Shaw Green Edge Sustainability Strategy
“Sustainability through Innovation”

Presentation to
California DTSC AA2 Symposium

Sacramento, CA
July 28, 2010
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Director, Product Stewardship & Regulatory Affairs

Sustainability through Innovation™
That’s the Shaw Green Edge®
Agenda

- Shaw Profile
- Green Edge™ Sustainability Platform
- EcoFiberTouch Carpet Pad Case Study:
  - Anatomy of the EcoFiberTouch carpet pad
  - MBDC C2C assessment
  - Challenges
  - Next steps
- Post consumer recycling scope at Shaw
- Recycled Content: Advantages & disadvantages
- Suggestions and thoughts

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Introduction

- World’s largest carpet manufacturer
- Headquartered in Dalton, Georgia
- Founded in 1967
- Annual revenue of $4 billion
- Global provider of carpet, rugs, hardwood, laminate, tile & stone, turf and services for residential and commercial markets
- World’s largest carpet fiber producer
Shaw Green Edge™ Sustainability Platform

- Enhances our business model over the long term
- Drives Business Performance, Growth, Innovation and Productivity
- Platform for Creating Sustainable Business Value
- Embraces “Cradle to Cradle” Philosophy

Demonstrating Industry Leadership and Excellence…
EcoFiberTouch Carpet Pad

EcoFiberTouch™
100% Recycled Synthetic Fiber Cushion from Shaw

Environmentally responsible

- Premium recycled fiber blend
- Exceptional strength and stability
- Comfortable, high-density cushion
- Excellent value
- Installer-preferred: Cuts better and offers the smoothest surface
- Keeps millions of pounds of material out of landfills
- Limited lifetime warranty

shawfloors.com

GREEN. It's something we never forget.

Certified cradle to cradle

BASIC

Tested and approved in accordance with the Carpet and Rug Institute’s Indoor Air Quality Testing and Labeling program. For more information, visit www.carpet-rug.org.
### Shaw Eco Fiber Touch:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Tier</th>
<th>Basic</th>
<th>Silver</th>
<th>Gold</th>
<th>Platinum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials</td>
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<tr>
<td>Material Reutilization / Design for Environment</td>
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<td>✓</td>
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<td>Energy</td>
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<td>Water</td>
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<td>Social Responsibility</td>
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<td>✓</td>
</tr>
</tbody>
</table>

### Legend for material assessments:

**Key:**

- **GREEN**
  - Preferred for use

- **YELLOW**
  - Acceptable for use—associated with a slight to moderate risk to human health or the environment; suitable for continued use until a GREEN alternative is found

- **RED**
  - Problematic—associated with one or more serious risks to human and/or environmental health; should be phased out as quickly as possible

- **GREY**
  - Incomplete data—either ingredient data is not available or evaluation data is not available for one or more criteria; data should be collected or ingredient should be phased out of use

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<table>
<thead>
<tr>
<th>Component</th>
<th>Product name</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom &amp; top layer material</td>
<td>Mixed regrind (over runs or defect products are taken back to fiber, primarily PP, some N6/PET)</td>
<td>Grey: post-industrial fiber does not exceed heavy metal or organohalogen limits for Material Avoidance.</td>
</tr>
<tr>
<td>Bottom &amp; top layer material</td>
<td>M22 PP 8-15 Den</td>
<td>Grey: post-industrial fiber does not exceed heavy metal or organohalogen limits for Material Avoidance.</td>
</tr>
<tr>
<td>Bottom &amp; top layer material</td>
<td>M22 PP 8-15 Den</td>
<td>Red due to antimony levels &gt; 100ppm</td>
</tr>
<tr>
<td>Bottom &amp; top layer material</td>
<td>PP Yarn Waste 3.5”</td>
<td>Grey: post-industrial fiber does not exceed heavy metal or organohalogen limits for Material Avoidance.</td>
</tr>
<tr>
<td>Bottom &amp; top layer material</td>
<td>Mixed Yarn Waste 3.5”</td>
<td>Grey: post-industrial fiber does not exceed heavy metal or organohalogen limits for Material Avoidance. However, test results showed 67ppm antimony.</td>
</tr>
</tbody>
</table>
Challenges for Post Consumer Material:

• **Material variability:** Extreme variability between post consumer materials.

• **Contamination:** An overall average may be acceptable, but test data will likely have spikes of elevated contamination levels.

• **Additional Processing:** Additional sorting, conditioning, cleaning, etc. is not yet feasible but being explored.

• **Recycling technology:** Still developing for many product categories and material types.
**Next Steps:**

- *Evergreen recycling process:* Refine the recycling process in both a dry and wet fibrous state. Still exploring options.

- *Root cause for contamination:* Run a random and timed set of samples to better understand if there is a reoccurring theme.

- *Continued assessments:* Continue assessing timed set of samples with MBDC.
Recycled content advantages:

• Cradle to cradle: Helps close the loop.
• Landfill avoidance: Keeps products, chemicals and materials out of the landfill.
• Growing demand: Many customers are demanding higher and higher recycled content levels in products.

Recycled content disadvantages:

• Legacy products: Many products coming back are 10, 15 or 20 years old and represent designs not DfE-enhanced.
• Chemical & Material Content: Very challenging and costly to take back, sort, clean and extract unwanted chemicals to create “valuable” recycled content.

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Suggestions and thoughts...

Things to consider for Post Consumer products:

• **Chemical/Material Content:** Difficult to control and vouch for without detailed, costly testing. Being addressed for today’s products…not so much for legacy products.

• **Take Back & Transportation:** Need to classify end of life (EOL) products as “used product” to enable sufficient take back rates.

• **Recycling:** New technology rapidly developing…need to continue to encourage and incent.

• **Recycled Content in New Products:** Need to be mindful around how best to screen for chemical content and how best to regulate recycled content in new products.

• **Cradle to Cradle Economy:** To achieve a “cradle to cradle” economy, the following actions are critical:
  
  • **Regulatory framework:** Acknowledging these chemical content challenges would demonstrate leadership and encourage sustainable behavior. *Perhaps we consider a “transition” provision for RC products that aligns with the product take back cycle (i.e. 10, 15, 20 years?)?*
  
  • **Supply Chain:** All industries need to telegraph requirements to their suppliers to begin “cleaning the stream” of unwanted chemicals.
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Questions?

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