10 Questions You Really Should Ask Your Roof Coating Supplier

Spray Foam 2008
Torrey Pines
March 14 - 17, 2008
Agenda

• Background
• 10 Questions You Really Should Ask Your Coating Supplier
• Summary
• Questions
Background
Roof Coatings Gain Momentum

- @300 BC - Rohm & Haas Develops 1st Roof Coating Formulation That Is Distributed To The Future Roof Coating Manufacturing Industry
- 1982 Roof Coating Manufacturers Association (RCMA) Founded
- 1999 Energy Star - Roof Products Listing (Reflectivity Only)
- 2005 Reflective Roof Coating Institute (RRCI) Founded
- 2006 - NRCA Publishes Field Applied Coatings Guide
- 2007 – NRCA Publishes Sprayed Polyurethane Foam Roofing Guide
- 2007 – Energy Star – Roof Products Adds Emissivity To Listing
Background
How Many??!!
• The Cool Roof Rating Council (CRRC) Listing For “Field Applied Coating”, Just By Itself Returns*…
  – 80 Suppliers
  – 198 Brands
  – 262 Models
  – 346 Separate Line Items!
• Which One Is Right For My Job That Will Deliver The Expected Performance?
• Can I Trust What The Manufacturer Says?
• Is this product “green” enough to meet my customers needs?
*2/7/2008
Avoid this in the future
Still Not Good Enough!

An 8 Ball Will Give You Answers, Just Not The Right One’s!
THE top 10 questions
Questions

- Broken down into two categories
  - Quality Products
  - Green
Question #1 (Quality)

Q - Do You Have Independent Test Reports To Back Up Your Coating Performance Claims?

A – Generally Accepted Test Methods Performed By Independent Labs Are Best.
Question #2 (Quality)

Q – Are There Specific Labs That I Should Look For On The Independent Reports?

A – Labs That Undergo Independent Review Are Usually Best. Their Methods Are Examined For Producing Repeatable, Accurate Results.

http://www.coolroofs.org/productratingprogram_laboratories.html
Question #3 (Quality)

Q – Are Different Test Methods Relevant To Different Roof Coatings?

A – Acrylics – ASTM D6083-05e1 - Standard Specification For Liquid Applied Acrylic Coating Used In Roofing (Notice The Intended Use, Roofing)

Aluminum - ASTM D6848-02 Standard Specification For Aluminum Pigmented Emulsified Asphalt Used As A Protective Coating For Roofing


Silicone - ASTM D6694-07 Standard Specification For Liquid-applied Silicone Coating Used In Spray Polyurethane Foam Roofing
Question #4 (Quality)

Q - Which Coating Is Appropriate For This Substrate?

A – Your Supplier Should Have A History Of Coatings Over This Substrate. Chemistry Between Manufacturers Can Vary A Little To A Great Deal. The Right Chemistry Will Provide That Chemical “Hook And Loop”, Like Velcro So You Have The Best Adhesion To Your Roof Substrate.
Question #5 (Quality)

Q1 – Which is more important, Volume Solids or Weight Solids?
A1 – Volume Solids are the best indication of how much coating will be left after the coating is cured.

Q2 – What are your Volume Solids?
A2 – A higher number is better.
Question #6 (Green)

• **Q** - What Is The Long Term Reflectivity/Emissivity Of Your Coating?

• **A** – Listings Can Be Found:
  – Energy Star
  – Cool Roof Rating Council
    • http://www.Coolroofs.Org/Products/Search.Ph
Question #6 (Green) cont.

- **ASHRAE 90.1** Minimum Reflectance Of 0.70 And Minimum Thermal Emittance Of 0.75
- **Energy Star** - Low Slope Roofs Must Have An Initial Solar Reflectance Of $\geq 0.65$. After 3 Years, The Solar Reflectance Must Be $\geq 0.50$.
- **California** - Initial Thermal Emittance Greater Than Or Equal To 0.75 And A Minimum Initial Reflectance Of 0.70 When Both Tested In Accordance With CRRC-1
- **Chicago** - Before December 31, 2008 Must Meet A Minimum Reflectance Of 0.25 For Both Initial And Aged Values. After December 31, 2008, Roofing Products Must Meet ENERGY STAR Criteria.
Question #7 (Green)

- Do You Meet My **Regional** Requirements?
  - Example - Title 24 Compliant?
  - Not Just Reflectivity & Emissivity

**TABLE 118-C MINIMUM PERFORMANCE REQUIREMENTS FOR LIQUID APPLIED ROOF COATINGS FOR LOW-SLOPED ROOFS**

<table>
<thead>
<tr>
<th>Physical Property</th>
<th>ASTM Test Procedure</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial percent elongation (break)</td>
<td>D 2370</td>
<td>Minimum 200% 73 °F (23 °C)</td>
</tr>
<tr>
<td>Initial percent elongation (break) OR</td>
<td>D2370</td>
<td>Minimum 60% 0°F (-18°C)</td>
</tr>
<tr>
<td>Initial flexibility</td>
<td>D522, Test B</td>
<td>Minimum pass 1” mandrel 0°F (-18°C)</td>
</tr>
<tr>
<td>Initial tensile strength (maximum stress)</td>
<td>D 2370</td>
<td>Minimum 100 psi (1.38 Mpa) 73 °F (23 °C)</td>
</tr>
<tr>
<td>Initial tensile strength (maximum stress) OR</td>
<td>D2370</td>
<td>Minimum 200 psi (2.76 Mpa) 0°F (-18°C)</td>
</tr>
<tr>
<td>Initial flexibility</td>
<td>D522, Test B</td>
<td>Minimum pass 1” mandrel 0°F (-18°C)</td>
</tr>
<tr>
<td>Final percent elongation (break) after accelerated</td>
<td>D 2370</td>
<td>Minimum 100% 73 °F (23 °C)</td>
</tr>
<tr>
<td>weathering 1000 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Final percent elongation (break) after accelerated</td>
<td>D2370</td>
<td>Minimum 40% 0°F (-18°C)</td>
</tr>
<tr>
<td>weathering 1000 h OR</td>
<td>D522, Test B</td>
<td>Minimum pass 1” mandrel 0°F (-18°C)</td>
</tr>
<tr>
<td>Flexibility after accelerated weathering 1000 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permeance</td>
<td>D 1653</td>
<td>Maximum 50 perm</td>
</tr>
<tr>
<td>Accelerated weathering 1000 h</td>
<td>D 4798</td>
<td>No cracking or checking²</td>
</tr>
</tbody>
</table>

² Any cracking or checking visible to the eye fails the test procedure.
Question #8 (Green)

• Q – Do Your Products Qualify For Rebate Programs With Cool Roofs?
• A – http://www.dsireusa.org

Question #9 (Green)

• Q - Can Your Roof Coating Help Obtain LEED Ratings?

• A – Yes If Conditions Are Met In The Following Categories
  – Sustainable Site
  – Energy/Atmosphere

Architects Love This!
Question #10 (Green)

• Q – Are Green Globes Points Available?
• A – Multiple
  – Requires A Solar Reflectance Index (SRI) Value Greater Than Or Equal To 78 For Low-slope Roofs
  – Meet Or Exceeds The Requirements Of ASHRAE Standard 90.1-2004?

Bonus Question #1

• Q - Do You Have Tools To Help Me With Perform Energy Analysis And Life Cycle Cost Analysis For My Customer?
• A – Some Do And Some Don’t
Bonus Question #2

• **Q** – What Is The Manufacturer’s Pedigree?

• **A** – Look At All Of The Following During Evaluation
  – Ratings
  – Independent Testing
  – Products For Specific To Their Intended Roof Substrate
  – Industry Awards/Recognition
  – Track Record Of Success Using These Products
Summary
Questions?

Thank you!
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