What are the Industry Trends?

- More Vibrant Colors
- Higher Level of Graphics, More Detailed Pictorials
- Better Color Consistency
- UV and Aqueous Coatings/Varnishes
How is the Industry addressing these trends?

• More 5, 6 and 7 color presses

• Quick-change systems for the removal of anilox rolls

• Anilox roll inventory for line, process and solid coverage

• Higher line screen anilox rolls with lower cell volumes

• Faster drying higher pigmented inks
How can we help?

- The anilox roll is the heart of the flexographic printing process.
- A regular controlled cleaning program will remove the anilox as a variable in the process.
The MicroClean™ Anilox Cleaning System is an off-press cleaning system which uses recyclable plastic media to effectively clean anilox rolls & sleeves without water or chemicals.
MicroClean™ - How does it work?

The MicroClean™ Anilox Cleaning System consists of four main components that work together to allow Containment, Cleaning, Media Reclamation and Dust Collection.

**Containment**

The MicroClean cabinet is designed to contain and control the entire cleaning and recovery process.

**Cleaning**

Dry Plastic Media is propelled to the surface of the anilox roller, to gently remove inks and coatings, and restore cells to like-new volume with each cleaning.

**Media Reclamation**

The Reclaim Unit is designed to filter and separate the anilox media on a continuous basis.

**Dust Collection**

The Dust Collector collects dust generated during the cleaning process. It also ventilates the cabinet interior to help maintain clear visibility and provides vacuum to move media, dust and debris through.
A Smarter Solution for Anilox Cleaning

The MicroClean™ System Advantage

• Low Overall Cleaning Cost
• Virtually Maintenance Free
• Fully Automated
• Safe & Effective
• Eco-friendly
Cut Costs & Maximize Press Up-time

Low Overall Cleaning Cost
• Minimize waste disposal costs
• Minimal media usage per roll
• Long shelf life for Media

Virtually Maintenance Free
• Simple system to maintain
• Minimal daily care
• Minimal parts changed

Fully Automated
• No added Labor Costs
• Hit the button and walk away
Protect Your Investment

Safe & Effective

- Remove all ink & coating types (Water-based, UV & Solvent)
- Restore cell volume
- Deliver consistent color
- Extend anilox roll life
- Protect delicate anilox engraving
- Gentle Plastic Media is Safe on Ceramic & Chrome

Before Volume 3.21 bcm
After Volume 8.16 bcm
Lead By Example

**Eco-friendly**
- Cleans without consuming fresh water
- Chemical-free
- Generates no hazardous waste
- No health or safety risks associated with Media
- Recycles Plastic Media continuously
- Uses energy only when in use

*The greenest method for cleaning anilox rolls*
# MicroClean Media Selection

<table>
<thead>
<tr>
<th>Laser Media (Up to 800 lpi)</th>
<th>Fine Media (800 – 1500 lpi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Ceramic Anilox Rolls</td>
<td>&gt; Ceramic Anilox Rolls</td>
</tr>
<tr>
<td>&gt; White Ink</td>
<td>&gt; High Line Screen Rolls</td>
</tr>
<tr>
<td>&gt; Water-Based Inks/Coatings</td>
<td></td>
</tr>
<tr>
<td>&gt; Metallic Inks</td>
<td></td>
</tr>
<tr>
<td>&gt; Cross-Linked and Catalyzed Inks</td>
<td></td>
</tr>
<tr>
<td>&gt; Deep engravings</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multi Media (600 – 900 lpi)</th>
<th>Ultra Media (Up to 800 lpi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Ceramic Anilox Rolls</td>
<td>&gt; Chrome Anilox Rolls</td>
</tr>
<tr>
<td>&gt; Blend of Laser &amp; Fine</td>
<td>&gt; Also cleans Ceramic Anilox Rolls</td>
</tr>
<tr>
<td>&gt; Designed for printers who maintain a wide range of line screens</td>
<td></td>
</tr>
</tbody>
</table>
How long does media last?

**Media Consumption (per running hour)**

<table>
<thead>
<tr>
<th>Media Type</th>
<th>UltraMedia</th>
<th>LaserMedia</th>
<th>MultiMedia</th>
<th>FineMedia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Nozzle</td>
<td>1</td>
<td>1.5</td>
<td>2.5</td>
<td>5</td>
</tr>
<tr>
<td>Dual-Gun</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

- pounds: Per Nozzle
- pounds: Dual-Gun
## MicroClean Cleaning Times & Operating Costs

- Est Cleaning times calculated using 1.5lb of LaserMedia usage per hour
- Costs calculated at $796 per 54.9lb drum of media
- Dual-gun MicroClean System with Smart-Drive

<table>
<thead>
<tr>
<th>Anilox Roller Size (face length x diameter)</th>
<th>LIGHT (1 pass of dual-gun)</th>
<th>MEDIUM (2 passes of dual-gun)</th>
<th>HEAVY (4 passes of dual-gun)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clean Time (minutes)</td>
<td>Cost Per Roll ($)</td>
<td>Clean Time (minutes)</td>
</tr>
<tr>
<td>111in x 10.343in</td>
<td>120.2</td>
<td>$19.14</td>
<td>240.5</td>
</tr>
<tr>
<td>114in x 11in</td>
<td>131.3</td>
<td>$20.91</td>
<td>262.6</td>
</tr>
<tr>
<td>126in x 11in</td>
<td>145.1</td>
<td>$23.11</td>
<td>290.3</td>
</tr>
</tbody>
</table>
Media Separation
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Air Speed and Separation

Flexible Duct

Blower Impeller

Clean Air

Dust Bags

Blower Motor

Air, Media, and Dust from Cleaning Cabinet

Reclaim Adjustable Hole

Magnets

Air Vibrator

Dust Drawer
Standard/Optional Upgrades

Dual-Gun
Improves Cleaning Efficiency

SmartDrive
Computer automates cleaning by storing numerous roll sizes.
MicroClean™ is the most effective & economical off-line method for anilox cleaning for the corrugated industry.

The real key to color consistency is to use MicroClean as part of a preventative maintenance program cycling anilox rolls through the equipment on a regular basis.
Thank You!