How to Implement a Purge Program & Stop Wasting Money

ASACLEAN™
Purging Compound

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Purging Compound

- **World's #1 best-selling purging compound**
- **Created in 1990**
- **Sold in more than 70 countries**
- **Engineered for different resins & applications**
- **Manufactured and distributed by Sun Plastech, Inc.**

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- **Japan's leading diversified chemical manufacturer with businesses in the chemicals & fibers, homes & construction materials, electronics, and health care sectors**

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Use Purging to Gain a Competitive Edge

- Increase output
- Lower production costs
- Reduce machine downtime
- Decrease scrap-rate

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- **1-Understand Your Process**
- 2-Grade Selection
- 3-Analyze Cost Factors
- 4-Changeovers
- 5-Preventative Purging
- 6-Shutdown & Sealing
- 7-Screw Pulls

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Your Process

- Applications
- Machine count/size
- Production/quality issues
- Products
- Temperatures and resins

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Shifts

- How many?
- How long?
- What kind of downtime?

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Shutdowns

- How often do you schedule maintenance?
- Do you pull screws?
- Do you seal prior to shutdowns?
- How are startups after shutdowns?

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Establish a Baseline

- How many good parts do you usually make?
- What is your scrap rate?
- How much material are you using now?
- What are your total costs (including labor)?
- Understand your current results ***before*** you start your purge program.

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Consider This…

"You can't manage what you don't measure."

-Peter Drucker

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Grade Selection

- Consider application
  - Injection Molding
  - Extrusion
- What are your expectations?
- What are your current pain points?
- Choose a compatible purge

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Mechanical Purging Compounds

- Dependent on pressure & agitation
- Additives
- No chemical reactions
- No soak time
- Let the machine's power do the work

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Injection Molding

- Clean the check ring
- Increase temperature
- Most purges are moldable

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Chemical Purging Compounds

- Areas of low pressure
- Endothermic chemical reaction
  - Create pressure
  - Create agitation
- Remove deposits
- Soak times of 5-30 minutes

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Extrusion

- Expand into low-flow areas
- Low pressure concerns
- Twin screw applications
- Areas adjacent to ports and vents

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Analyze Cost Factors

- Cost per purge vs. cost per pound
- Be Consistent
- Keep track of these over time:
  - Changeover time
  - Scrap-rate
  - Production reject rate
  - Lost production due to downtime

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Follow Direction to Maximize Efficiency

- Follow the supplier's instructions to the letter to establish your purging baseline… then experiment
- Grade or type of CPC
- Increase temperatures in areas needing extra cleaning

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Cost of In-House Purge Compounds

- Is your in-house purge resistant to oxidation?
- Can you shut down & seal with an in-house purge & have defect-free product at start-up?
- Is your in-house purge easy to remove with the next resin?
- If not, it's time to make a change

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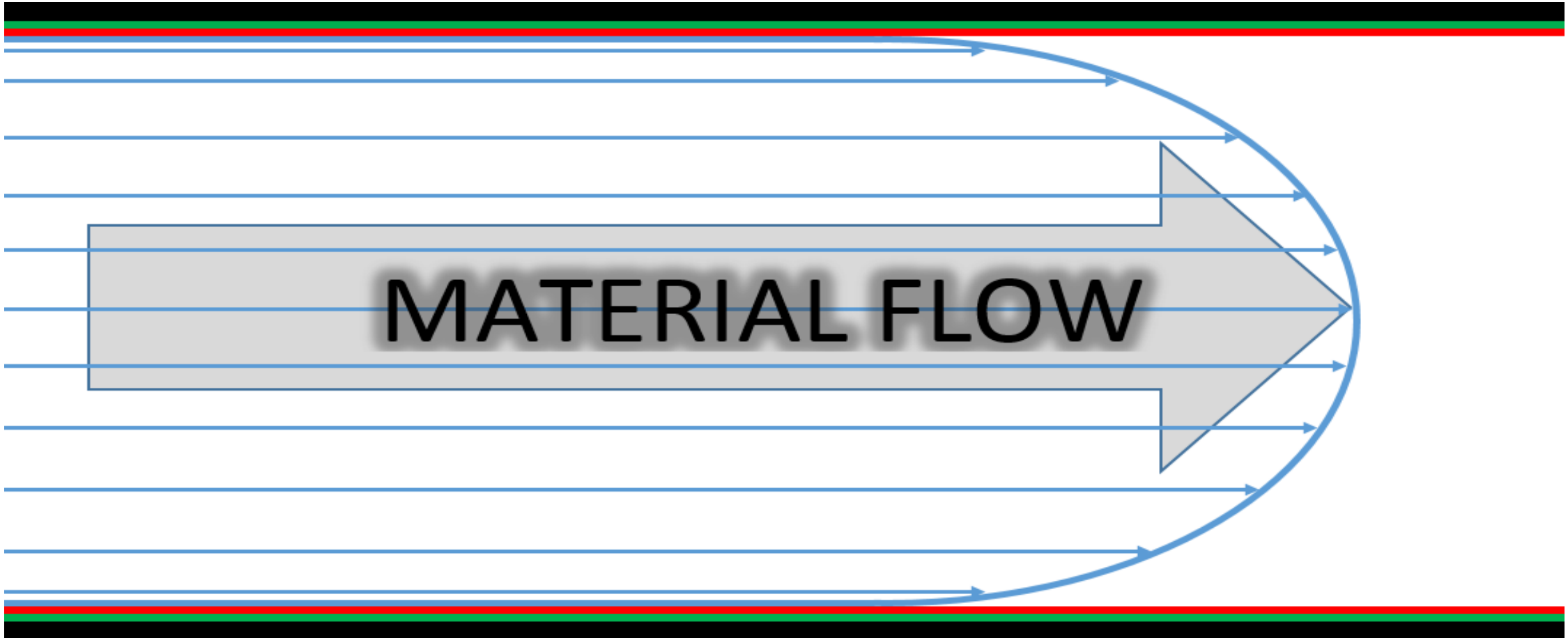
Path of Least Resistance

- Changeovers-Temperature, Material, & Color



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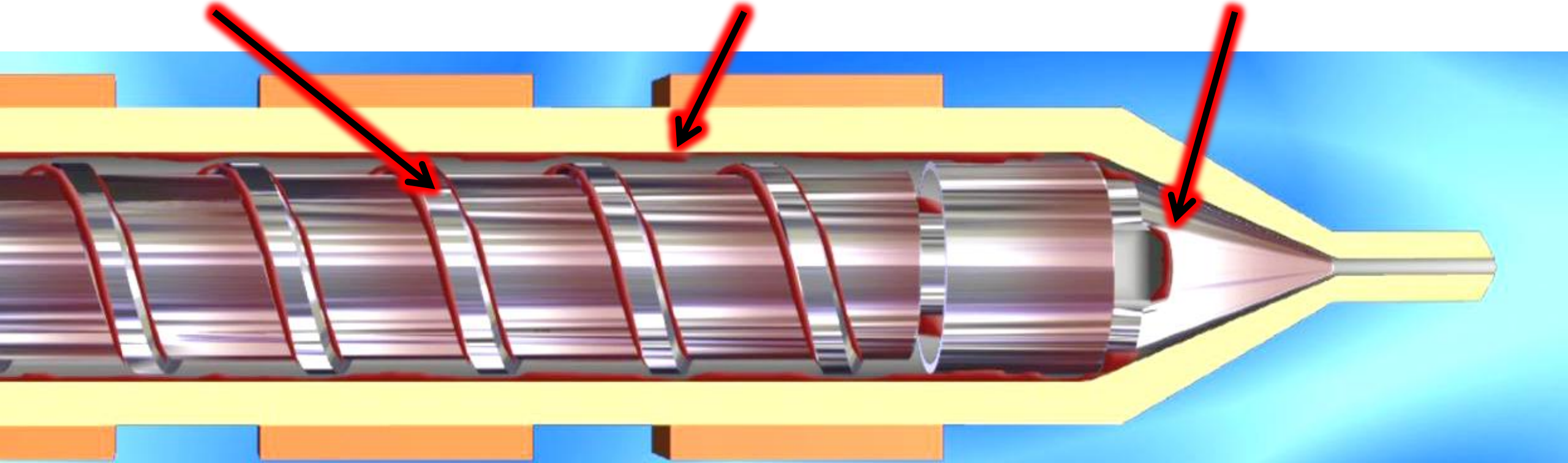
Accumulation of Layers

- Resin cannot effectively remove previous resins or carbon/color deposits another problem



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Changeovers Are Costly

	Virgin Resin
Changeover Time:	2 hr
Machine Running Cost:	$100.00/hr
Machine Downtime Cost:	$200.00
Amount of Material Used:	25 lb
Price of Material:	$0.75/lb
Changeover Material Cost:	$18.75
Total Changeover Cost:	$218.75

- **Annual changeover cost = $52,500.00**

Changeovers/Day=1, Days/Week=5, Weeks/Year=48

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Improved Changeover Costs

	Virgin Resin	ASACLEAN™
Changeover Time:	2 hr	0.33 hr
Machine Running Cost:	$100.00/hr	$100.00/hr
Machine Downtime Cost:	$200.00	$33.00
Amount of Material Used:	25 lb	5 lb
Price of Material:	$0.75/lb	$5.00/lb
Changeover Material Cost:	$18.75	$25.00
Total Changeover Cost:	$218.75	$58.00

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Improved Changeover Costs

- Assuming 5 changeovers per week, 48 weeks per year, 240 changeovers per year
- $52,500.00 vs. $13,920.00 with Asaclean
- Annualized Changeover Savings:
- $38,580.00 = 73%

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Preventative Purging

- Incorporate a purge program
- How often should you purge?

Before Purging

After Using ASACLEAN™

- Deposits in their beginning state

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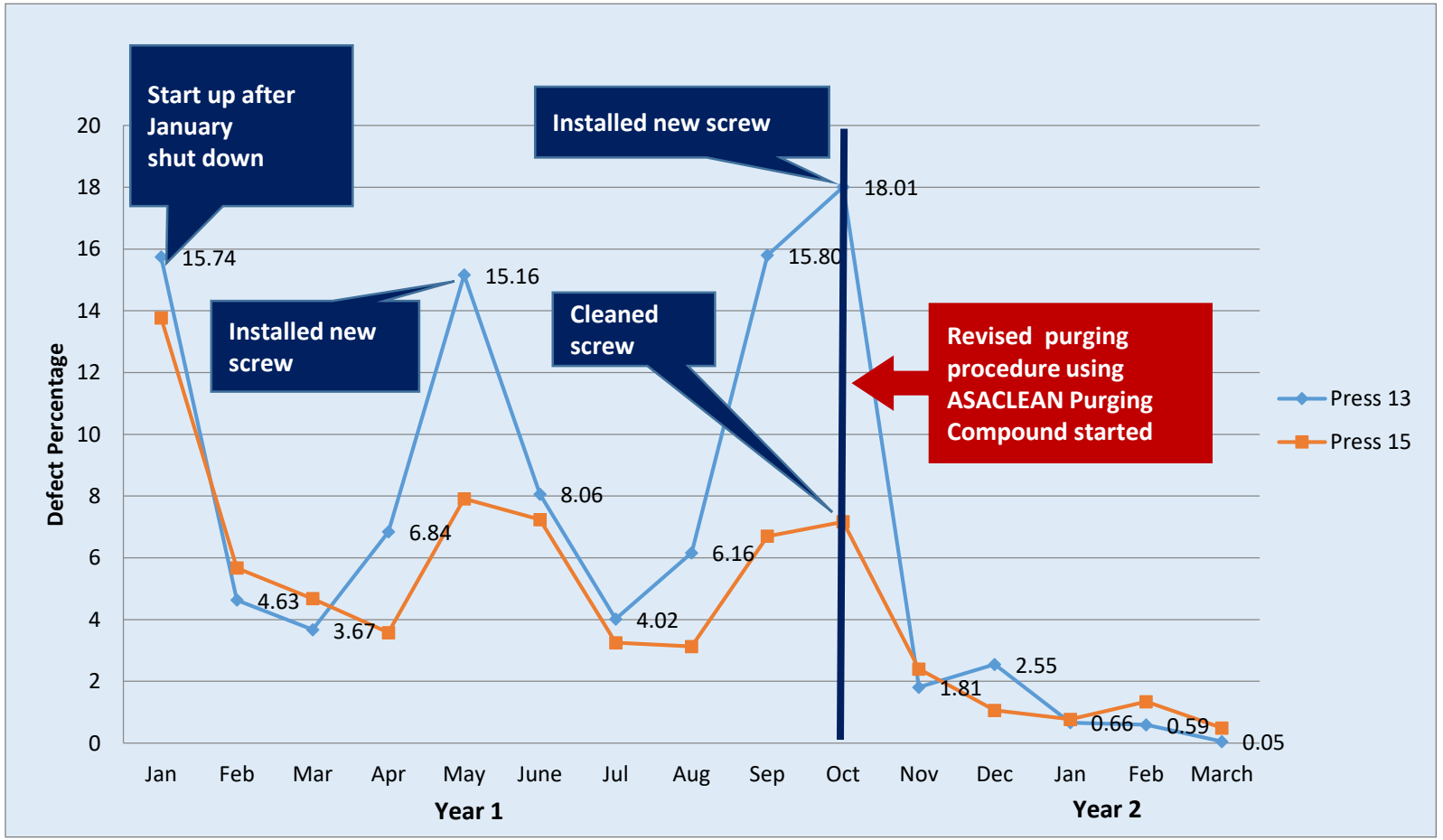
A Tier-1 Automotive Case Study



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A Tier-1 Automotive Purge Program Results

- Press 13: Reduced Defect Rate from

18.01% to 0.05%

- Press 15: Reduced Defect Rate from

7.2% to 0.59%

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Shutdown & Sealing

- Prevents carbon deposits from forming
- Start-ups don’t have to be a nightmare
- Often overlooked function of a purging compound

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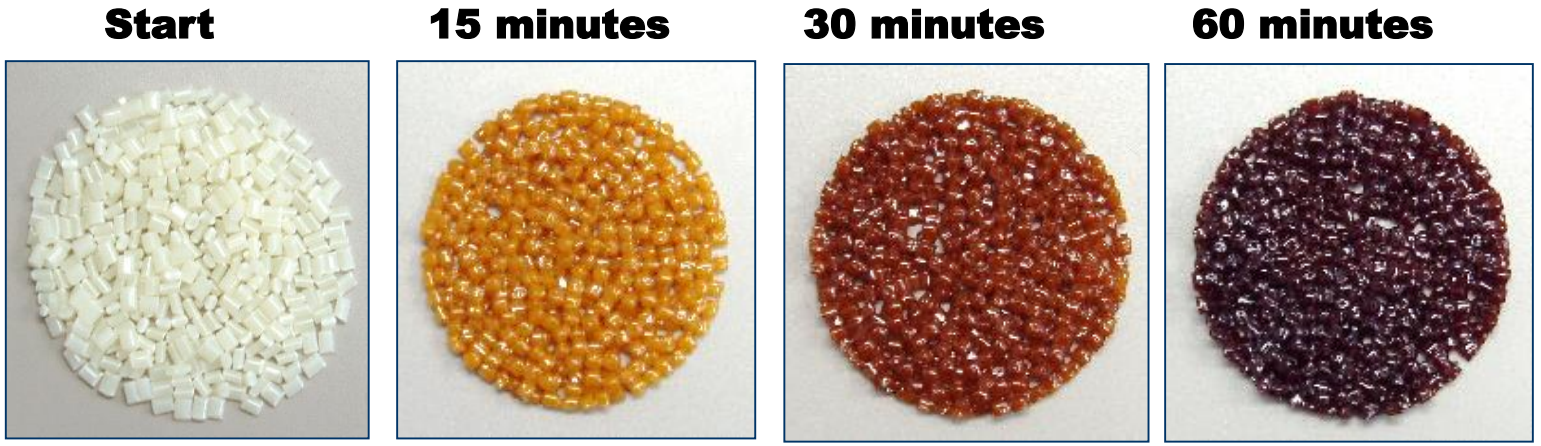
Shutdown & Sealing – Oxidation of Plastic Over Time

- Natural ABS at 460°F (240°C)



- In a vacuum at 460°F (240°C)

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Shutdown & Sealing

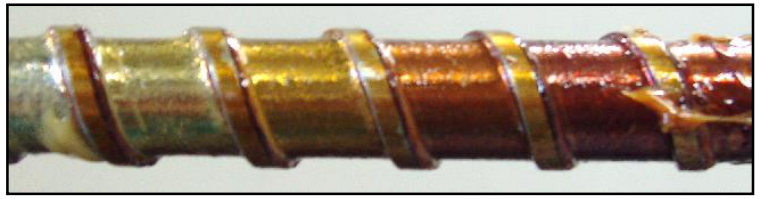
- Sealing during PMs, weekends, holidays

After running ABS at 460°F, the heaters were shut off and the ABS was left in the barrel

ASACLEAN™ is left in the barrel

After 1 Hour

After 5 Hours



Heaters are turned on and purged with the next resin(PS)

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Smarter Screw Pulls

- Effective option for difficult changeovers
- Reduces required force
- Minimize manual cleaning
- Decrease overall changeover time

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Screw Pulls Can Be Costly, Too

Injection Molding	Screw Pull
Changeover Time:	12 hr
Machine Running Cost:	$85.00/hr
Machine Downtime Cost:	$1,020.00
Amount of Material Used:	0 lb
Price of Material:	--
Changeover Material Cost:	--
Total Changeover Cost:	$1,020.00

Screw pulls/month=1, months/year=12

- **Annual screw pull cost = $12,240**

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Improved Screw Pull Cost

Injection Molding:	Screw Pull	ASACLEAN™
Changeover Time:	12 hr	0.25 hr
Machine Running Cost:	$85.00/hr	$85.00/hr
Machine Downtime Cost:	$1,020.00	$21.25
Amount of Material Used:	0 lb	3 lb
Price of Material:	--	$7.00/lb
Changeover Material Cost:	--	$21.00
Total Changeover Cost:	$1,020.00	$42.25

Assuming 1 screw pull per month, 12 screw pulls per year

$12,240 vs. $507.00 with ASACLEAN EX Grade

- **Annualized Screw Pull Savings: $11,733 = 96%**

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For More Information

Want to Learn More?

- Visit our website-

www.asaclean.com & its accompanying blog for dozens of tips, e-books, technical journals and blog posts to help you start saving today

- Or call one of our in-house experts at-

800.787.4348 to get a personal one-on-one consultation to find the best fit for your needs

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