

DELTA®-VENT SA and LEED® v4 Building Design and Construction

Leadership in Energy and Environmental Design Version 4

LEEDv4 has design-based green rating systems that include the building enclosure within their scope in terms of various environmental impacts. LEEDv4 includes the following rating systems for midrise buildings (USGBC.org).

Homes and Multifamily Lowrise: Designed for single family homes and multifamily buildings between one and three stories.

Multifamily Midrise: Designed for midrise multifamily buildings between four and eight stories.

The standards similarly define green building features in terms of prerequisite and point earning requirements. When all prerequisites are fulfilled and a minimum number of points are achieved, a project can receive a certified silver, gold, or platinum rating.

Also, it is important to note that the standards are evolving. Below is an overview of how **DELTA®-VENT SA** affects specific credit opportunities within the current LEEDv4 rating systems.

Credits	Points	Contribution
Building Product Disclosure and Optimization	3	<p>Environmental Product Declaration</p> <p>In LEED v4, up to 3 points can be achieved, each for using at least 20 different products with an approved Environmental Product Declaration, Corporate Sustainability Reports, and/or Material Ingredient Reporting certifications.</p> <p>Health Product Declarations</p> <p>Dörken is reviewing these certifications and DELTA® products can contribute to the minimum of 20 products.</p> <p>LEED v4 has also introduced up to 5 points for building life-cycle impact reduction. Within the life cycle assessment calculation for new buildings, the service life of components must be considered.</p>
Low Emitting Materials – Adhesives and Sealants	3	<p>Multifamily Midrise</p> <p>This credit does not apply to exterior products. The building exterior is defined as everything outside and inclusive of the primary and secondary weatherproofing system, such as waterproofing membranes and air- and water-resistive barrier materials.</p> <p>DELTA®-VENT SA is typically the waterproofing and air barrier membrane, so VOC documentation clearly does not need to be submitted. Guidance has not been provided in LEED v4 on whether or not VOC content documentation for primers is required.</p>
Enhanced Commissioning	2	<p>Multifamily Midrise</p> <p>An additional 2 points are available for including building enclosure with the scope of Enhanced Commissioning.</p> <p>Using DELTA®-VENT SA for air and moisture control is an effective part of meeting these building enclosure commissioning requirements.</p>

LEED® v4

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<p>Minimum Energy Performance</p> <p>Optimize Energy Performance</p>	<p>PR</p> <p>Up to 20</p>	<p>Multifamily Midrise</p> <p>Option 1 – Whole-building energy simulation</p> <p>Energy performance must be at least 10 % below baseline defined in and 90.1-2010. Credits are earned for surpassing this minimum threshold.</p> <p>DELTA®-VENT SA can be used to considerably improve building air tightness. To claim energy savings from air tightness, applicants must use the Exceptional Calculation Method defined in Appendix G2.5. See LEED interpretation 5060, 5691 and 5495 for guidance. ASHRAE 90.1-2010 (5.4.3.1) further requires that “the entire building envelope shall be designed and constructed with a continuous air barrier.” Using DELTA®-VENT SA, designers will help to ensure that air leakage rates are below the maximum allowed.</p> <p>Option 2 – Prescriptive compliance</p> <p>Projects must meet the prescriptive requirements of the ASHRAE Advanced Energy Design Guides (50 % savings required for LEED v4). These guides have similar air barrier requirements as ASHRAE 90.1-2010 under which DELTA®-VENT SA can serve as an effective continuous air barrier.</p> <p>Homes</p> <p>Homes must meet minimum Energy Star performance requirements that include blower door performance thresholds. Houses using DELTA®-VENT SA have been found to achieve exemplary air tightness performance. For projects following the Energy Star performance path, additional points are available for a more air tight house.</p> <p>Air tightness thresholds in ACH50(cfm50/sf) for IECC climate zones</p> <table border="1"> <thead> <tr> <th></th> <th>Zones 1-2</th> <th>Zones 3-4</th> <th>Zones 5-7</th> <th>Zone 8</th> </tr> </thead> <tbody> <tr> <td>1 pt</td> <td>4.25 (0.195)</td> <td>3.5 (0.16)</td> <td>2.75 (0.125)</td> <td>2.0 (0.0925)</td> </tr> <tr> <td>2 pts</td> <td>3.0 (0.1375)</td> <td>2.5 (0.115)</td> <td>2.0 (0.0925)</td> <td>1.5 (0.0675)</td> </tr> </tbody> </table>		Zones 1-2	Zones 3-4	Zones 5-7	Zone 8	1 pt	4.25 (0.195)	3.5 (0.16)	2.75 (0.125)	2.0 (0.0925)	2 pts	3.0 (0.1375)	2.5 (0.115)	2.0 (0.0925)	1.5 (0.0675)
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<p>Compartmentalization</p> <p>Enhanced Compartmentalization</p>	<p>PR</p> <p>3</p>	<p>Multifamily Midrise</p> <p>For multi-residential buildings 4-6 stories, the Multifamily Midrise requires all projects meet compartmentalization requirements for units, regardless of smoking policy. This is confirmed through unit blower door testing which captures interior separation between units and the exterior enclosure.</p> <p>This standard also provides additional point(s) for exceeding suite air tightness thresholds in the Enhanced Compartmentalization credit.</p> <p>Using DELTA®-VENT SA will ensure minimum air leakage contribution of the exterior enclosure.</p> <p>Suite air tightness thresholds for compartmentalization credits</p> <table border="1"> <thead> <tr> <th></th> <th>Pts</th> <th>Minimum</th> </tr> </thead> <tbody> <tr> <td>Prerequisite</td> <td>PR</td> <td>0.23 cfm50/sf</td> </tr> <tr> <td>Enhanced Compartmentalization</td> <td>3</td> <td>0.15 cfm50/sf</td> </tr> </tbody> </table>		Pts	Minimum	Prerequisite	PR	0.23 cfm50/sf	Enhanced Compartmentalization	3	0.15 cfm50/sf						
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