Potential for increased treated wood products usage in U.S. South residential construction

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Overview

• Background / rationale
• Results of U.S. South treated framing study
• Results of N.A. decking study
**US SF Use of Treated SW Lumber**

- **Walls**: 67 mmbf
- **Foundations**: 43 mmbf
- **Outdoor Structures**: 349 mmbf

615 mmbf in 2002 (SFPA)

**NAHB 1998**

**US South SF Use of SW Lumber**

- **Treated**: 459 mmbf
- **Untreated**: 8,200 mmbf

South consumes
- 44% of US lumber
- 35% of EWPss
- 41% of structural panels
- 43% of non-structural panels

**NAHB, RISI 1998**
US South Wood Use in Walls

1.57 billion bf

- 56%
- 31%
- 13%

SYP
Doug/Hem-Fir
SPF

NAHB 1998

USDA Forest Service, 2002

- US $2 billion + in termite damage annually
### Cost of using treated framing lumber/panels

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated framing package</td>
<td>$16,094 US</td>
</tr>
<tr>
<td>Treated framing package</td>
<td>$19,511</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,417 US</strong></td>
</tr>
</tbody>
</table>

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### 2003/2004 Forintek market study

**Potential for increased treated wood products usage in U.S. South residential construction**

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Western Division

[www.valuetowood.ca](http://www.valuetowood.ca)  [www.valueraubois.ca](http://www.valueraubois.ca)
2003/2004 Forintek market study

Key Objective is to document reasons for the lack of specification of treated wood for home framing

- Buyer/Supplier demographics information
- Criteria for treated wood home framing purchase or sales
- How treated wood perceptions were developed
- Awareness and performance perceptions of treated wood relative to other construction materials
- Awareness and perception of various chemicals and wood treating processes
Survey population

229 home owners

Survey population

313 builders / remodelers
### Priority home purchase criteria

#### % rating most important

- **Cost of the house**: 24%
- **Energy efficient**: 16%
- **Resistance to insects**: 15%
- **Resale value**: 14%
- **Resistance to decay**: 12%
- **Resistance to wind**: 7%
- **Resistance to flooding**: 6%

#### Homeowners

- **Cost of the house**: 12%
- **Energy efficient**: 7%
- **Resistance to insects**: 6%
- **Resale value**: 20%
- **Resistance to decay**: 16%
- **Resistance to wind**: 15%
- **Resistance to flooding**: 10%

#### Builders / Remodelers

- **Cost of the house**: 14%
- **Energy efficient**: 5%
- **Resistance to insects**: 18%
- **Resale value**: 20%
- **Resistance to decay**: 15%
- **Resistance to wind**: 10%
- **Resistance to flooding**: 6%

### Building material purchase criteria

**Builders / Remodelers**

- **Chemical free**: Very important
- **Cost**: Important
- **Health risks from material**: Not important at all
- **Resistance to harsh climate**: Important
- **Low maintenance**: Very important
- **Effective years of service**: Very important
- **Resistance to insects**: Very important
Attitudes

• treated lumber was believed by homeowners and builders / remodelers to be less harmful to the environment than plastic or steel
• 43% of homeowners and 41% of builders / remodelers stated they had an extremely positive perception of treated wood products

Attitudes

• Treated wood is appropriate for new home framing (remodelling)
  – 54% (49%) of homeowners said yes
  – 49% (47%) of builders / remodelers said yes
• 81% of builders / remodelers did NOT have any concerns about using treated wood structurally
  – Of those that did, cost was the major concern
Attitudes

• Familiarity with borates
  – 12% of homeowners
  – 38% of builders / remodellers

• Are some types of treated wood safer than others?
  – Homeowners: Yes 22%   No 9%   Unsure 69%
  – Builders / remodellers: Yes 26%   No 20%   Unsure 54%

Attitudes

• 64% of homeowners started that they somewhat or strongly agree that treated wood is an acceptable material for home framing
• 69% of homeowners somewhat or strongly agree that they would frame their house with treated wood if it was certified safe (Note small difference)
• 53% of homeowners somewhat or strongly agree that they would like more information on proper use, handling and disposal of treated wood
Attitudes

- 62% of homeowners somewhat or strongly agree that they would pay a price premium for treated wood
- Only 24% of builders/remodellers stated that they would not pay a price premium
- 34% of homeowners have experienced termite damage to their homes, and 88% have taken action to prevent attack by some means

Effectiveness of termite prevention options

<table>
<thead>
<tr>
<th>Method</th>
<th>Homeowners</th>
<th>No protection</th>
<th>High protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated wood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel ground barrier</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel mesh ground barrier</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Surface treated wood</td>
<td></td>
<td></td>
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<tr>
<td>Termite baiting</td>
<td></td>
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<tr>
<td>Soil pesticides</td>
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<td></td>
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<tr>
<td>Regular fumigation</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pressure treated wood</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No use of wood</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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Effectiveness of termite prevention options

- 60% of homeowners stated that treated wood strongly or greatly protects against termites; 17% for preservative surface sprayed wood
- Comparative figures for builders / remodelers are 76% and 12%

Conclusions

- Results suggest that we could see large increase in the use of treated wood in home framing in the South
  - Attitude ahead of behavior?
  - In the South, treated wood means SYP! How do we insure SPF maintains market share?
Benefit / Impact to Industry

- Educate homeowner on treated wood benefits
  - life-cycle cost of treated wood compared to alternatives such as fumigation and non-wood
  - safe use / handling / disposal
- Market research on willingness-to-pay
- Increase brand recognition
- Further develop prefabricated components industry, incorporating Canadian treated wood products

At stake for the US South market?
- 8 billion bf of untreated lumber
- 8 billion sf of untreated structural panels
Homes built with decks in the US

- **North**
  - With 43%
  - Without 57%

- **South**
  - With 32%
  - Without 68%

- **West**
  - With 20%
  - Without 80%

Deck market projected to surpass 5 Bbf by 2006
Material for decking in the US

- Treated Wood 83%
- Redwood 6%
- Red Cedar 5%
- Wood Plastic Composite 4%
- Plastic 1%

Wood Market Monthly 2002

Results—Material

Material was the most important attribute in both years

2000
- Treated wood and naturally durable wood equal in preference.
- Plastic lumber very negative

Conditions
- Pre-arsenic issue
- Western Canada
Results—Material

2003
• Treated wood dropped from most preferred to least preferred (and highly negative)
• Wood plastic went from highly negative to ranked a close second

Conditions
• Post-arsenic issue
• Eastern Canada and US

Results—Other attributes
• Expected lifetime of a deck is a close second in decision making criteria for consumers
• Cost is the 3rd most important attribute
• Expected annual maintenance is the 4th most important attribute
  – Consumers were surprisingly insensitive to this attribute
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