UV coatings offer manufacturers the economic benefits of ROI—Return on Investment.

✔ Faster line speed, coating cure and coating optimization.
✔ Smaller floor space, less work-in-process, lower energy costs, lower quality costs.
✔ UV coatings offer environmental benefits, including NO solvent content:
  • No VOCs—Volatile Organic Compounds.
  • No HAPs—Hazardous Air Pollutants.

This article highlights some examples of UV-coating applications.

### Black UV Coating on Cylinder

<table>
<thead>
<tr>
<th>Substrate:</th>
<th>Metal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application:</td>
<td>HVLP—high-volume/low-pressure spray</td>
</tr>
<tr>
<td>Technical:</td>
<td>High temperature will cause cylinder seal failure</td>
</tr>
<tr>
<td>Economics:</td>
<td>Elimination of IR oven</td>
</tr>
<tr>
<td></td>
<td>Elimination of work-in-process</td>
</tr>
<tr>
<td></td>
<td>Improved quality/less waste</td>
</tr>
<tr>
<td></td>
<td>Ability to reclaim and reuse coating</td>
</tr>
</tbody>
</table>

### Color UV Coating on Propane Tanks

<table>
<thead>
<tr>
<th>Substrate:</th>
<th>Cold rolled steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application:</td>
<td>Bell atomizer &amp; HVLP gun</td>
</tr>
<tr>
<td>Technical:</td>
<td>Multiple colors</td>
</tr>
<tr>
<td></td>
<td>Excellent color opaqueness</td>
</tr>
<tr>
<td>Economics:</td>
<td>Elimination of pre &amp; post IR Oven</td>
</tr>
<tr>
<td></td>
<td>Less down time</td>
</tr>
<tr>
<td></td>
<td>Quick color change</td>
</tr>
<tr>
<td></td>
<td>Reclaim coating</td>
</tr>
</tbody>
</table>
**UV Color on Strapping Material**

- **Substrate:** Steel
- **Application:** Roll coated
- **Technical:** Thin application of coating
  Coating will not cure in roll coater
- **Economics:** Speed, speed, speed
  Environmental permitting
  Capital costs

**Clear UV Coating on Architectural Pieces**

- **Substrate:** Aluminum
- **Application:** Roll coating
- **Technical:** Eliminate lamination process
- **Economics:** No work-in-process
  Minimal floor space
  Environmental benefits/no reporting

**UV Color on 20-Pound Propane Tanks**

- **Substrate:** Cold rolled steel
- **Application:** Rotary bell atomizer
  (2) HVLP—high-volume/low-pressure guns
- **Technical:** Coating specification requirements
- **Economics:** Minimal floor space
  Energy savings
  Ability to reclaim coating
  Speed improvements in the future

**UV Clear Coating on Outdoor Log Cabin**

- **Substrate:** Wood
- **Application:** HVLP—high-volume/low-pressure guns
- **Technical:** Substrate temperature sensitive
- **Economics:** Quality/immediate inspection
  Work-in-process reduction
  Just-in-time Quality
**Color UV Coating for Conduit**

**Substrate:** Metal
**Application:** Vacuum coated
**Technical:** Line speed
**Economics:**
- Coating thickness
- Elimination of IR oven
- Speed, speed, speed

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**Clear UV Coating on Trophy Pieces**

**Substrate:** Physical Vapor Deposition (PVD) surface
**Application:** HVLP—high-volume/low-pressure spray
**Technical:** PVD substrate is heat sensitive
- Cannot tolerate extended heat
**Economics:**
- Floor space
- Coating performance vs. cost
- Less environmental reporting

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**Clear UV Coating for Automotive Rims**

**Substrate:** PVD surface
**Application:** Bell atomizer
**Technical:**
- Adherence to PVD substrate
- Ability to provide primer and topcoat
**Economics:**
- Cost per gallon/100% solids
- Floor space significantly reduced
- Less work-in-process
- Overall process improvement

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**Black UV Coating for Automotive Pulley**

**Substrate:** Cast steel
**Application:** HVLP—high-volume/low-pressure spray
**Technical:** Line speed
**Economics:**
- Coating thickness
- Economic savings—elimination of IR oven
- Specification alignment and flexibility

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**Summary**

UV coatings today are being qualified and implemented in a variety of industries and applications. The true benefit to implementing UV is true economic savings—Return on Investment. Understanding these true costs of each area is critical to your ROI+E—It’s your Return on Investment and with UV you get one better—Return on the Environment.

This can be described as faster, more efficient and cleaner.

**Faster**
- Line Speed
- Coating Cure
- Coating Optimization

**More efficient**
- Smaller Floor Space
- Less Work-In-Process
- Lower Energy Consumption
- Lower Maintenance Costs
- Less Capital Equipment Cost
- Lower Quality Costs

**Cleaner**
- Zero VOCs and No HAPs
- Reduced Reporting
- Improved Health and Safety

—Michael Kelly is CEO/president of Allied PhotoChemical, Kimball, Mich.