New Coating Technologies supporting Facade Design

Annie Gao
Regional Marketing Manager
Agenda

- AkzoNobel at a glance
- Importance of a proper coating specification
- Trend and new technologies
- Support tools for specifiers
The world of AkzoNobel

€9.7 billion revenue (Y2017)
35,700 employee
80+ countries
59% Coating 41% paints

* All figures are based on year-end 2016
AkzoNobel provides paints and coatings solutions across Architectural Segment

Windows and Curtain Wall
High performance liquid PVDF and powder coatings for all types of aluminum and steel

Cladding
A comprehensive range of paints which are either factory applied on continuous coil for cladding, or powder coatings for pre-formed panels.

Structural Steel
High performance finishes, anti-corrosive and passive fire protection for steel structures in commercial buildings, stadia, airports, stations and high risers.
AkzoNobel Interpon® & TRINAR®
— Best protection & decoration for Facades

• The largest global manufacturer of powder coatings
• A world leader in powder coatings technology
• Global brand with more than 50 years experience in Architecture
• A truly green choice, sustainable alternative to liquid coating

• International brand of 40-years history
• A 70% minimum fluoropolymer-based classic liquid spray coating system
• For premium architectural aluminum materials;
• Excellent weather ability, Rigorous quality, reliable and responsive services.
Agenda

1. AkzoNobel at a glance
2. Importance of a proper coating specification
3. Trend and new technologies
4. Support tools for specifiers
Ensuring the right specification is crucial...
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Two aspects of coating performance

• **Decorative performance**
  - Color retention
  - Chalking
  - Gloss retention

• **Film integrity**
  - Checking
  - Cracking
Decorative performance

Colour

Delta E <5

Delta E = 5

Looks like this...
Decorative performance

**Chalking**

Chalking is when a coating breaks down and leaves loose pigment at the surface.

Measured by rubbing a dark cloth over surface.
Decorative performance

**Gloss Retention**

Coating reduces in gloss as it breaks down.

Any loss of gloss in **Florida testing** should be <50% after 3 years

(or <30% after 5 years)

![Gloss Retention Chart](chart.png)
Decorative performance

Gloss Retention

Coating reduces in gloss as it breaks down

Any loss of gloss should be uniform on a single surface - so not patchy
Film integrity

Checking
The appearance of lines in the surface. These do not normally go through to the substrate.
Defined in ISO 4618.

Cracking
Cracking is much deeper lines than in checking, normally penetrating all the way through to the substrate.
Defined in ISO 4618.
Florida climate combines
• Strong UV attack
• High temperatures
• High humidity

Florida testing consists of
• observing colour variation
• gloss change in time

Florida natural exposure is a universal testing procedure
## Global Architectural Durability Standards

<table>
<thead>
<tr>
<th>Weathering Test</th>
<th><strong>AAMA (U.S.)</strong></th>
<th><strong>Gloss Retention</strong></th>
<th><strong>Color Retention</strong></th>
<th><strong>Qualicoat (EU)</strong></th>
<th><strong>Gloss Retention</strong></th>
<th><strong>Color Retention</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 year test Florida</td>
<td>AAMA 2603</td>
<td>Slight chalking/ fading</td>
<td></td>
<td>Qualicoat Class 1</td>
<td>&gt; 50%</td>
<td>Color-specific</td>
</tr>
<tr>
<td>3 years test Florida</td>
<td>--</td>
<td></td>
<td></td>
<td>Qualicoat Class 2</td>
<td>&gt; 50%</td>
<td>Color-specific</td>
</tr>
<tr>
<td>5 years test Florida</td>
<td>AAMA 2604</td>
<td>&gt;30%</td>
<td>dE &lt; 5</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 years test Florida</td>
<td>AAMA 2605</td>
<td>&gt;50%</td>
<td>dE &lt; 5</td>
<td>Qualicoat Class 3</td>
<td>&gt;50%</td>
<td>Color-specific</td>
</tr>
</tbody>
</table>
## Products and Standards

<table>
<thead>
<tr>
<th>High Performance</th>
<th>Advanced Performance</th>
<th>Premium Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Interpon D1010</td>
<td>✓ Interpon D2015</td>
<td>✓ Interpon D3020</td>
</tr>
<tr>
<td>✓ Interpon D1010 Brilliance</td>
<td>✓ Interpon D2015 Brilliance</td>
<td>✓ Interpon D3020B</td>
</tr>
<tr>
<td>AAMA2603 Qualicoat Class 1 (Standard durable)</td>
<td>AAMA2604 Qualicoat Class 2 (Superdurable)</td>
<td>AAMA2605 Qualicoat Class 3</td>
</tr>
</tbody>
</table>

© 10 Year Warranty 20 Year Warranty 30 Year Warranty
Evaluating warranties

• How does the warranty apply:
  • on the actual building
  • ór on a sample panel? (“at the time of delivery to the applicator”)

• How is color fading assessed?
  • Using Wool scale or grey scale?
    (visual assessment – tools from textile industry)
  • ór is it actually measured?
    (objective assessment)
Declaration EPD supporting LEED

What is an EPD®?

- EPD®: Environmental Product Declaration
- Independently verified and registered document
- Transparent and comparable information about the life-cycle environmental impact of products
- Support LEED grading

Website: http://www.environdec.com

✓ Interpon D1000
✓ Interpon D2000
✓ Interpon D3000
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Trends in finishes for Facades
Trends in façade coatings

• Powder coating is increasing

• Increasing demand for low VOC coating (waterborne based coating)

• Broader range of appearance
  o Dead matt coatings
  o Bright metallic
  o Fine textured coatings

• Improved performance: Hyperdurable coatings
Gloss aspect is constantly decreasing
Strong increase of Matt finishes
Increase of Fine Texture - Expected to increase strongly in the next years
Satin finish is stable
Latest coating technologies supporting Facade Design

Wide range of standard RAL colors readily available
1. **Interpon D2015 Précis**

*Ultra Matt superdurable powders*

- Ultra matt powder coating (gloss 10-15)
- Amazing durability, meet AAMA 2604 & Qualicoat Class2
- Non-reflective
- Soft to the touch
- Selection of metallics & solid colors, 12 colors are available
2. **Interpon D3020 Brilliance**

*Bright hyperdurable metallic powders*

Taking metallic powders to the next level

- Bonded aluminum pigments
- **Hyperdurable**...meeting AAMA2605 & Qualicoat 3
- Zero VOC, green choice
3. **Waterborne PVDF – Hydro®**

- Great performance for durability
- Very close surface appearance compared to solvent-based
- A wide range selection for color
4. Collection Futura 2018-2021

Reflecting design trends for over 20 years

- **Unique** range of 50 special finishes reflecting current trends in architectural design and color
- Conceived in 1993, launched as Futura range in 2000, and **updated every 3 years**, and continuously gaining popularity
- All finishes are Interpon D2525 Superdurable & bonded Technology, meeting:
  - Qualicoat 2
  - AAMA2604
  - GSB Master
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Design App

AkzoNobel ‘Design’ App

- Created for specifiers of architectural coatings
- All information to generate your custom specification – right at your fingertips

Allows you to:

- Better understand the use of powder and liquid coatings
- Create technical specification relevant to your specific project situation, based on internationally recognized standards
- Increase your specification efficiency
Design App functions

**Specification Builder**

- Generates a coatings specification, based on the project location
- Uses internationally recognized standards (AAMA, Qualicoat, and more)

**Product Finder**

- Choose from a comprehensive range of colors and finishes
- Technical information on powder and liquid coatings for metal
Design App functions

Color Picker

- Find a match to the color you want – just use your camera or photos
- Build your own personalized color card for a project

Track Record

- Find examples of worldwide construction projects
Download your app

How to get this tool?

- Use Ipad to open App Store
- Search the name “建筑U选色”/ ‘Design’
- Or Scan the QR code to open download page
Thank you