Insulated Roof Deck Series

featuring OneDek®

A Better Way to Build

Innovative
Adaptable
Energy Efficient
Our insulated roof deck systems are a superior alternative to traditional roof deck systems. Requiring fewer steps to install saves construction time and provides exceptional energy efficiency for your low-slope roofing project. An industry exclusive 20 year top-to-bottom system warranty is available.

As an innovator in design, construction and advancement of insulated metal panels, All Weather Insulated Panels has two state-of-the-art, continuous-line manufacturing facilities capable of producing 30 million square feet of panels per year. Discover our broad range of insulated metal wall and roof profiles, finishes, colors, dimensions, trims, concealed fastening systems, plus other options, that will help you unleash your full design capabilities.

Today's building projects require the perfect combination of energy efficiency, creative versatility and reduced construction cost. All Weather Insulated Panels is strategically positioned to meet the growing energy, environmental and economic challenges facing the North American building industry.

**Benefits**
- Building Integrity
- Warranty
- Faster and safer installation
- Sustainable


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Traditionally, insulated metal panels (IMPs) have acted as non-load bearing wall and roof cladding materials to create high-performing building envelopes. However, the composite nature of IMPs creates a very rigid assembly when continuously fastened together and can act as a roof diaphragm. With the proper fastening and design, the shear load capacity of insulated metal roof deck systems is comparable in strength to 1.5” deep 22-gauge B-deck systems without the need for welding decking to framing. The roof diaphragm also serves in transferring lateral loads, such as wind and seismic, to the foundation. The controlling factor in the insulated roof deck’s ability to resist in-plane shear loads is the bearing strength of the steel or widening of the fastening holes (slotting).

**OneDek® System**

- **COMPOSITE INSULATED ROOF DECK PANEL**
  - R VALUES UP TO 62 (8” THICK)
  - Incredibly fast installation, no on-site application of rigid foam insulation.

- **FIELD-APPLIED MEMBRANE**
  - TPO or PVC, easily fastened mechanically or fully adhered.

- **SMOOTH FLAT EXTERIOR STEEL SUBSTRATE**
  - Provides exceptional damage & fire resistance.

- **Interior factory white painted steel in clean washable finish reduces lighting needs.**

**Traditional System**

- **MULTI-STEP TRADITIONAL BUILT UP DECK SYSTEM**
  - Multiple step approach requiring multiple traders and cycles of installation. Building only dried-in when membrane installation is complete.

- **RIGID BOARDS**
  - Traditionally R 5 per inch requiring staggered insulation to achieve higher R values. Fasteners installed to steel deck are exposed on the interior of the building.

- **MEMBRANE**
  - Traditionally TPO or PVC which are either mechanically fastened or fully adhered. Fasteners installed to steel deck are exposed on the interior of the building when mechanically fastened.

- **B-DECK**
  - Either fastened or welded to steel structure with limited flexibility on interior design. Vulnerable to weather conditions.

10” - 14”
**Diaphragm Systems: RD1 40/5-12**

- **OneDek® RD1 Roof Deck Panel**
- **Panel thickness:** 2” (R16), 2.5” (R20), 3” (R24), 4” (R32), 5” (R41), 6” (R49), 8” (R62)
- **Support fastening:** #12-24 DP4 Fasteners, 8” on center across 40” panel width
- **Side-lap fastening:** #14-14 x 1 1/2” DP2 Fasteners, 12” on center along length of panel joint
- **Support thickness:** 16 gauge - 3/16” steel

**Notes:**

1. Safety factors or resistance factors shall be applied to the tabulated nominal shear strength.
2. Design strength factors specified per requirements of AISI-S310.
3. The diaphragm shear spans shown are based on shear load testing frequency as the design fastening system.
4. Refer to transverse load span table for allowable gravity and wind uplift loads.
5. White single-ply roofing membrane or architectural single skin roof panels must be installed for weatherproofing.
6. Structural capacity of steel supports has not been considered.
7. Structural capacity of steel supports has been considered.
8. Panel attachment at rake edge or any perimeter edge, including cutouts, parallel to the length of the panels shall be fastened with #12-24 DP4 fasteners with RP-01 Roof Deck Plates and 1/4-14 DP3 or DP5 Fasteners, (2) per WC-01 clip at side joint at the same spacing used at the panel side lap.
9. **Refer to transverse load span table for allowable gravity and wind uplift loads.**
10. **White single-ply roofing membrane or architectural single skin roof panels must be installed for weatherproofing.**
11. **Consult your AWIP representative for project specific requirements.**

**Diaphragm Systems: RD1 40/7-6**

- **OneDek® RD1 Roof Deck Panel**
- **Panel thickness:** 2” (R16), 2.5” (R20), 3” (R24), 4” (R32), 5” (R41), 6” (R49), 8” (R62)
- **Support fastening:** #12-24 DP4 Fasteners, 8” on center across 40” panel width
- **Side-lap fastening:** #14-14 x 1 1/2” DP2 Fasteners, 12” on center along length of panel joint
- **Support thickness:** 16 gauge - 3/16” steel

**Notes:**

1. Safety factors or resistance factors shall be applied to the tabulated nominal shear strength.
2. Design strength factors specified per requirements of AISI-S310.
3. The diaphragm shear spans shown are based on shear load testing frequency as the design fastening system.
4. Refer to transverse load span table for allowable gravity and wind uplift loads.
5. White single-ply roofing membrane or architectural single skin roof panels must be installed for weatherproofing.
6. Structural capacity of steel supports has not been considered.
7. Structural capacity of steel supports has been considered.
8. Panel attachment at rake edge or any perimeter edge, including cutouts, parallel to the length of the panels shall be fastened with #12-24 DP4 fasteners with RP-01 Roof Deck Plates and 1/4-14 DP3 or DP5 Fasteners, (2) per WC-01 clip at side joint at the same spacing used at the panel side lap.
9. **Refer to transverse load span table for allowable gravity and wind uplift loads.**
10. **White single-ply roofing membrane or architectural single skin roof panels must be installed for weatherproofing.**
11. **Consult your AWIP representative for project specific requirements.**
Wind Uplift Loads for OneDek® RD5 Panel (PSF)

1. Spans shown are based on transverse load testing per ASTM-E72 and strength of fastening patterns.
2. There is no design for diaphragm resistance using the OneDek® RD5 panel.
3. Spans calculated with 26 gauge exterior and interior facings.
4. The lowest allowable load between panel design and connection strength must be used to determine maximum span.
5. Fastening calculated with 1/4-14 Tek 3 for 16 gauge and 12 gauge purlins and 1/4-20 Tek 5 for 3/16" thick purlins.
6. Deflection Limit: L/240
7. Safety factor = 2.5 for buckling, 3.0 for shear, 3.0 for fastening. See Note #2 (ASD only)
8. White single-ply roofing membrane or single skin roof panels must be installed for weatherproofing.
9. Thermal effect due to temperature differentials have not been considered.
10. Structural capacity of purlins have not been considered.
11. Consult your AWIP representative for snow load design.
12. Consult your AWIP representative for project specific requirements.

Notes:

<table>
<thead>
<tr>
<th>Panel Thickness</th>
<th>Panel Weight (PSF)</th>
<th>Design Criteria</th>
<th>Panel Span (ft)</th>
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<td>2.22</td>
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<td>132 108 90 77 66 58 51 45 40 38 32 29</td>
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<td>Panel Deflection Limit</td>
<td>204 167 141 121 105 92 82 75 68 60 54 49</td>
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<tr>
<td>4&quot;</td>
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<td>Panel Deflection Limit</td>
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<td>6&quot;</td>
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Fastening Pattern

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1. Spans shown are based on transverse load testing per ASTM-E72 and strength of fastening patterns.
2. There is no design for diaphragm resistance using hidden clip fastening. See OneDek® RD1 Diaphragm Table.
3. Spans calculated with 26 gauge exterior and interior facings.
4. The lowest allowable load between panel design and connection strength must be used to determine maximum span.
5. Fastening calculated with 1/4-14 Tek 3 for 16 gauge and 12 gauge purlins and 1/4-20 Tek 5 for 3/16" thick purlins.
6. Deflection Limit: L/240
7. Safety factor = 2.5 for buckling, 3.0 for shear, 3.0 for fastening. See Note #2 (ASD only)
8. White single-ply roofing membrane or single skin roof panels must be installed for weatherproofing.
9. Thermal effect due to temperature differentials have not been considered.
10. Structural capacity of purlins have not been considered.
11. Consult your AWIP representative for snow load design.
12. Consult your AWIP representative for project specific requirements.

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### Systems Comparison

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<th>Traditional Systems</th>
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<tr>
<td><strong>Higher Performance</strong>&lt;br&gt;Higher R-value per inch.&lt;br&gt;Superior resistance to transverse load and foot traffic on durable steel surface.&lt;br&gt;Steel facings impermeable to air and water.</td>
<td>Lower R-value per inch.&lt;br&gt;Traditional deck deflects more and requires coverboard to create hard surface.&lt;br&gt;System susceptible to absorption of moisture during installation.</td>
</tr>
<tr>
<td><strong>Single Source</strong>&lt;br&gt;Membrane and insulated roof deck provided by single manufacturer and includes a 20-year warranty.</td>
<td>Components sourced from various number of manufacturers.</td>
</tr>
<tr>
<td><strong>Faster Installation</strong>&lt;br&gt;Fewer components and fastening requirements for insulation reduces the complexity of the installation.</td>
<td>Several layers of components including insulation fasteners slows down the installation process.</td>
</tr>
<tr>
<td><strong>Sustainable Build</strong>&lt;br&gt;Composite material reduces materials and waste used on site as well as the vehicle miles traveled.</td>
<td>Generates more waste from each separate type of component used on site.</td>
</tr>
</tbody>
</table>

### Customer Testimonials

**Steve Beck, Web Industries:**

For us, the decision to go with the OneDek system was based primarily on support and design. The stiffness of the top surface provides the required support our guys need as they go about their work. Meanwhile, smooth-painted interior gives our building the sleek appearance we’re looking for at Web Industries.

**Joshua Johnson, Soule Buildings:**

With the OneDek roof system, the initial price is comparable to traditional systems - the real payoff comes from the savings in the labor costs associated with faster install times. These time savings really benefit us when it comes to phased construction. We can lay down all panels and have the building dry which allows our crew and other traders to come and perform work on other parts of the building. With the ease of installation, I’m glad we made the decision as a company to switch to insulated panels years ago.

**Ron Lewis, CEL Construction:**

The RD1 flat profile allowed much better adhesion of coverboard and TPO. We work primarily in the cold storage industry, so it’s crucial that we have a good thermal seal. If you want your system to have a good thermal envelope, the RD1 is the way to go.
In accordance with ongoing efforts to improve our products and their performance, All Weather Insulated Panels reserve the right to change without notice the specifications contained herein.

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