INNOVATION IN COIL AND EXTRUSION COATING SYSTEMS

Chrissa Bales
Group Project Leader, Coil and Extrusion Coatings
AGENDA

• Coil and extrusion end uses
• Sustainable coating options for architects
• Innovation in color and aesthetics
WHO WE ARE
SHERWIN-WILLIAMS ACQUIRED VALSPAR.

- Biggest paint and coatings company in the world
- 60,000+ employees
- Global market leader for 150 years
- Offices in 120+ countries
- Manufacturing, resources and team across Asia to support architects
- We offer full coatings portfolio for architects
- Range of high-performance coil and extrusion coatings

FOUNDED IN 1866

$16 BILLION IN GLOBAL SALES
METAL COATING APPLICATIONS

Coil Coatings
- Coating applied to flat metal
- Steel or aluminum part fabricated after painting

Extrusion Coatings
- Molten aluminum is pushed through dies to shape
- Coating spray-applied after part is formed
EXTRUSION COATING MARKETS

- Skylight and Window Trim
- Curtain Wall
- Soffits and Fascia
- Entry Canopy
BENEFITS OF EXTRUSION COATING

<table>
<thead>
<tr>
<th>AESTHETICS</th>
<th>SUSTAINABILITY</th>
<th>DURABILITY</th>
</tr>
</thead>
</table>
| • Nearly unlimited options  
  • Color consistency  
  • Hiding metal defects  
  • Repaint in high traffic areas | • Curing ovens burn VOCs  
  • Energy-efficient process | • Protection  
  • Corrosion resistant  
  • UV resistant  
  • Resists weathering  
  • Long life cycle |

EFFICIENT, EFFECTIVE AND ENVIRONMENTALLY-FRIENDLY METHOD OF COATING METAL
ACHIEVE ANY DESIGN: FLUROPON 70% PVDF COATINGS

PREMIUM PERFORMANCE
• Long-lasting color and gloss retention
• Outstanding corrosion resistance and long-term weatherability

BEST AESTHETICS
• 50,000 colors including solids, metalics, micas, special effects and paints varying gloss levels
• Custom colors with advanced color-matching technology

SUSTAINABILITY
• Reduced hazardous materials that achieve green building standards and increased energy efficiency
SUPERIOR-PERFORMANCE COATING SYSTEMS

70% PVDF coatings meet highest industry standards

- Color fade
- Chalk
- Salt spray
- Pollutants
- Corrosion and other harsh conditions
# COMPARISON OF LIQUID AND POWDER COATINGS

<table>
<thead>
<tr>
<th></th>
<th>POLYESTER POWDER</th>
<th>70 PERCENT PVDF LIQUID</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td>Limited performance</td>
<td>Best available performance for color and gloss</td>
</tr>
<tr>
<td></td>
<td>Exceptional hardness</td>
<td>retention, corrosion, resistance and weatherability</td>
</tr>
<tr>
<td><strong>AESTHETICS</strong></td>
<td>Standard color range</td>
<td>Nearly limitless options</td>
</tr>
<tr>
<td></td>
<td>Slight orange-peel texture</td>
<td>Smooth finish</td>
</tr>
<tr>
<td><strong>SUSTAINABILITY</strong></td>
<td>No VOCs during application</td>
<td>Less energy to manufacture; VOCs captured and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>reused in energy-efficient manufacturing process</td>
</tr>
<tr>
<td><strong>MAINTENANCE</strong></td>
<td>Cannot be applied outside factory</td>
<td>Touch-up options may be available in same</td>
</tr>
<tr>
<td></td>
<td>Can be touched up with liquid</td>
<td>technology and offering similar performance</td>
</tr>
<tr>
<td><strong>WARRANTY</strong></td>
<td>Up to 25 years (with limitations)</td>
<td>Up to 30+ years (full cost of claim plus color</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and gloss retention)</td>
</tr>
<tr>
<td><strong>APPLIED COST</strong></td>
<td>Lower applied cost</td>
<td>Higher applied cost with superior-performing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>resins</td>
</tr>
</tbody>
</table>
ENHANCING ICONIC BUILDINGS IN HONG KONG
PROTECTING MONUMENTAL STRUCTURES IN SHANGHAI

SHANGHAI TOWER
PROTECTING MONUMENTAL STRUCTURES IN SHENZHEN
TRUSTED, COLLABORATIVE PARTNER

Approved applicators

On-site technical service experts

Fast order fulfillment

© Zak World of Facades Hong Kong Conference
SUSTAINABLE COATING OPTIONS FOR ARCHITECTS
Rigorous building certification programs that address sustainability issues, including resource efficiency, water and energy use, and greenhouse gas emissions.

GREEN COATING FORMULATIONS MEET REQUIREMENTS
GREEN BUILDING INDUSTRY

KEY CATEGORIES RELATED TO GREEN COATING CERTIFICATION

1. Energy Efficiency
2. Hazardous Materials
3. Transparency
RAPID CHANGES UNDERWAY

LEADER IN GREEN COATING SCIENCE

- SOLAR-REFLECTIVE
- CHROME-FREE
- LOW-VOC
- BIORENEWABLE
FLUROPON PURE COATING INNOVATION

Mitigates urban heat island effect

Minimizes hazardous materials

Provides material transparency
FLUROPON® PURE GREEN BENEFITS

• Red list compliant
• Contributes to LEED v4 and Living Building Challenge Declare Programs
• Formulated without use of hazardous materials: PFOA, hexavalent chromium, lead, phthalates and bisphenol-A
• Offers material transparency
FLUROPON CLEAN COATING INNOVATION

- Rain washes away dirt and pollution
- Keeps building looking clean and beautiful
- Cost-effective coating solution
THE SCIENCE BEHIND FLUROPON CLEAN

Hydrophilic technology diffuses water across surface

Allows pollution and dirt to be washed away easily

Can be used with a range of PVDF coating systems
INNOVATION IN COLOR AND AESTHETICS
COLOR INNOVATION

• Experts at forefront of color trends
  – Introduction of latest color trends for architects

• Advanced color matching technology
  – Can match nearly any custom color you can dream up
  – Quick turnaround on thousands of custom color samples

• Expanding color spaces for architects
  – Offering new aesthetic effects and color collections
FLUROPON® EFFECTS KAMELEON

• 70% PVDF coating system
• Color-shifting pigmentation
• Shift can be dramatic or subtle
• 3-coat system: primer, basecoat and color
• Available for coil and extrusion applications
FLUROPON® EFFECTS NOVA

• 70% PVDF coating system
• Eye-catching sparkle effect
• Can be matched to any PVDF color
• Gold or silver sparkle available
• 3-coat system: primer, color and effects coat
GLOBAL LEADER IN 70% PVDF COATINGS FOR ARCHITECTS

BEAUTY
DURABILITY
INNOVATION
PERFORMANCE

© Zak World of Façades Hong Kong Conference
THANK YOU