORE
COMPETITIVE
IN THE
MARKET**


WHEN DO YOU NEED TO PURGE?




Color
Changes



Carbon
Removal

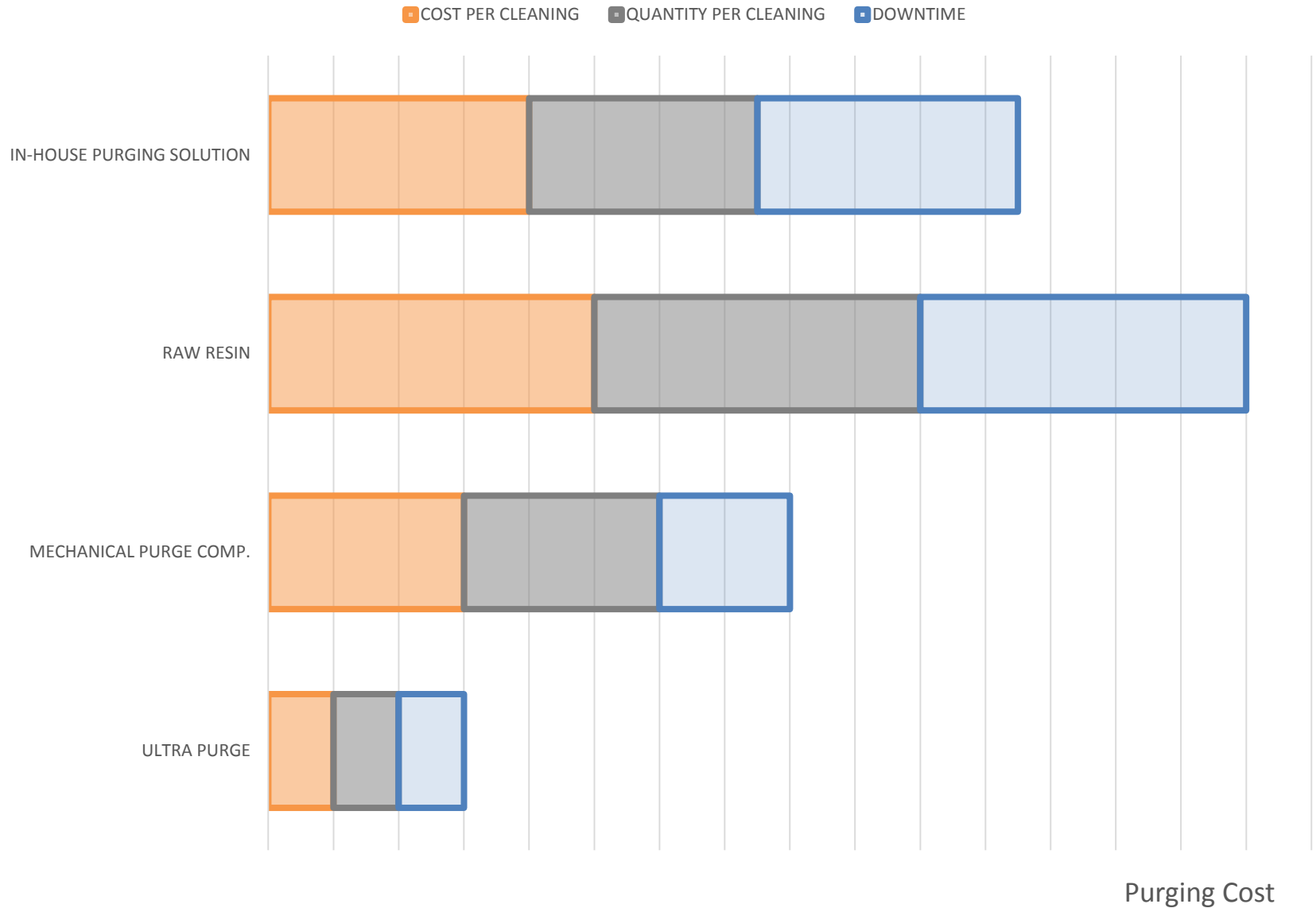


Material
Changes

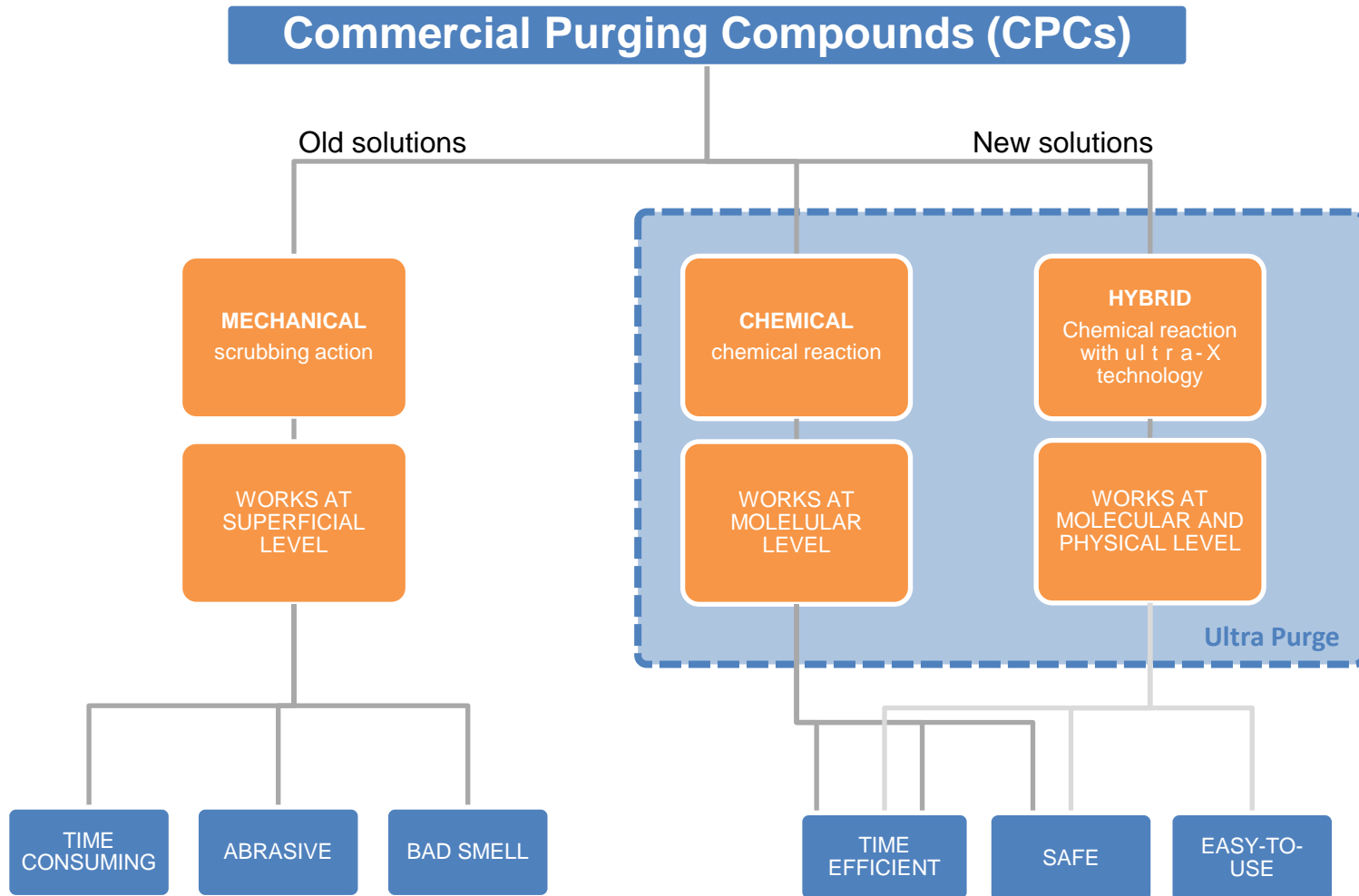


Startups
Shut downs

PURGING OPTIONS



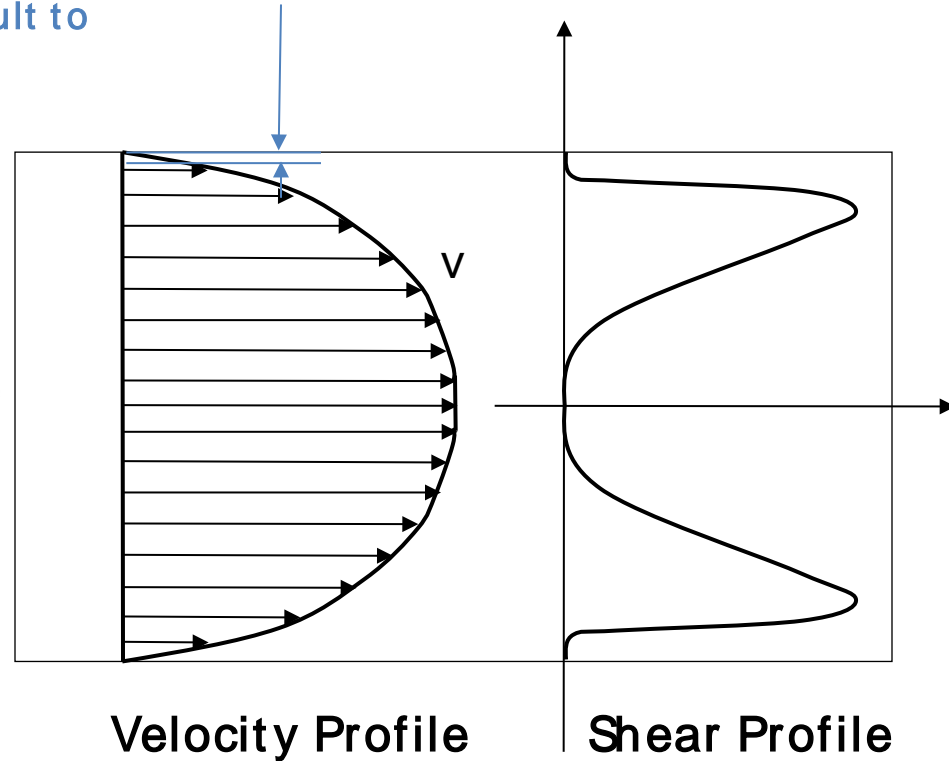
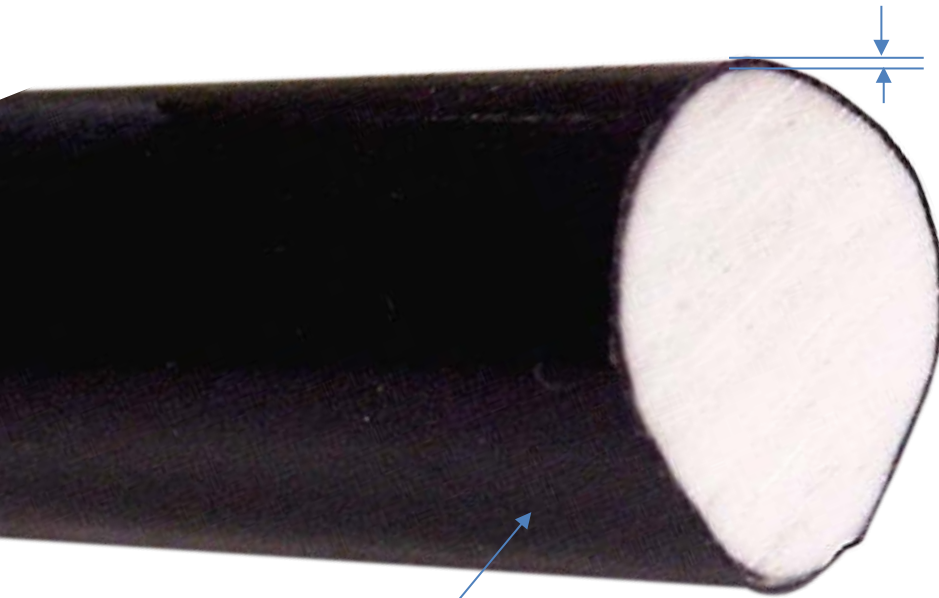
DIFFERENCES BETWEEN PURGING COMPOUNDS



PHYSICS OF POLYMER FLOW

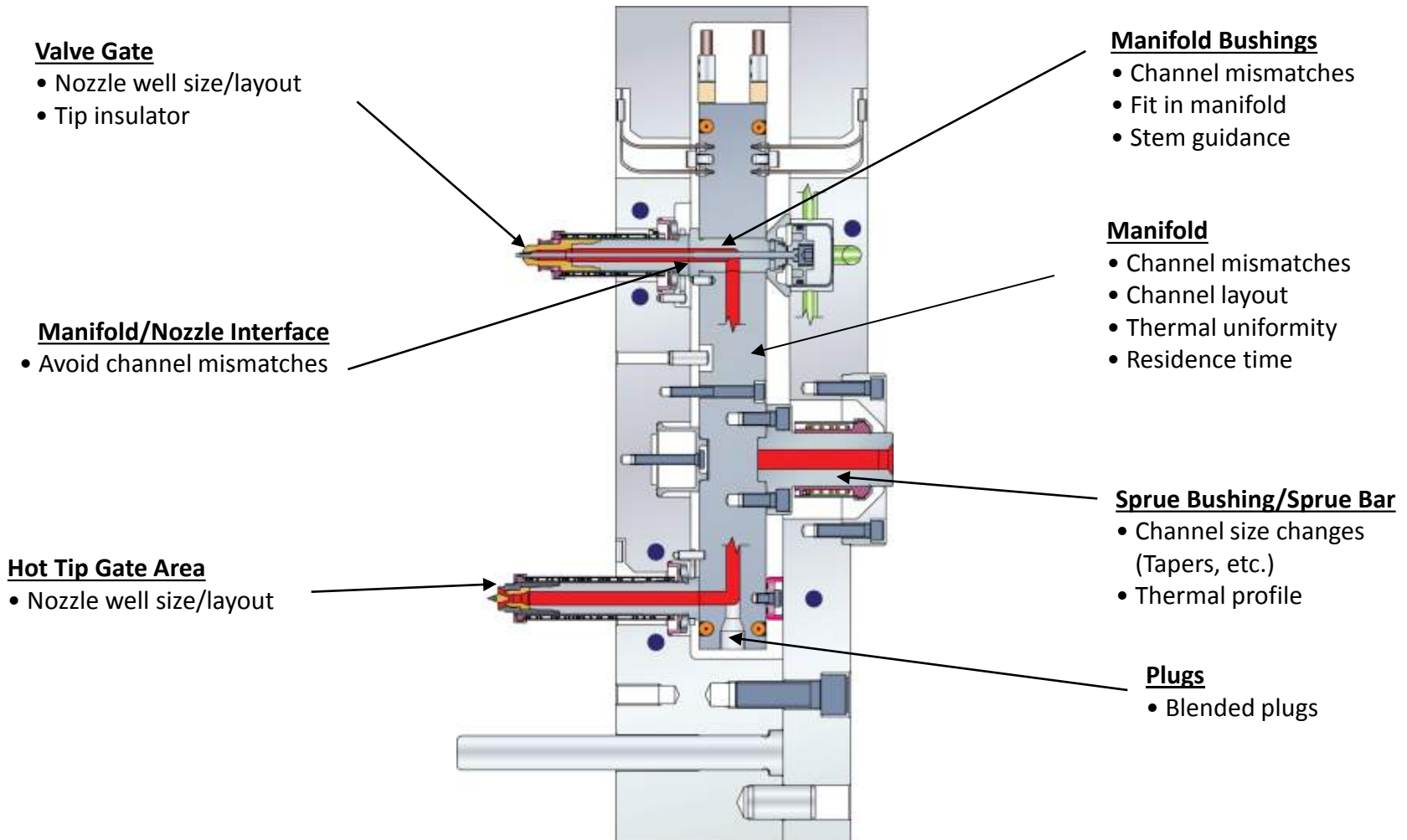
Velocity almost 0 near the channel wall means that the old color is very difficult to remove using raw/ regrind resin

Very low speed near the melt channels doesn't allow the color to be removed



Plastic pulled from melt channel

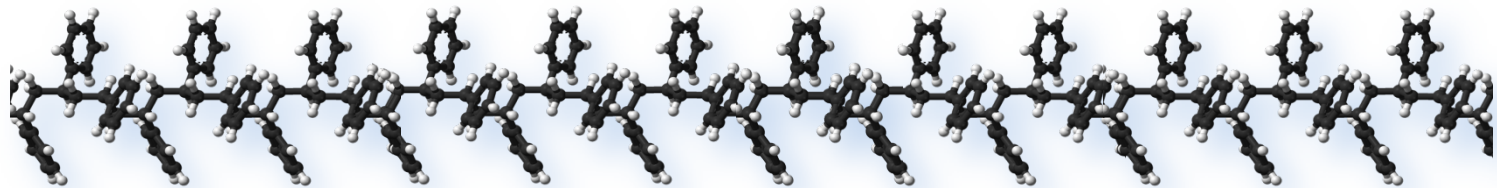
Best Design Practices For Hot Runners



HOW ULTRA PURGE WORKS?

Ultra Purge cleaning power:

- Breaking chemical bonds between pigments and resin
- Molecular alteration of the polymer viscosity that results in increasing the melt flow index
- Presence of foaming agents that help reach dead spots
- Presence of ultra-X that enhances all the other features adding scrubbing power





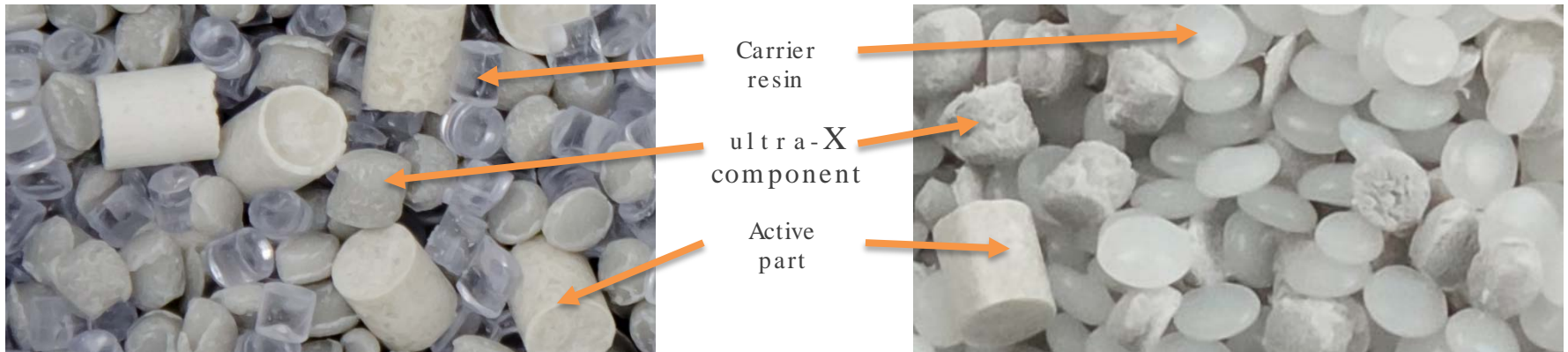
What is ultra-X?

Ultra-X is a proprietary technology added to Ultra Purge that enhances the performance thus making it more efficient and user friendly.

ULTRA-XTM TECHNOLOGY

How does ultra-X work?

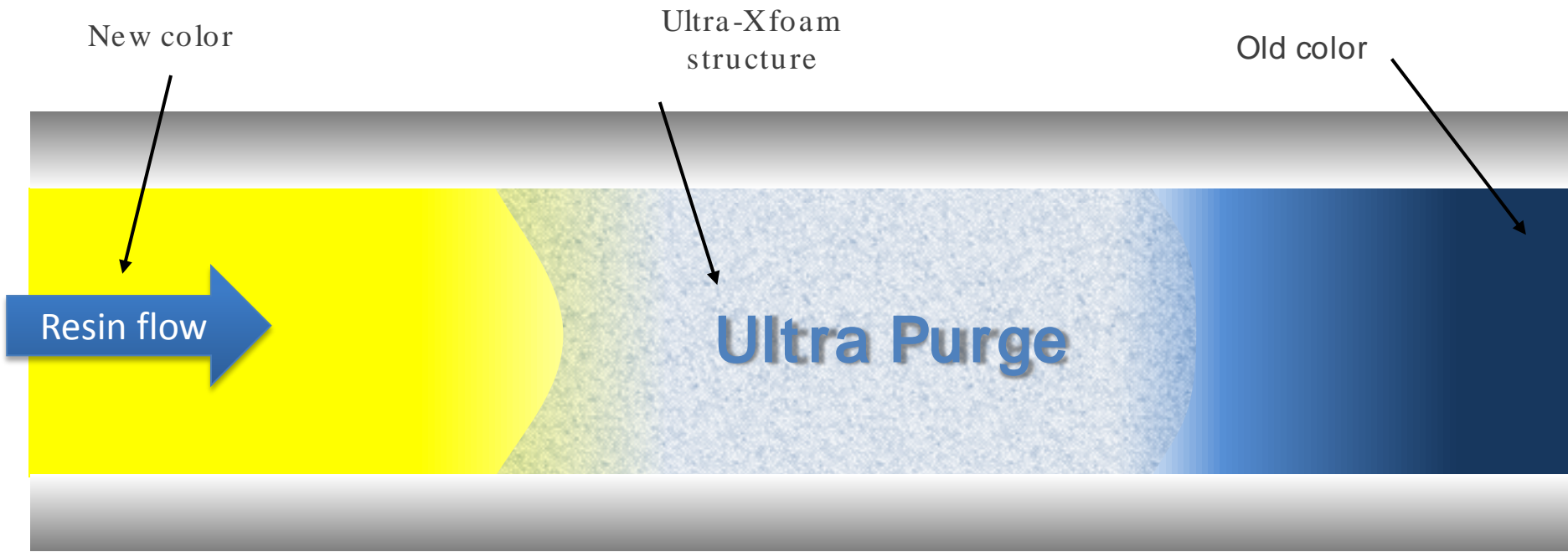
Ultra-X in combination with Ultra Purge's active ingredients fluidizes the polymer which allows Ultra Purge's grades to flow through very small gates (as little as 0.2 mm) and at the same time, it adds scrubbing power without harming the screw, barrel, hot runners or the metal finish of the mold.



Ultra-X also allows Ultra Purge to reach an optimal level of expansion that is necessary to reach the hard to clean areas of the machine.

ULTRA-XTM TECHNOLOGY

How does ultra-X work?

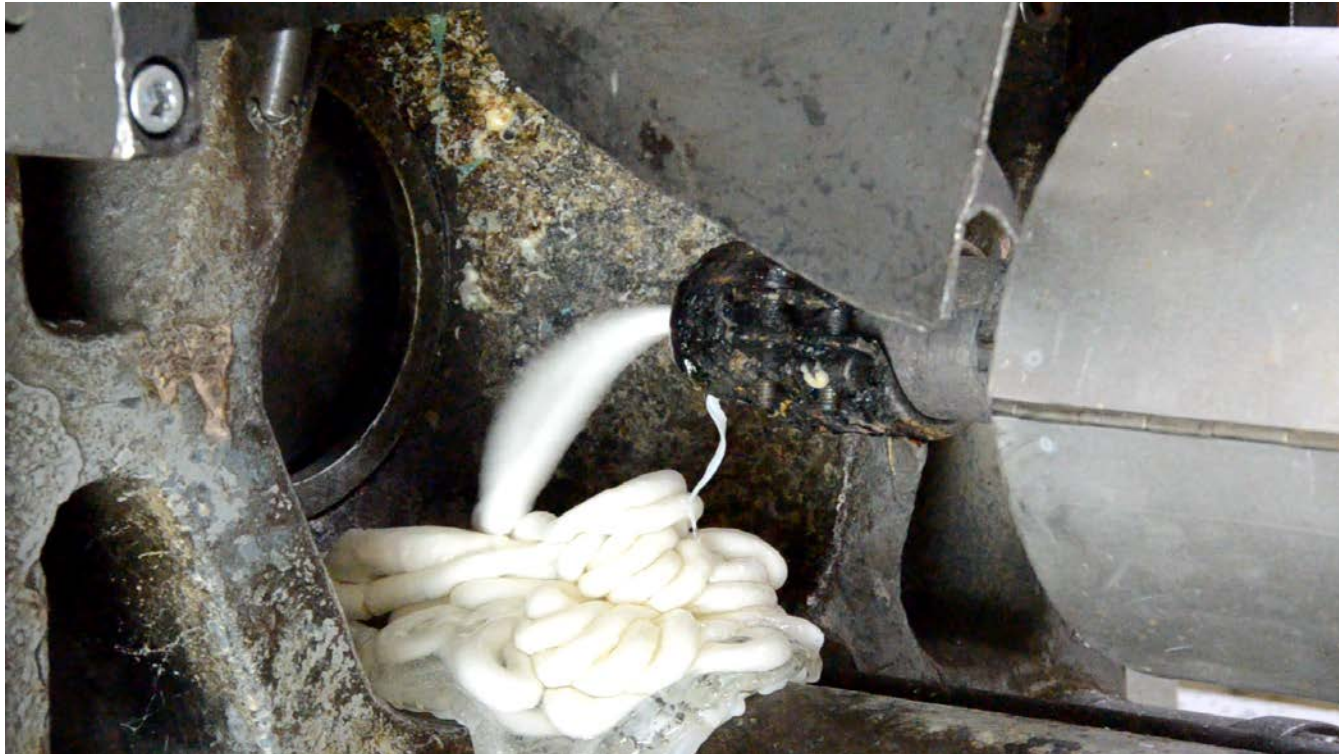


1. Expansion

2. Removal

ULTRA-XTM TECHNOLOGY

ul t r a-*X* in combination with Ultra Purge's active ingredients will expand to reach all dead spots of the machine



ULTRA-XTM TECHNOLOGY

Can ultra-X technology be used in hot runners?

YES!

Ultra Purge 5150 and Ultra Purge 5160 can be used to purge hot runner systems with the mold open or by molding parts. There is no need to change processing parameters when purging.



Flip-top caps molded with Ultra Purge 5150

ULTRA-XTM TECHNOLOGY

Increase profitability with Ultra Purge's new ultra-X technology

From internal studies and controlled tests performed with select customers, the new Ultra-X technology has shown an increase cleaning power of about 30% compared to previous grades of Ultra Purge designed for the same application.



Caps molded with Ultra Purge 5150

ULTRA-XTM TECHNOLOGY

Why ultra-X increases 30% Ultra Purge's efficiency?

Ultra-X has better efficiency compared to glass fiber because it helps the carriers of the Ultra Purge to keep its “hardness/consistency” while allowing it to expand and reach the dead spots of the machine where color and carbon contaminations normally hide.



Medical components molded
with Ultra Purge 5150

Also Ultra-X is a lot easier to compound compared to glass fiber. This helps minimize stress to the carrier polymer with the consequent gain in thermostability.

ULTRA PURGE GRADES WITH THE ULTRA-X TECHNOLOGY

- ✓ Ultra Purge 5150 is designed to purge crystalline resins



- ✓ Ultra Purge 5160 is designed to purge amorphous resins



Ultra Purge 5150™

HDPE
LDPE

Ultra Purge 5150™ is a polyethylene based hybrid purging compound that does **not contain any glass fibers.**

PP
PA6
PA66

Ultra Purge 5150™ is formulated as a new evolution of the Ultra Pure 5050™ with the goal of improving the cleaning performance while making a much easier to process and user friendly purging compound.

POM
PVC
TPE
TPR

**INJECTION MOLDING
HOT RUNNERS
EXTRUSION
BLOW MOLDING
SHEET EXTRUSION**

Ultra Purge 5160™

ABS
ASA
PBT
PC
PET
PMMA
PS
SAN
SB
SBS
SEBS

Ultra Purge 5160™ is a styrene based hybrid purging compound that does **not contain any glass fibers**.

Ultra Purge 5160™ is formulated as a new evolution of the Ultra Pure 5060™ with the goal of improving the cleaning performance while making a much easier to process and user friendly purging compound.

**INJECTION MOLDING
HOT RUNNERS
EXTRUSION
SHEET EXTRUSION**

APPLICATIONS FOR NEW ULTRA PURGE GRADES

- Medical
- Automotive
- Cap/Closure
- Flexible Packaging
- Masterbatch
- Containers
- Custom molders



ULTRA-X™

BENEFITS

Conventional hybrid purge compound

Contains glass fiber

Stiff and difficult to process

Efficient with color changes

Efficient with carbon removal

Has the tendency to produce smoke

Ultra Purge with ultra-X

Contains Ultra-X blend of mineral
fillers

Helps increase polymer flow and is
extremely easy to process and mold

30% more efficient than the original
hybrid CPC during color changes

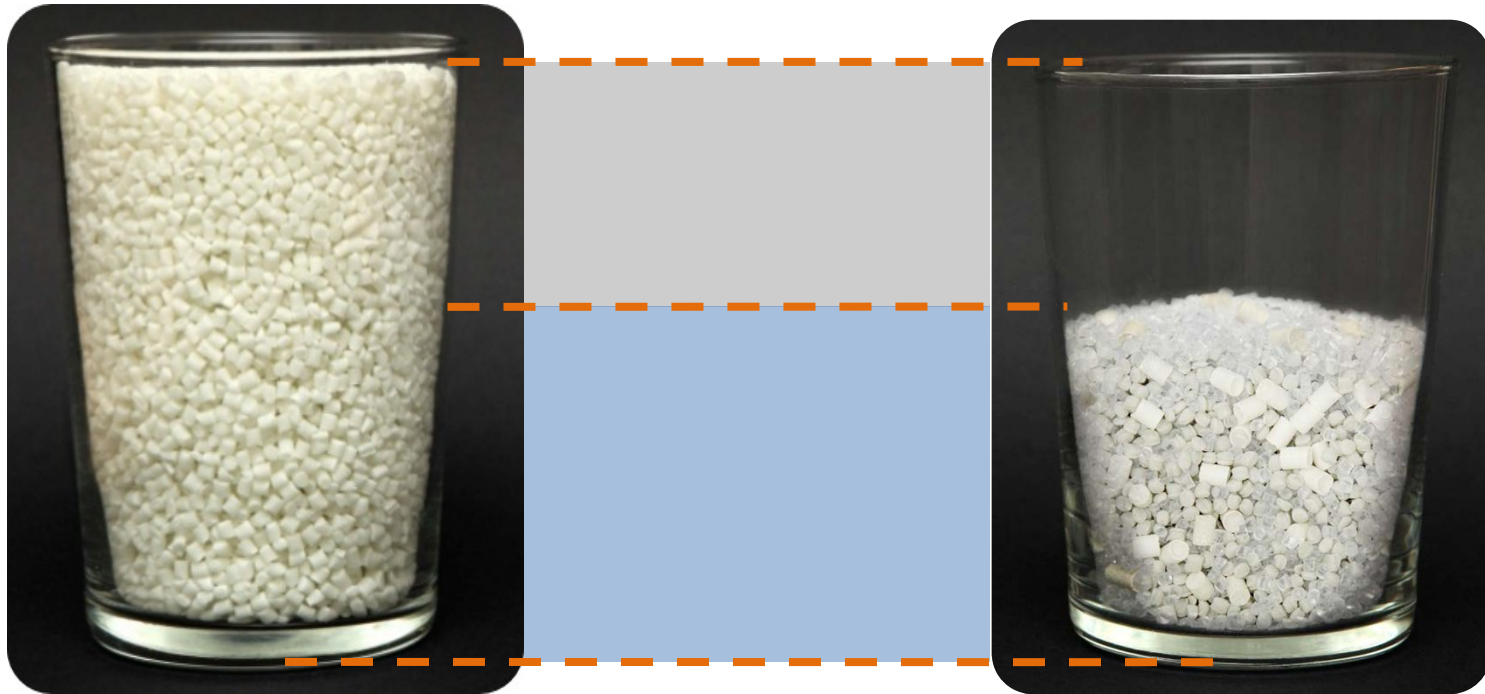
30% more efficient than the original
hybrid CPC during carbon removal

Thermo-stable and does not
produce smoke



ULTRA PURGE BENEFITS

Small amount of Ultra Purge required



Conventional mechanical purge

Ultra Purge with **ul t r a-X**

ULTRA PURGE BENEFITS

Moldable



Ultra Purge ready to use grades can be molded into parts making the cleaning process very easy and fast. No parameters need to be change to mold Ultra Purge.



Close up of the molded cap with Ultra Purge 5150.

Ultra Purge 5150 was able to flow through a small clearance in the cavity to fill out the part. Ultra Purge can flow through an opening as small 0.2 mm

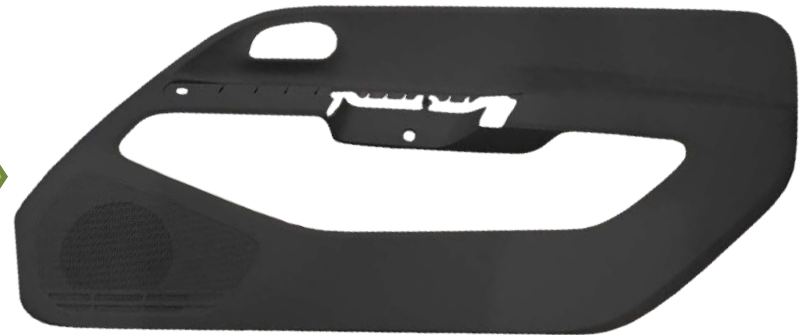
ULTRA PURGE BENEFITS



Recyclable - No need to dispose of Ultra Purge



Ultra Purge can be recycled by scrap dealers or in some cases also be reused to make parts.



ULTRA PURGE BENEFITS

FDA Approved/Food Contact Certified

All ingredients of Ultra Purge are **Generally Recognized As Safe** as substances added indirectly to human food and Ultra Purge is also food contact certified according to the European Food Regulations



Safe for operators

Ultra Purge is 100% safe and no odor or fumes are emitted from the usage of Ultra Purge.

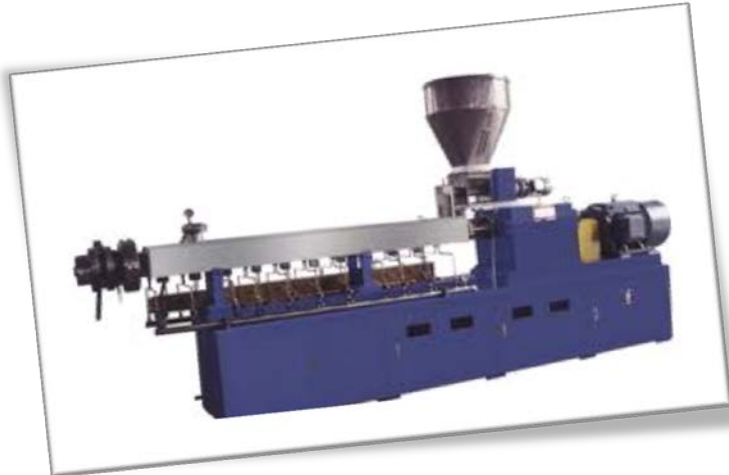
ULTRA PURGE GRADES

GRADES	TEMPERATURE RANGE				DESIGNED FOR	DESCRIPTION
	T min °C	T max °C	T min °F	T max °F		
HIGH-ETM	190	320	374	608	ABS, PA, PS (crystal), GPPS, HIPS, PC, PMMA, SAN, PBT, PET...	Ready-to-use chemical purging compounds
LOW-ETM	140	260	284	500	PVC, EVA, TPE, POM, TPR, TPU...	
PET-ETM	190	320	374	608	PET	
P-OTM	170	300	338	572	PP, PE, HDPE, LDPE, LLDPE, HIPS, GPPS, TPO	
PCTM	220	340	428	664	ANY RESINS GOING TO PC	
PMMA TM	200	280	392	536	ANY RESINS GOING TO PMMA OR PA12	
5150 TM	160	350	320	662	All resins within temperature range	Ready-to-use hybrid purging compounds with ultra-X TM technology
5160 TM	190	320	374	608	ABS, PA, PS (crystal), GPPS, HIPS, PC, PMMA, SAN, PBT, PET...	
HT TM	200	380	392	716	PEEK, PPS, PPO, ULTEM, GRIVORY HT...	Ready-to-use hybrid purging compounds
ME-CTM	190	350	374	662	All resins within temperature range	
HT+ TM	250	400	482	752	PPS, PPO, PEEK, PSU, ULTEM...	
9010 TM	140	320	284	608	TPR, TPE, PVC, EVA, POM, PS, ABS, PA, PC, PBT, PPO, PMMA, PET...	Concentrate chemical purging compounds
9015 TM	140	300	284	572	PP, PE, HDPE, LDPE, LLDPE, HIPS, GPPS, TPO...	
BPTM	170	380	338	716	PP, PE, HDPE, LDPE, LLDPE, HIPS, GPPS, TPO...	
PET-CTM	190	320	374	608	PET	
PO-CTM	170	320	338	608	PP, PE, HDPE, LDPE, LLDPE, HIPS, GPPS, TPO...	

ULTRA PURGE IS DESIGNED TO CLEAN ALL PLASTIC PROCESSING MACHINES



- Injection molding
- Blow molding
- Extrusion
- Blow film
- Cast film
- Filament



COST ANALYSIS

Ultra Purge vs. competitors

COST ANALYSIS				
#	Description	Units	Other Compound	Ultra Purge
1	Resin quantity	lb	25	15
2	Purging compound quantity	lb	16	8
3	TOTAL COST PER PURGING	USD	782.00	228.62
4	Downtime	min	45	30
5	Total downtime cost	USD	112,50	75,00

For every cleaning
you save:

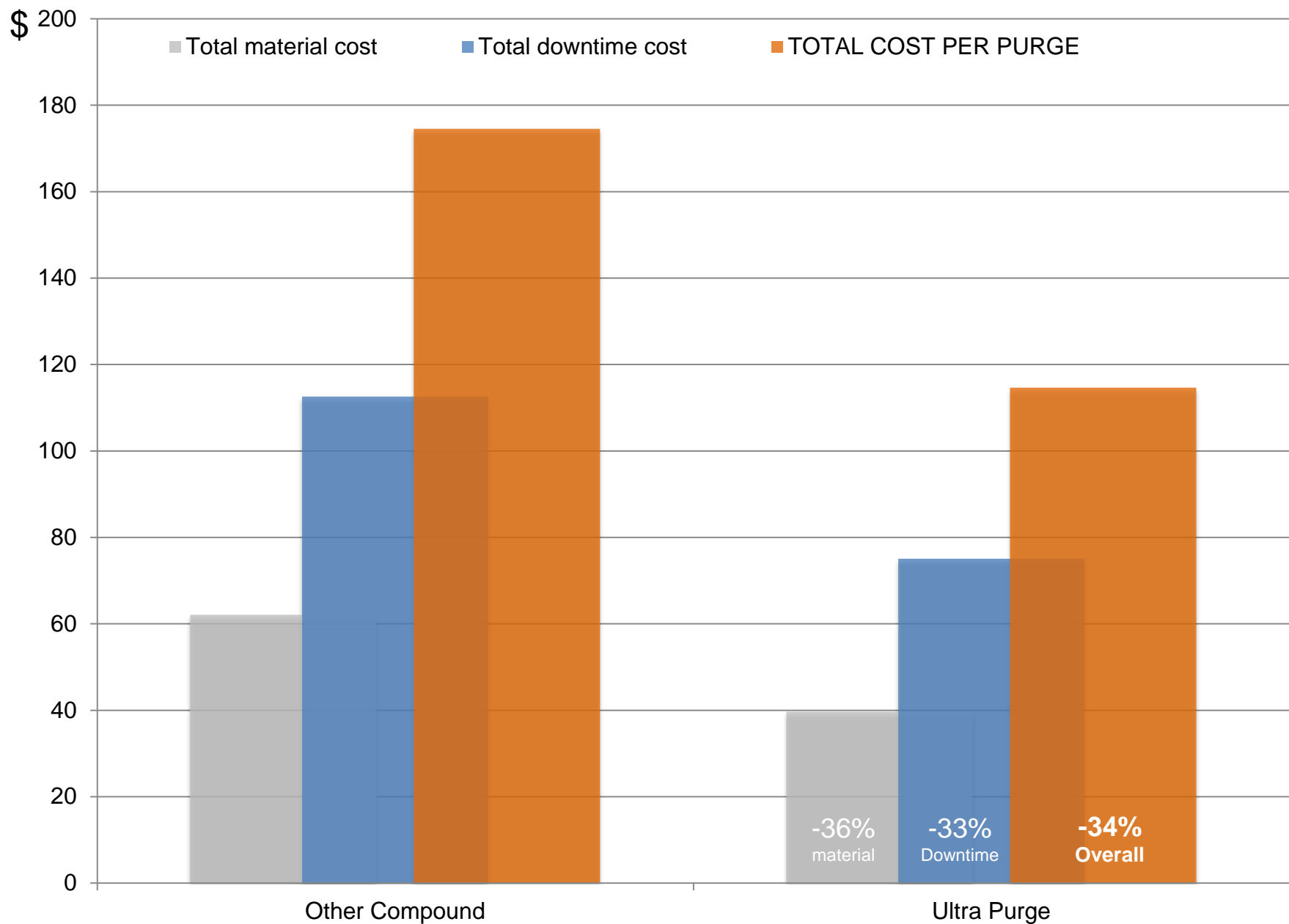
\$60

The purging cost has
been reduced by:

34%

Reduction in downtime: 33%

Reduction of purging material: 36%



COST ANALYSIS

Ultra Purge vs. raw HD-PE

COST ANALYSIS				
#	Description	Units	Other Compound	Ultra Purge
1	Resin quantity	lb	280	60
2	Purging compound quantity	lb	0	7
3	TOTAL COST PER PURGING	USD	782.00	228.62
4	Downtime	min	240	60
5	Total downtime cost	USD	600.00	150.00

For every cleaning
you save:

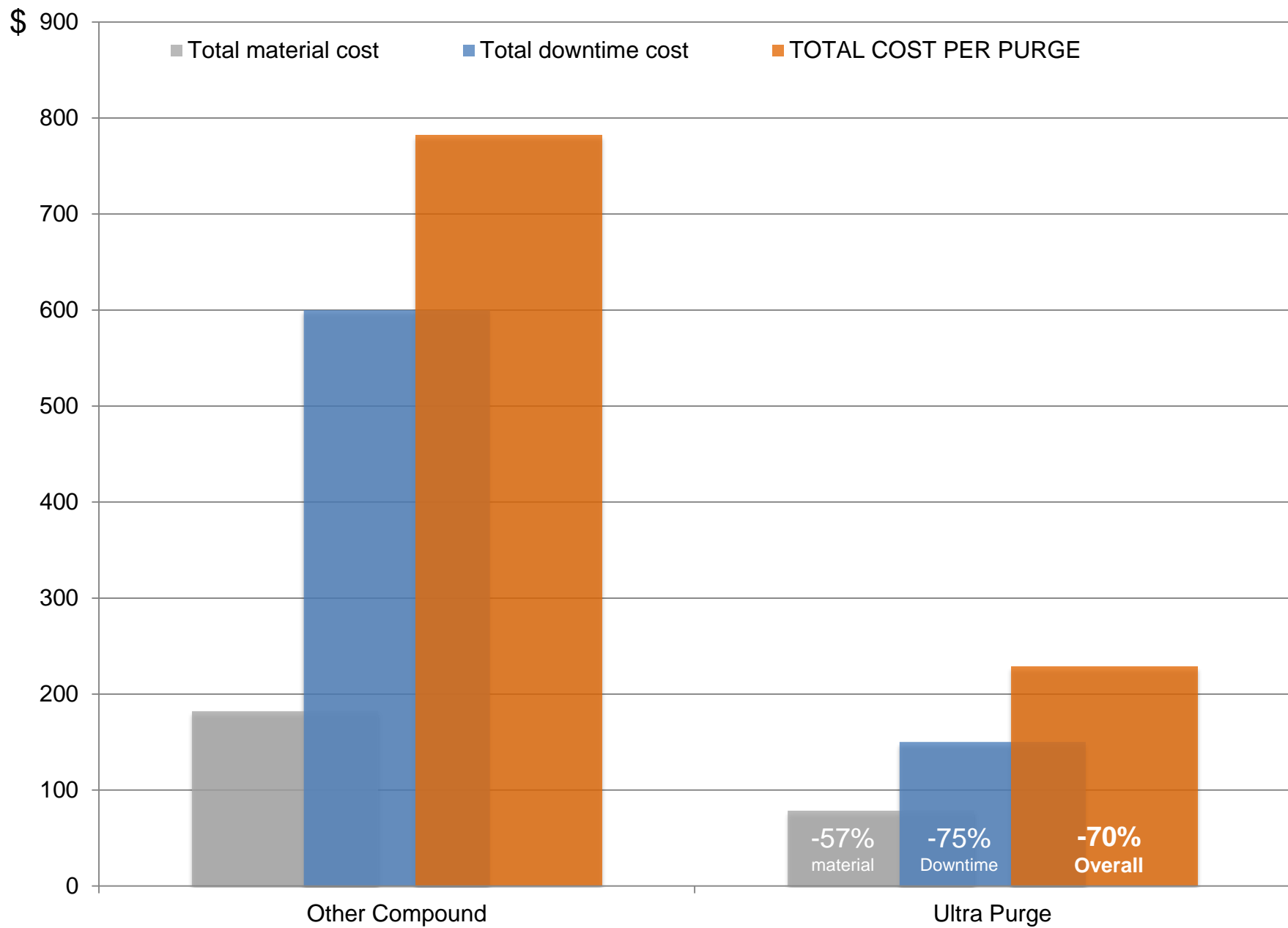
\$553.38

The purging cost has
been reduced by:

70%

Reduction in downtime: 75%

Reduction of purging material: 57%



TRAINING



We believe that the true power of Ultra Purge is not only within the product itself, but it also in the operators that are using it.

Adopting the right purging procedure is extremely important.

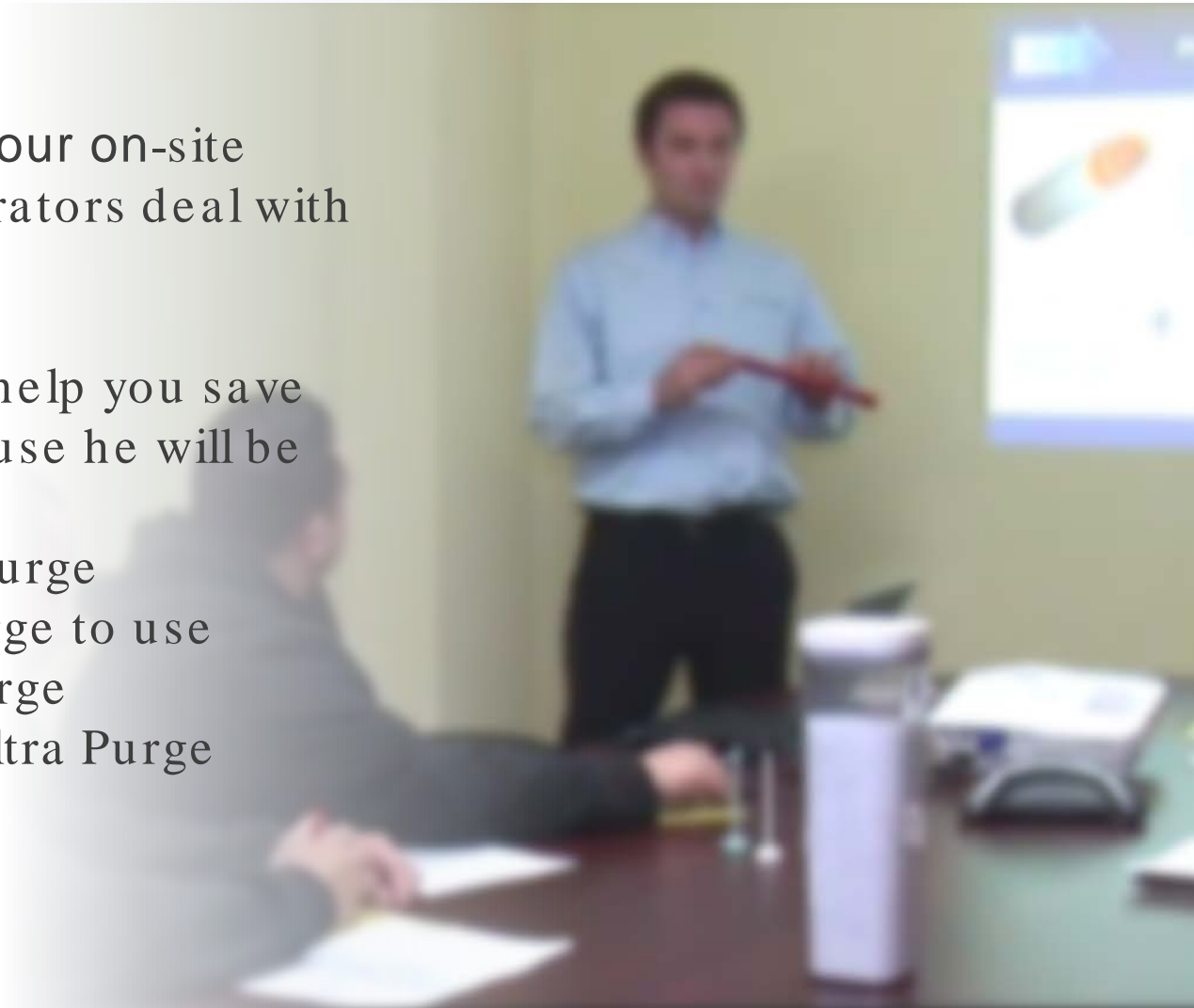
We put a lot of effort in testing and developing simple and effective step-by-step guides to obtain the best results with minimum amounts of Ultra Purge.

TRAINING

Customers can request our on-site training to help the operators deal with the purging task.

A trained operator will help you save even more money because he will be able to understand:

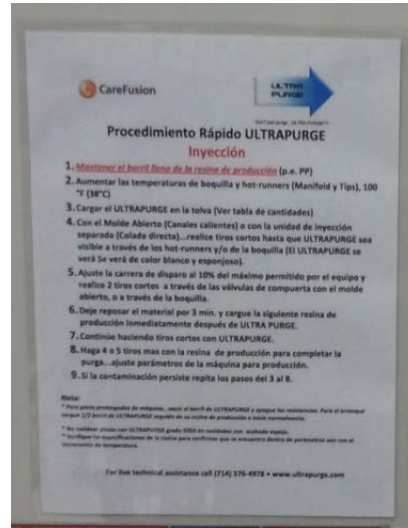
1. When to use Ultra Purge
2. How much Ultra Purge to use
3. How to use Ultra Purge
4. When NOT to use Ultra Purge



TRAINING

We provide laminated custom made procedures alongside with scoops or buckets for easy dosage.

This makes the Ultra Purge usage even easier, quicker and error-free.



ULTRA PURGE QUANTITY CHART

Machine #	Manuf.	Tonnage	Barrel Capacity	Ultra Purge Needed	
				Lbs.	Scoops
1	VanDorn	300	14	0.9	1/2 scoop
2	VanDorn	300	14	0.9	1/2 scoop
3	VanDorn	300	29	1.8	1 scoop
4	VanDorn	300	30	1.9	1 scoop
5	VanDorn	300	25.4	1.6	3/4 scoop
6	VanDorn	230	20	1.3	3/4 scoop
7	VanDorn	300	14	0.9	1/2 scoop
8	VanDorn	230	20	1.3	3/4 scoop
9	VanDorn	230	20	1.3	3/4 scoop
10	VanDorn	300	14	0.9	1/2 scoop
11	VanDorn	300	30	1.9	1 scoop
12	VanDorn	150	8	0.5	1/4 scoop
13	VanDorn	300	30	1.9	1 scoop
14	VanDorn	300	20	1.3	3/4 scoop
15	VanDorn	300	40	2.5	1 & 1/4 scoop
16	VanDorn	300	29	1.8	1 scoop
17	VanDorn	300	40	2.5	1 & 1/4 scoop
18	VanDorn	300	40	2.5	1 & 1/4 scoop
19	Cincinnati	330	29	1.8	1 scoop
21	VanDorn	300	14	0.9	1/2 scoop
22	VanDorn	300	14	0.9	1/2 scoop
23	Husky G	300	20	1.3	3/4 scoop
24	VanDorn	300	14	0.9	1/2 scoop
25	Husky	500	65	4.1	1 scoop
26	VanDorn	300	14	0.9	1/2 scoop
27	VanDorn	300	14	0.9	1/2 scoop
28	VanDorn	300	14	0.9	1/2 scoop
29	VanDorn	300	14	0.9	1/2 scoop
34	VanDorn	300	14	0.9	1/2 scoop
35	VanDorn	300	14	0.9	1/2 scoop
36	Krauss Maffei	450	18	1.1	1 scoop
37	Krauss Maffei	450	35	2.2	2 & 1/4 scoops
38	Krauss Maffei	450	35	2.2	2 & 1/4 scoops

1 Scoop= 2lbs.



R&D LABS

Moulds Plus International R&D laboratories have developed tailored solutions for injection molding, automotive applications, PET preform manufacturing, profile extrusion, blown film and extrusion blow molding.

Plastic engineers operating from our on-site laboratories are dedicated to continuous research, product development and the manufacturing of high quality products. Moulds Plus International has also partnered with major resin, colorant and machinery producers around the world in order to develop the best purging solutions for our client's unique needs.

Worldwide support

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INTERNATIONAL

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Moulds Plus International has
distributors located all
throughout the world offering
Ultra Purge to the local
markets.

www.ultrapurge.com