

Beyond Production: How Purging Helps Six Different Team Members at Your Plant Improve Efficiency

ASACLEAN[™]
Purging Compound

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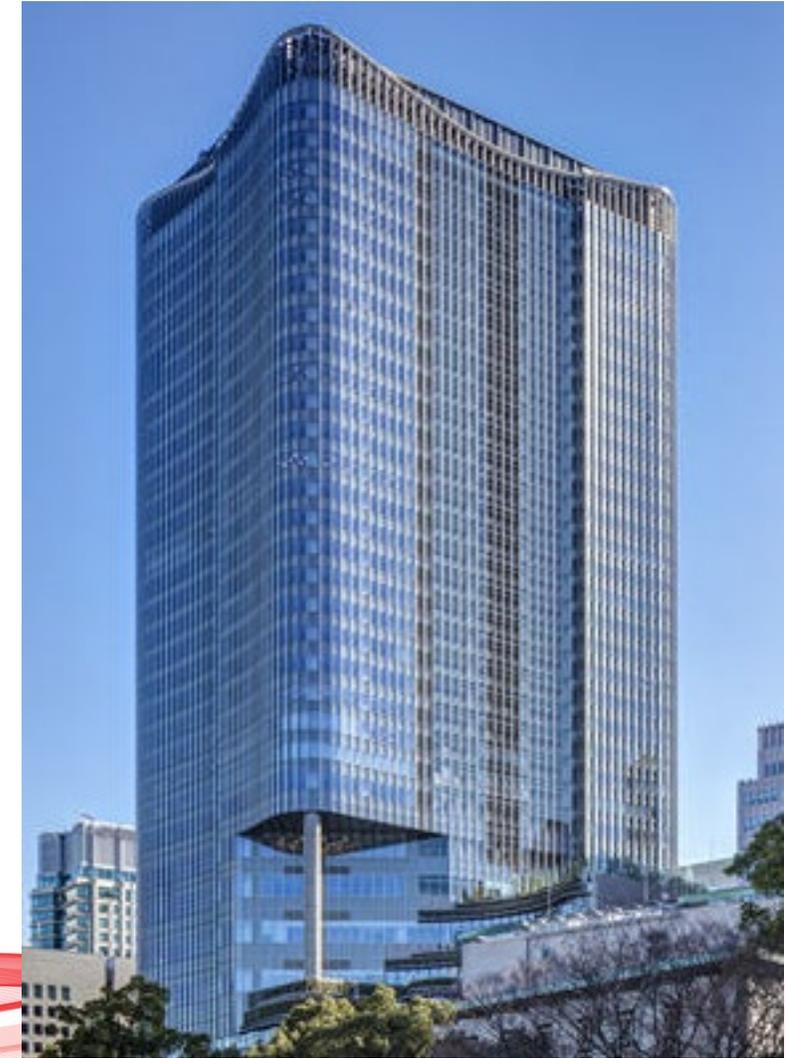
Asahi Kasei Asaclean Americas

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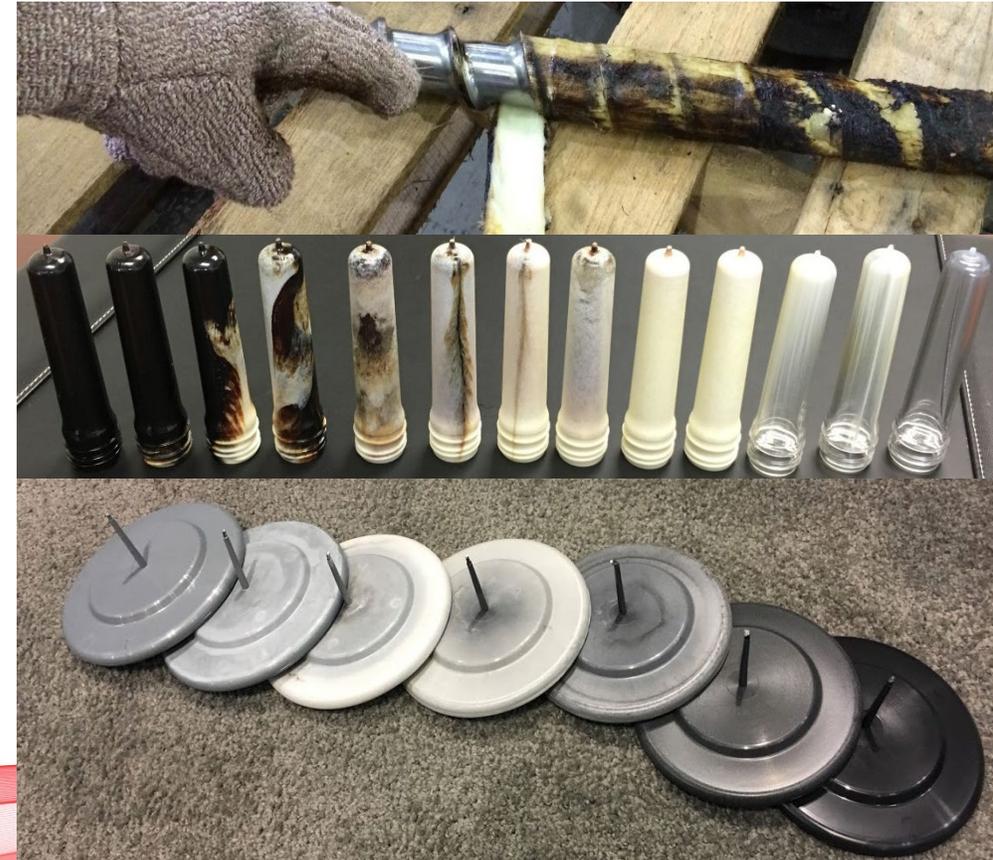
- Global conglomerate operating in key markets such as:
 - Materials
 - Homes
 - Healthcare
 - Automotive
- HQ in Tokyo, Japan
- >\$20 Billion Rev, 37,000+ employees globally
- Serves customers in more than 100 countries



AsahiKASEI

About Asaclean®

- World-wide leader in commercial purging compounds
- Engineered for optimal performance
- **Product benefits include:**
 - Reduction of Machine Downtime
 - Removal of Color & Contamination
 - Color & Material Changes
 - Hot Runner Cleaning
 - Increased Output & Lower Costs
 - Faster and Easier Screw Pulls
 - Shutdown / Sealing



Use Purging to Gain a Competitive Edge

- Improves safety
- Increases machine capacity
- Lowers Maintenance costs
- Improves resource usage
- Boosts first pass yield
- Protects the environment/Reduction of plastic waste
- Reduction in overall cost of material purchase

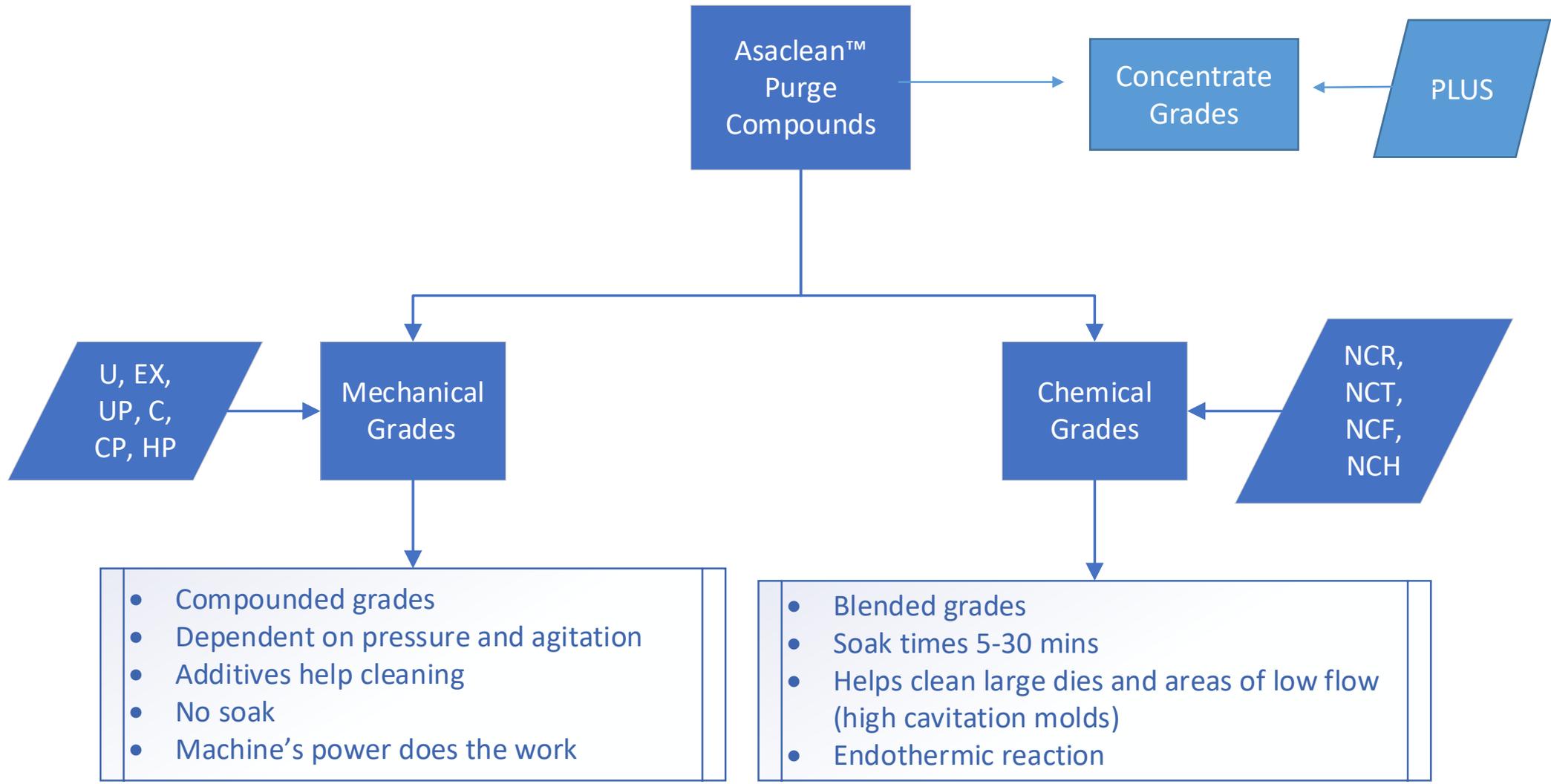


Our Customers' Top 6 Processing Headaches

- Color Changes & Material Changes
- Contamination/Black Specks & Gels
- Clear Parts
- Scrap at Start-Up
- Hot Runner & Die Cleaning
- Screw Pulls



Asaclean® Product Line



Mechanical Purging Compounds

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



Chemical Purging Compounds

- Helps clean large dies or areas of low flow
- Endothermic chemical reaction
 - Foaming action facilitates cleaning
- Remove deposits
- Soak times of 5-30 minutes



Purging Concentrate

- Super-charges your own processing resins
- Ratio can be adjusted to optimize cleaning
- Matches your production resins' MFR
- Doesn't require changing processing temps



We Can Help:

- Production/Process Engineers
- Maintenance
- Buyers/Materials
- Quality
- Human Resources & EHS
- Plant Managers & Finance

Process Engineers/ Production

- Easier and more efficient changeovers
- Reduction of scrap, downtime, and other processing metrics

Getting Started

- Consider application
- Machine count/size
- Production/quality issues
- Temperatures and resins
- Choose a compatible purge

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.

Analyze Cost Factors

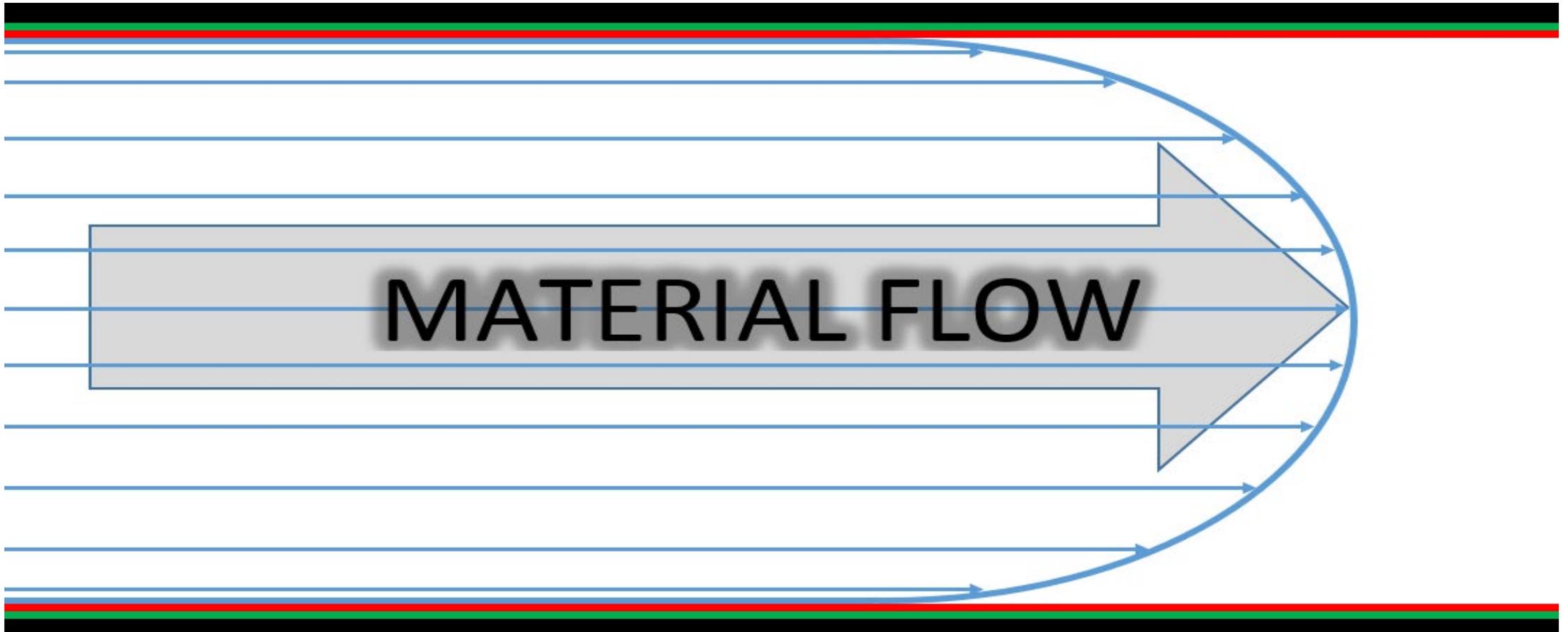
- Cost per purge vs. cost per pound
- Be Consistent
- Keep track of these over time:
 - Changeover time
 - Scrap-rate
 - Production reject rate
 - Lost production due to downtime

Follow Direction to Maximize Efficiency

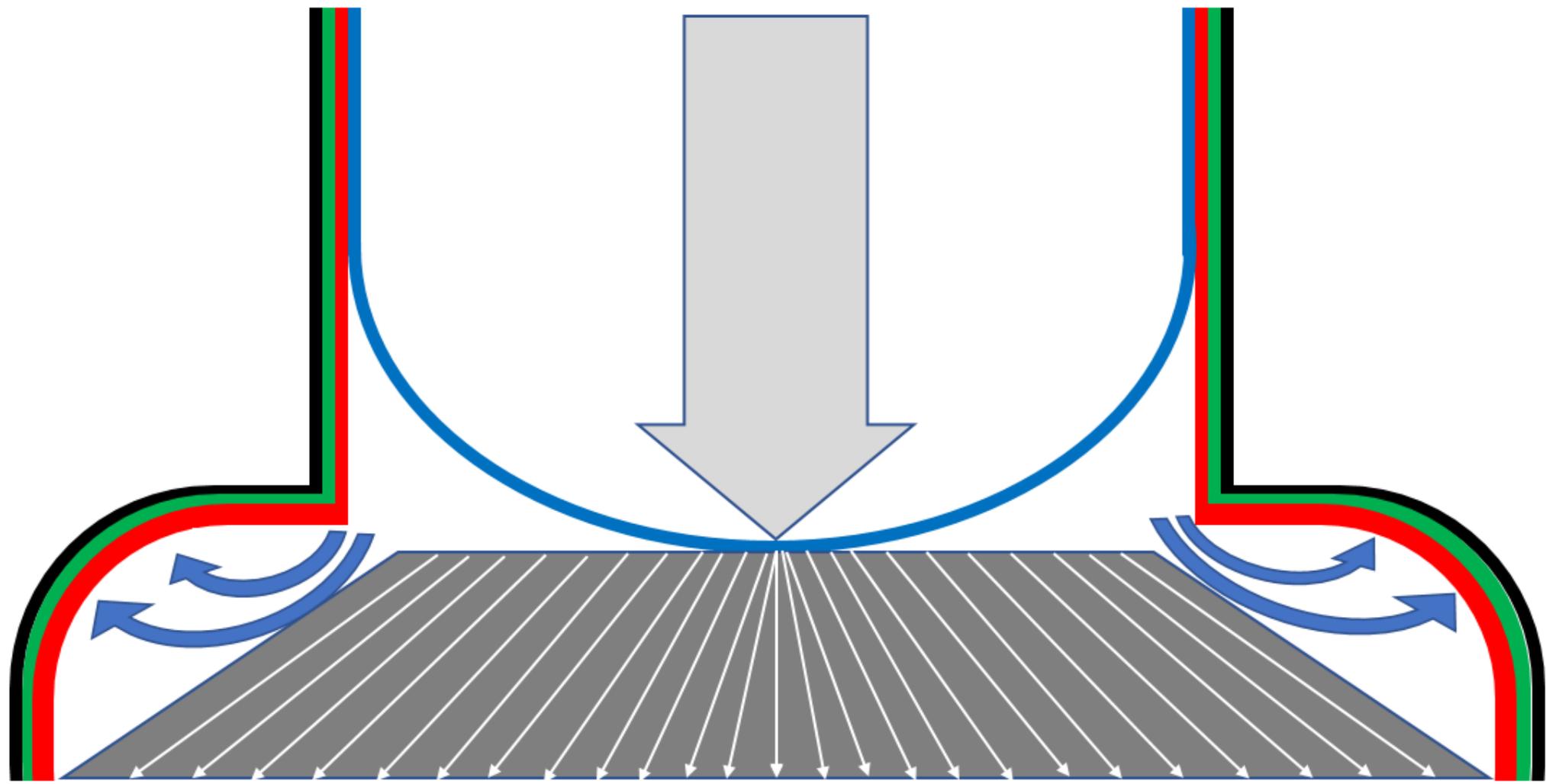
- Follow the supplier's instructions to the letter to establish your purging baseline... then experiment
- Grade or type of CPC
- Increase temperatures in areas needing extra cleaning

Color & Material Changeovers

- Resins follow the path of least resistance

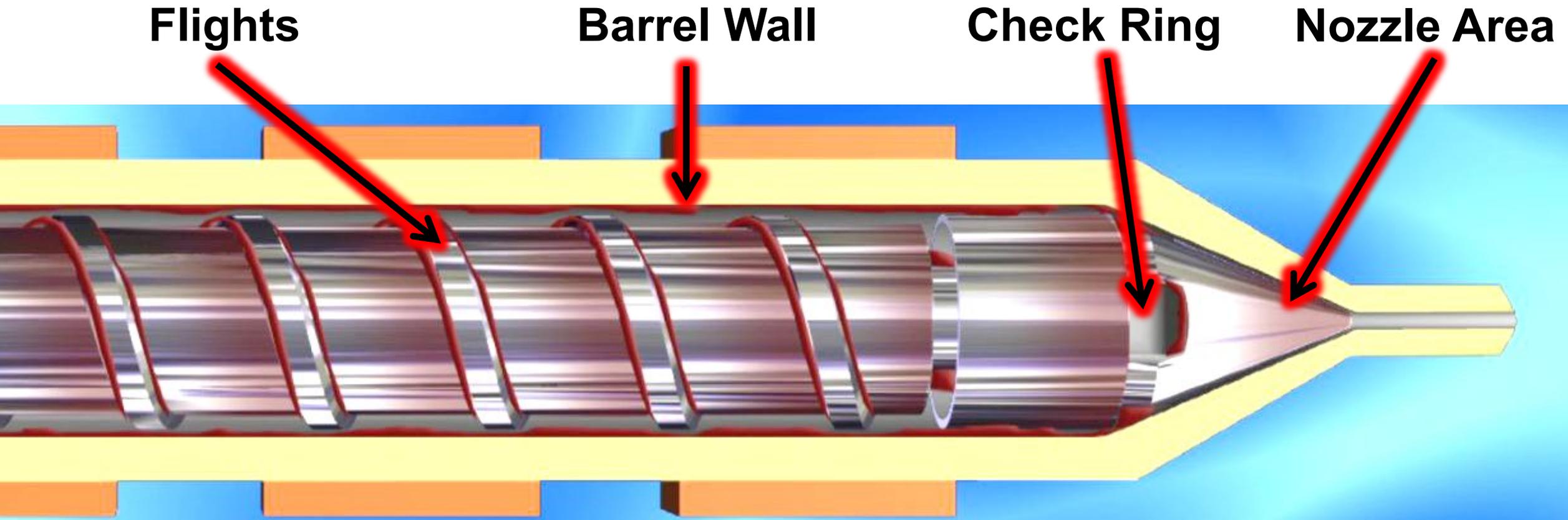


Path of Least Resistance



Accumulation of Layers

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



Maintenance

- Safer, easier, and scheduled screw pulls.
- Less reactive maintenance and more focus on preventative maintenance
- Help you stay in control of your efficiency

Screw Pulls

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





Screw Pull (Injection Molding)

	Virgin Resin	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:	N/A	\$7.00/lb
Changeover Material Cost:	\$0.00	\$21.00
Cost per Changeover:	\$1,020.00	\$42.25

Injection Molding Screw Pull

Cost Saving Analysis

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

Annualized Screw Pull Savings per Machine: **\$11,733**

Consider a Location with 30 Injection Molding Machines...

Annualized Screw Pull Savings: **\$351,990 or 96%**

Buyer/Materials

- Inventory control
- Keeping on schedule with parts and production
- Helping you keep costs down

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



Extrusion Material Change

Extrusion	Virgin Resin	ASACLEAN™
Changeover Time:	4 hr	1.5 hr
Machine Running Cost:	\$150.00/hr	\$150.00/hr
Machine Downtime Cost:	\$600.00	\$225.00
Amount of Material Used:	200 lb	70 lb
Price of Material:	\$2.00	\$5.00/lb
Changeover Material Cost:	\$400.00	\$350.00
Total Changeover Cost:	\$1000.00	\$575.00

Extrusion Material Change Improved Cost Savings

Assuming 5 changeovers per week, 48 weeks per year, 240 changeovers per year per machine

Annualized Changeover Savings: **\$102,000 or 43%**

Quality

- Fewer customer complaints
- Improved “cost of quality”
- Embrace a proactive mindset

Black Specks & Gels

- Oxidation is a killer

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

After 1 Hour



After 5 Hours



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

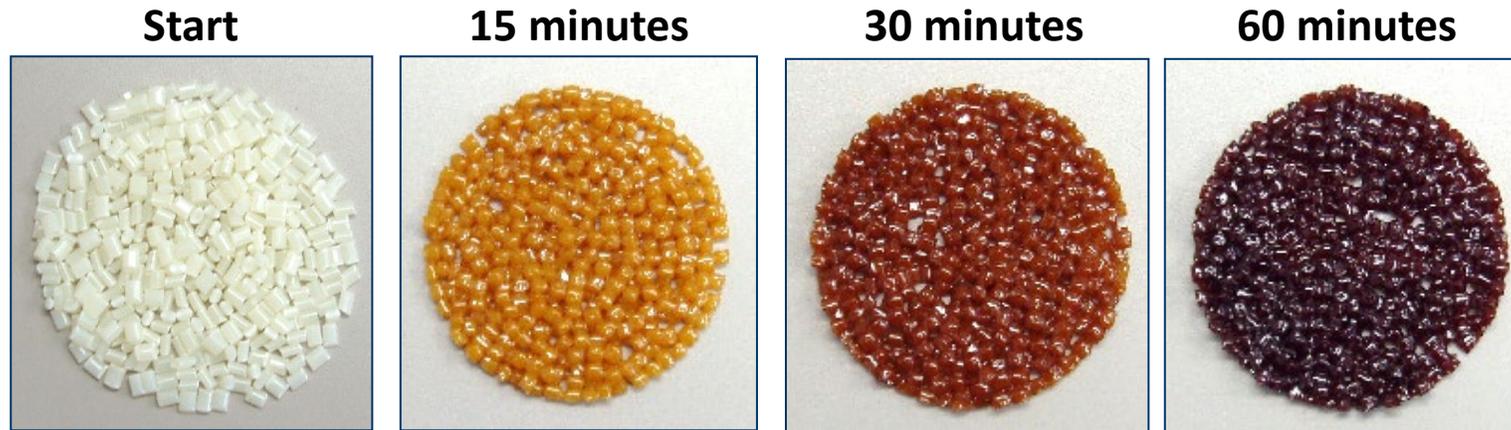


ASACLEAN™
is left in the barrel



Scrap at Start-Up

- Seal during shutdowns
- Natural ABS at 460°F (240°C)



- In a vacuum at 460°F (240°C)



Human Resources & EHS

- Fewer accidents and injuries
- Train with best practices
- Asaclean® Purging Compounds comply with rules, standards, and laws
- Plastic disposal reduction

Benefits

- Improves safety
- Increases machine capacity
- Enhances maintenance practices
- Improves resource usage
- Boosts production first pass yield
- Protects the environment
- Makes getting the job done easier
- Helps purchasing staff

Easy-to-Use Solution- PLUS Grade

“This stuff was pretty shocking to me because, one, it was just so easy ...and two, it cleans incredibly well....a little goes a long way.”

-Ray D.

Plant Manager, Custom Molding Shop

Plant Managers & Finance

- Help your plant reduce scrap and downtime
- If properly measured, Asaclean® savings will be reflected in your P&L

Value-Added Services

Technology

- Asahi Kasei Corporation offers incredibly advanced R&D & Product Development
- Consistently superior product quality, consistency & performance
- Unrivaled product offerings

Technical Support

- Combined experience of 200+ years in injection molding & extrusion
- Process Experts provide second-to-none customer service
- Complimentary & Ongoing On-site Trials, training and support

Sales Support

- Strategically placed warehouses throughout the U.S. & Canada
- Same-day shipment available infrastructure allows for JIT delivery
- Global sales and distribution

Injection Molding Color Change

ASACLEAN™
Purging Compound

	White PP	ASACLEAN™
Changeover Time:	1.75 hr	0.5 hr
Machine Running Cost:	\$300.00/hr	\$300.00/hr
Machine Downtime Cost:	\$525.00	\$150.00
Amount of Material Used:	350lb	80 lb
Price of Purge Material:	\$0.99/lb	\$4.08/lb
Replacement Resin		
Quantity:	N/A	20 lb
Price of Resin:		\$0.99/lb
Changeover Material Cost:	\$346.50	\$346.20
Cost per Changeover	\$871.50	\$496.20

Injection Molding

Color Change Improved Cost Savings

Assuming 5 changeovers per week, 48 weeks per year, 240
changeovers per year per machine

Annualized Changeover Savings: **\$90,072.00 = 43%**

PLUS Grade Hot Runner Color Change



Orange to White	Virgin Material	ASACLEAN™
Changeover Time:	13.5 hr	8.5 hr
Machine Running Cost:	\$200.00/hr	\$200.00/hr
Machine Downtime Cost:	\$2,700.00	\$1,700.00
Amount of Material Used:	2,557 lbs	15 lb
Price of Purge Material:	\$0.86/lb	\$11.45/lb
Purge Price:	\$2,199.02	\$171.75
Replacement Resin		
Quantity:	N/A	625 lbs
Price of Resin:	N/A	\$0.86/lb
Changeover Material Cost:	N/A	\$537.50
Total Purge Material Cost:	\$2,199.02	\$709.25
Cost per Changeover	\$4,899.02	\$2,409.25

PLUS Hot Runner Improved Cost Savings

Assuming 3 changeovers per week, 48 weeks per year,
144 changeovers per year per machine

Annualized Changeover Savings: **\$358,526.88 = 51%**

Want to Learn More?

- Take advantage of our teleconferences for diagnosis and training via Skype, FaceTime, or WhatsApp.
- Visit our website- www.asaclean.com Or call one of our in-house experts at [800.787.4348](tel:800.787.4348) to get a personal one-on-one consultation to find the best fit for your needs.

**For
More
Information**