

## Key points on National Association of Home Builders' Model Green Home Building Guidelines

NAHB Model Green Home Building Guidelines																																																						
What is the NAHB Model Green Home Building Guidelines?	It is a document that provides guidance for builders engaged in or interested in green building products and practices for residential design, development and construction.																																																					
Who developed these guidelines?	These guidelines were written by a group of builders, researchers, environmental experts, and designers, under the coordination of the National Association of Home Builders (NAHB),																																																					
What is the purpose of these guidelines?	Provide a framework and a tool for builders to reduce a home's environmental impact by highlighting ways in which a mainstream home builder can effectively and holistically weave environmental concerns into a new home.																																																					
Does NAHB have a Green Building Standard?	Yes, the National Green Building Standard is now under development and it is a joint project between NAHB and the International Code Council (ICC). It encompasses single-family construction, remodeling and multifamily construction. It is expected to be available late Summer 2008 (?)																																																					
What are the areas or guiding principles these Guidelines cover?	<table border="1"> <thead> <tr> <th rowspan="2">Guiding Principles</th> <th rowspan="2">Max. Points</th> <th colspan="3">Min. Points Required</th> </tr> <tr> <th>Bronze</th> <th>Silver</th> <th>Gold</th> </tr> </thead> <tbody> <tr> <td>1. Lot Design</td> <td>12 points</td> <td>8</td> <td>10</td> <td>12</td> </tr> <tr> <td>2. Resource Efficiency</td> <td>77 points</td> <td>44</td> <td>60</td> <td>77</td> </tr> <tr> <td>3. Energy Efficiency</td> <td>100 points</td> <td>37</td> <td>62</td> <td>100</td> </tr> <tr> <td>4. Water Efficiency</td> <td>19 points</td> <td>6</td> <td>13</td> <td>19</td> </tr> <tr> <td>5. Indoor Environmental Quality</td> <td>72 points</td> <td>32</td> <td>54</td> <td>72</td> </tr> <tr> <td>6. O&amp;M, Homeowner Education</td> <td>9 points</td> <td>7</td> <td>7</td> <td>9</td> </tr> <tr> <td>7. Global Impact</td> <td>6 points</td> <td>3</td> <td>5</td> <td>6</td> </tr> <tr> <td>8. Additional points</td> <td><u>100 points</u></td> <td><u>100</u></td> <td><u>100</u></td> <td><u>100</u></td> </tr> <tr> <td><b>Maximum points</b></td> <td><b>395 points</b></td> <td><b>237</b></td> <td><b>311</b></td> <td><b>395</b></td> </tr> </tbody> </table>	Guiding Principles	Max. Points	Min. Points Required			Bronze	Silver	Gold	1. Lot Design	12 points	8	10	12	2. Resource Efficiency	77 points	44	60	77	3. Energy Efficiency	100 points	37	62	100	4. Water Efficiency	19 points	6	13	19	5. Indoor Environmental Quality	72 points	32	54	72	6. O&M, Homeowner Education	9 points	7	7	9	7. Global Impact	6 points	3	5	6	8. Additional points	<u>100 points</u>	<u>100</u>	<u>100</u>	<u>100</u>	<b>Maximum points</b>	<b>395 points</b>	<b>237</b>	<b>311</b>	<b>395</b>
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Does NAHB have different levels of achievement?	<p>Yes. NAHB established various thresholds to delineate different levels of green building effort.</p> <p>a) Bronze: 237 points            b) Silver: 311 points            c) Gold: 395 points</p>																																																					
How does this rating system work?	There are a minimum number of points required for each of the seven guiding principles. After reaching the minimum requirements in each category, an additional 100 points must be achieved by implementing any of the remaining line items.																																																					
<p>To which NAHB green guiding principles DuPont™ Tyvek® Weatherization Systems may contribute?</p> <p><i>Please review previous table to learn about how DuPont™ Tyvek® Weatherization Systems may contribute in each Section.</i></p>	<p><b>Section 2.</b> Resource Efficiency</p> <p><b>Section 3.</b> Energy Efficiency</p> <p><b>Section 5.</b> Indoor Environmental Quality</p> <p><b>Section 7.</b> Global Impact</p>																																																					

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**How DuPont™ Tyvek® Weatherization Systems\* contribute to Sustainable Design  
Residential Application: National Association of Home Builders' Green Home  
Guidelines**

Key Attributes – DuPont™ Tyvek® Weatherization Systems	NAHB Green Home Guidelines Credits and points to which Tyvek® may contribute	How may Tyvek® contribute	How to Verify
<p><b>Air Infiltration Resistance:</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Tyvek® Weatherization Systems</li> </ul> <p><b>Water Resistance</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Tyvek® Weatherization Systems</li> </ul> <p><b>Water Vapor Permeability</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Tyvek® Weatherization Systems</li> </ul> <p><b>Durability</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Tyvek® Weatherization Systems</li> </ul> <p><b>No VOC</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Tyvek® WRB Membranes</li> <li><input checked="" type="checkbox"/> Flashing Systems</li> </ul> <p><b>Low VOC</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Adhesive and Sealants</li> </ul> <p><b>Compatible System Components</b></p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Tyvek® membranes</li> <li><input checked="" type="checkbox"/> Flashing</li> <li><input checked="" type="checkbox"/> Caulks &amp; Sealants</li> <li><input checked="" type="checkbox"/> Fasteners</li> </ul>	<p><b>2. Resource Efficiency</b></p> <p><b>2.2. Enhance Durability and Reduce Maintenance</b></p> <p><u>2.2.9.</u> Provide a Weather Resistant Barrier (WRB) behind the exterior siding (8 Points)</p> <p><u>2.2.12.</u> Employ and show on plans the flashing details (max. 9 Points)</p> <p><b>2.8. Innovative Options</b></p> <p><u>2.8.2.</u> Use life-cycle assessment (LCA) to demonstrate the environmental effects of building materials (8 Points)</p> <hr/> <p><b>3. Energy Efficiency</b></p> <p><b>3.2. Performance Path:</b> Demonstrate that a home is X% above IECC 2003:</p> <p>A. 15% (Bronze) 37 Points B. 30% (Silver) 62 Points C. 40% (Gold) 100 Points</p> <p><b>3.3. Prescriptive Path:</b> Alternate method for gaining points for energy efficiency</p> <p><u>3.3.1. B. Building Envelope:</u> Incorporate Air Sealing Package to reduce infiltration (1.0 Points)</p> <hr/> <p><b>5. Indoor Environmental Quality</b></p> <p><u>5.1.4.</u> Provide <b>Continuous Air Barrier</b> between garage and living areas including air-sealing penetrations, walls ceilings and floors (9 Points)</p> <hr/> <p><b>7. Global Impact</b></p> <p><u>7.1.3.</u> Use low VOC Sealants - see below (max. 5 Points)</p> <p><b>A.</b> Construction Adhesives: the greater of 15% by weight or 200 grams/liter <b>B.</b> Sealants and Caulks: the greater of 4% by weight or 60 grams/liter <b>C.</b> Contact Adhesives: the greater of 80% by weight or 650 grams/liter</p>	<p>Use Tyvek® Weather Resistant Barrier and include on the drawings. Install Tyvek® WRB per DuPont Installation Guidelines;</p> <p>Use DuPont flashing systems and install per DuPont Installation Guidelines; DuPont and/or Tyvek® Specialists can assist with installation details</p> <p>DuPont experts can assist in estimating benefits of using Tyvek®: <i>e.g.</i> energy saved <i>versus</i> embodied energy</p> <p>Use energy simulations to estimate the energy savings from an airtight envelope; add % savings from simulations to Total % savings from all energy efficient strategies employed (REScheck). DuPont experts can assist with simulations</p> <p>Use Tyvek® Weatherization System /continuous air barrier (seal all overlaps, use flashings, caulks &amp; sealants).</p> <p>Use Tyvek® Weatherization System /continuous air barrier between garage and living areas; all seams must be cut properly and all edges taped to ensure a continuous air barrier.</p> <p>DuPont caulks and sealants meet the limits specified in the California Air Resources Board Regulations for Reducing Volatile Organic Compound Emissions from Consumer Products</p>	<p>Provide LCA (Life Cycle Analysis) data that meet the accepted standards such as BEES (Building for Environmental and Economic Sustainability) or ATHENA output to show environmental impact</p> <p>REScheck Analysis to estimate % energy savings from all energy efficient strategies used in the project; REScheck does not include envelope airtightness - add airtightness contribution on top of REScheck calculations.</p> <p>Check housewrap installation for continuity (seal at all required locations)</p> <p>Builder Certified</p> <p>Builder Spec Sheet Manufacturer's spec or 3<sup>rd</sup> party listing</p>

\* DuPont™ Tyvek® Weatherization Systems include:

- Primary membranes: Tyvek® Housewrap®, Tyvek® StuccoWrap®, Tyvek® ThermaWrap®, Tyvek® AtticWrap®  
Installation and continuity accessories compatible with Tyvek® primary membranes: flashing, caulks & sealants