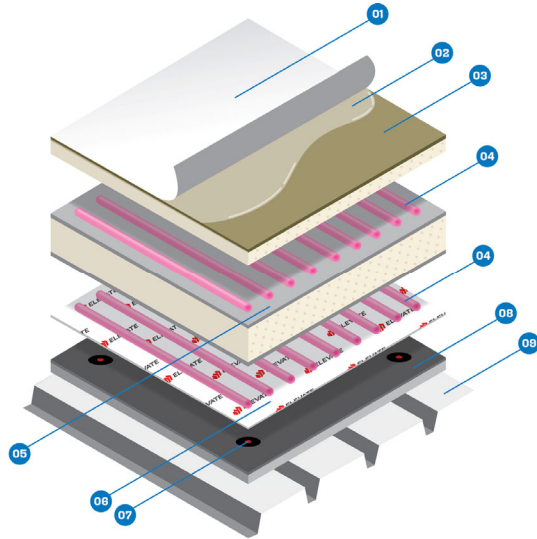
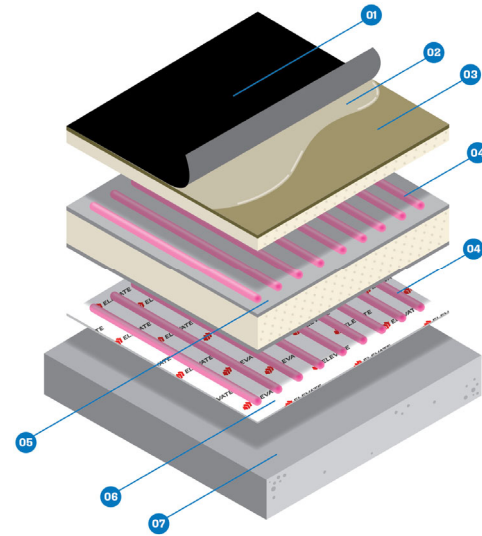


**Examples of Typical Data Center Assemblies**

**ASSEMBLY EXAMPLE**

- 01 Elevate™ UltraPly™ TPO
- 02 Appropriate Membrane Adhesive
- 03 ISOGARD™ HD Insulation
- 04 Approved Elevate Insulation Adhesive
- 05 ISOGARD™ GL Insulation
- 06 Elevate V-Force™ Vapor Barrier
- 07 Appropriate Plates and Fasteners
- 08 Appropriate Thermal Barrier
- 09 Steel Roof Deck


**ASSEMBLY EXAMPLE**

- 01 RubberGard™ EPDM
- 02 Appropriate Membrane Adhesive
- 03 ISOGARD HD Insulation
- 04 Approved Elevate Insulation Adhesive
- 05 ISOGARD GL Insulation
- 06 Elevate V-Force Vapor Barrier
- 07 Concrete Roof Deck

**Consult Elevate Technical Specifications, Guides and Details at [www.HolcimElevate.com](http://www.HolcimElevate.com)**

**Slope Requirement:** Positive drainage required for warranty.

**Construction Type:**

☐ New Construction    ☐ Re-Roof    ☐ Re-Cover (Any wet or damaged materials removed prior to installation)

**Building Height Limitation:** Elevate Single-Ply Membrane Adhered Systems are limited to buildings 250' (76.2 m) or less.

**Air Barrier:** An air barrier is recommended for projects with large wall openings greater than 10% of the total wall area.

**NOTE:** The inclusion and placement of air and vapor control layers is the responsibility of a design professional. Terminating control layers within the roofing assembly is consistent with industry best practices and is represented solely for illustration purposes.

**Vapor Barrier:**

☐ V-Force and Thermal Barrier    ☐ V-Force w/o Thermal Barrier\*    ☐ SBS    ☐ APP    ☐ Other (by designer)

\*Thermal barrier required when using V-Force over a Steel Deck on FM Insured or FM Specified projects.

**NOTE:** The inclusion and placement of air and vapor control layers is the responsibility of a design professional.

**Base Tie-Ins:** Must be attached to substrates which provide a minimum of 200 lbf (1 kN) in any direction.

☐ Deck Termination    ☐ Wall Termination

**Increased Wind Speed and Codes:** Any wind speed coverage exceeding 55 mph (88 km/h) or projects with code requirements must be reviewed by a Elevate Regional Technical Coordinator.

**Hail Coverage:** Appropriate membrane thickness, cover board and securement methods required for hail coverage up to 2" (50.8 mm) diameter. See below.

**NOTE:** Very Severe Hail (VSH) ratings from FM Approvals may require a specific cover board to be used. See FM RoofNav approval for full FM assembly requirements.

**Deck Requirement:**

- ☐ Minimum ½" (12.7 mm) Plywood    ☐ Minimum 7/16" (11.1 mm) OSB    ☐ Minimum 1" (25.4 mm) Wood Plank
- ☐ Minimum 2" (50.8 mm) Poured Gypsum    ☐ Minimum 2" (50.8 mm) Cementitious Wood Fiber
- ☐ Minimum 22 Gauge Steel    ☐ Minimum 2,500 psi (17.2 MPa) Structural Concrete, min. 3" (76.2 mm) thick
- ☐ Minimum 2" (50.8 mm) Lightweight Concrete:
  - ☐ over 22 Gauge Steel Pan    ☐ over Structural Concrete    ☐ with Fastened Base Sheet

|   |   |
|---|---|
| <b>Insulation Fasteners and Plates (Based on Appropriate Deck Type):</b><br><input type="checkbox"/> Heavy Duty Fasteners and Insulation Plates <input type="checkbox"/> HailGard™ Fastener (with HailGard Composite Board or OSB only)<br><input type="checkbox"/> All Purpose Fasteners and Insulation Plates <input type="checkbox"/> Elevate #12 Fasteners and Insulation Plates<br><input type="checkbox"/> Pre-Assembled #12 Fastener and Plate <input type="checkbox"/> IsoFast #12 Belted Fasteners and Insulation Plates<br><input type="checkbox"/> AP AccuTrac Kit <input type="checkbox"/> Polymer Fastener   |   |
| <b>NOTE:</b> When mechanical attachment is used it is recommended to secure the base layer or lower layer of insulation then adhere the remaining insulations to decrease thermal bridging.   |   |
| <b>Insulation Adhesive*:</b><br><input type="checkbox"/> I.S.O. Twin Pack™ <input type="checkbox"/> I.S.O. Spray™ R <input type="checkbox"/> I.S.O. Stick™ <input type="checkbox"/> Twin Jet <input type="checkbox"/> Twin Jet Y <input type="checkbox"/> Hot Asphalt<br><b>*NOTE:</b> Max. 4' x 4' boards must be used when attaching insulation with adhesives. Cleaning of the metal deck may be required to remove processing oils.   |   |
| <b>Insulation Adhesive Attachment:</b><br><div style="display: flex; justify-content: space-between;"> <div> <b>Max. 15 Year Warranty:</b><br/> <input type="checkbox"/> Bead Spacing: F: 12", P: 12", C: 12" (F: 304.8 mm, P: 304.8 mm, C: 304.8 mm) </div> <div> <b>20 Year Warranty:</b><br/> <input type="checkbox"/> Bead Spacing: F: 12", P: 6", C: 6" (F: 304.8 mm, P: 152.4 mm, C: 152.4 mm) </div> </div> <b>NOTE:</b> Adhesion direct to steel decking is acceptable but may not meet building code or allow for performance validation. FM Approvals does not allow direct to steel deck application of adhesives for insulation. When used ensure application of adhesive is on the top flute of deck. Bead spacing may be adjusted (decreased) for flute spacing, never increase spacing.  |   |
| <b>Membrane:</b>  | <b>Appropriate Membrane Adhesive:</b>   |
| <b>NOTE:</b> See Technical Information Sheet for appropriate membrane and membrane adhesive combinations.   |   |
| <b>UltraPly TPO Membrane Options:</b><br><input type="checkbox"/> UltraPly TPO, 45 mil<br><input type="checkbox"/> UltraPly TPO, 60 mil<br><input type="checkbox"/> UltraPly Platinum TPO, 80 mil<br><input type="checkbox"/> UltraPly TPO SA, 60 mil<br><input type="checkbox"/> UltraPly TPO XR 100, 45 mil* (max 15-Year Warranty)<br><b>*NOTE:</b> When adhered direct to existing asphalt, mod-bit or built-up products.<br><input type="checkbox"/> UltraPly TPO XR, 100, 115 or 135 Thickness  | <input type="checkbox"/> Jet Bond Spray Adhesive<br><input type="checkbox"/> Single-Ply LVOC Bonding Adhesive<br><input type="checkbox"/> Single-Ply LVOC Bonding Adhesive-1168<br><input type="checkbox"/> UltraPly Bonding Adhesive<br><input type="checkbox"/> XR Stick (Bead Attached)<br><input type="checkbox"/> I.S.O. Spray R (Full Coverage, Spatter or Bead)<br><input type="checkbox"/> Twin Jet or Twin Jet Y (Bead or Spatter)<br><input type="checkbox"/> Asphalt (III) (Max 15-year) (Full Coverage)<br><input type="checkbox"/> Asphalt (IV or SEBS) (Full Coverage)<br><input type="checkbox"/> Self-Adhered |
| <b>PVC and PVC KEE Membrane Options:</b><br><input type="checkbox"/> Elevate PVC or PVC KEE, 50 mil (Max. 15-Year Warranty)<br><input type="checkbox"/> Elevate PVC or PVC KEE, 60 mil<br><input type="checkbox"/> Elevate PVC or PVC KEE, 80 mil<br><input type="checkbox"/> Elevate PVC KEE XR, 50 mil (Max. 15-Year Warranty)<br><input type="checkbox"/> Elevate PVC XR or PVC KEE XR, 60 mil<br><input type="checkbox"/> Elevate PVC XR or PVC KEE XR, 80 mil<br><input type="checkbox"/> Elevate MAX PVC, 50 mil (Max. 15-Year Warranty)<br><input type="checkbox"/> Elevate MAX PVC, 60 mil<br><input type="checkbox"/> Elevate MAX PVC, 80 mil<br><input type="checkbox"/> Elevate MAX PVC XR, 50 mil (Max. 15-Year Warranty)<br><input type="checkbox"/> Elevate MAX PVC XR, 60 mil<br><input type="checkbox"/> Elevate MAX PVC XR, 80 mil | <input type="checkbox"/> Jet Bond PVC Spray Adhesive (Elevate PVC Membrane <b>ONLY</b> )<br><input type="checkbox"/> Elevate PVC LVOC Bonding Adhesive<br><input type="checkbox"/> Elevate PVC Water Based Bonding Adhesive*<br><b>NOTE:</b> Max 15-year warranty (Not to be used with PVC KEE non-fleece membrane)<br><input type="checkbox"/> Twin Jet or Twin Jet Y (Bead or Spatter)<br><input type="checkbox"/> I.S.O. Spray R (Full Coverage, Spatter or Bead)<br><input type="checkbox"/> XR Stick (Bead Attached)   |
| <b>RubberGard EPDM Membrane Options:</b><br><input type="checkbox"/> RubberGard EPDM, 45 mil (15-year max)<br><input type="checkbox"/> RubberGard EPDM, 60 mil<br><input type="checkbox"/> RubberGard Platinum EPDM, 90 mil<br><input type="checkbox"/> RubberGard MAX EPDM, 45 mil<br><input type="checkbox"/> RubberGard MAX EPDM, 60 mil<br><input type="checkbox"/> RubberGard MAX EPDM, 75 mil<br><input type="checkbox"/> RubberGard EPDM SA, 60 mil  | <input type="checkbox"/> Jet Bond Spray Adhesive<br><input type="checkbox"/> Single-Ply LVOC Bonding Adhesive<br><input type="checkbox"/> Single-Ply LVOC Bonding Adhesive-1168<br><input type="checkbox"/> EPDM Bonding Adhesive BA-2004(T)<br><input type="checkbox"/> EPDM Solvent Free Bonding Adhesive (Non-Reinforced Membrane Only. 15-year with 45 mil, 20-year with ≥ 60 mil)<br><input type="checkbox"/> Self-Adhered   |
| <b>Leak Detection:</b><br><b>NOTE:</b> Non-Elevate products are not included in the Elevate Red Shield Warranty.<br><input type="checkbox"/> Detec TruGround Conductive Primer (By others)<br><input type="checkbox"/> Low Voltage Electronic Leak Detection (ELD) Wire Grid System (By Others) (Must be placed under top cover board/insulation layer.)  |   |
| <b>Elevate Factory Formed Edge Metal System:</b><br><input type="checkbox"/> Coping System (QS-EDGE METAL-901) <input type="checkbox"/> Fascia System (QS-EDGE METAL-902)<br><input type="checkbox"/> Water Control (QS-EDGE METAL-903) <input type="checkbox"/> Wood Nailer Alternative (QS-EDGE METAL-904)  |   |
| <b>Elevate ES-1 Cleat Program Metal Offering (5 – 20 Year Warranty):</b><br><input type="checkbox"/> Drip Edge <input type="checkbox"/> Gravel Stop <input type="checkbox"/> Flat Coping <input type="checkbox"/> Snap-On Coping <input type="checkbox"/> Snap-On Fascia <input type="checkbox"/> Tapered Coping  |   |
| <b>Non-Factory Formed Edge Conditions:</b><br><input type="checkbox"/> Elevate Drain Bar <input type="checkbox"/> Elevate Termination Bar <input type="checkbox"/> Elevate Thermoplastic Coated Metal <input type="checkbox"/> Elevate Approved Detail  |   |

## Substrate Attachment Rates for Standard 55 mph Wind Speed (Top Layer, 4' x 8' Board)

| Thickness  | Substrate Material   | Minimum Fasteners |
|--|--|-------------------|
|  |  | 20-Year           |
| <input type="checkbox"/> 1.0" – 1.4" (25.4 mm – 35.6 mm)                                     | <input type="checkbox"/> ISOGARD GL / ISO 95+ GL<br>or<br><input type="checkbox"/> ISOGARD CG / Resista  | 16                |
| <input type="checkbox"/> 1.5" – 1.9" (38.1 mm – 48.3 mm)                                     |  | 12                |
| <input type="checkbox"/> 2.0" – 4.0" (50.8 mm – 101.6 mm)                                    |  | 8                 |
| <input type="checkbox"/> 1.5" – 1.9" (38.1 mm – 48.26 mm)                                    | <input type="checkbox"/> ISOGARD HG / HailGard Composite<br>/ <input type="checkbox"/> OSB / <input type="checkbox"/> Plywood (Plate and Fastener) | 12                |
| <input type="checkbox"/> 2.0" – 4.0" (50.8 mm – 101.6 mm)                                    |  | 8                 |
| <input type="checkbox"/> ISOGARD HG / HailGard Composite / OSB / Plywood (HailGard Fastener) |  | 16                |
| <input type="checkbox"/> ISOGARD HD Composite  |  | 12                |
| <input type="checkbox"/> ISOGARD HD Cover Board  |  | 12                |
| <input type="checkbox"/> 1/4" (6.35 mm)  | <input type="checkbox"/> SECUROCK® Brand Gypsum-Fiber Roof Board   | 10                |
| <input type="checkbox"/> 1/2" (12.7 mm)  |  | 8                 |
| <input type="checkbox"/> 5/8" (15.88 mm)   |  | 8                 |
| <input type="checkbox"/> 1/4" (6.35 mm)  | DensDeck® Prime Roof Board   | 12                |
| <input type="checkbox"/> 1/2" (12.7 mm)  |  | 8                 |
| <input type="checkbox"/> 5/8" (15.88 mm)   |  | 8                 |
| <input type="checkbox"/> 5/8" (15.88 mm)   | DensDeck Prime StormX™ Roof Board  | 8                 |
| <input type="checkbox"/> 1/2" (12.7 mm)  | Structodek® High Density Wood Fiber Board  | 16                |
| <input type="checkbox"/> 1/4" (6.35 mm)  | DEXcell® FA® Glass Mat Roof Board  | 12                |
| <input type="checkbox"/> 1/2" (12.7 mm)  |  | 8                 |
| <input type="checkbox"/> 5/8" (15.88 mm)   |  | 8                 |
| <input type="checkbox"/> 7/16" (11.11 mm)  | DEXcell Cement Roof Board  | 10                |
| <input type="checkbox"/> 5/8" (15.88 mm)   |  | 8                 |
| <input type="checkbox"/> 5/8" (15.88 mm)   | DEXcell FA VSH® Glass Mat Roof Board   | 8                 |

### NOTE:

1. Only Elevate brand products are covered in a Red Shield warranty.
2. Refer to the Elevate Technical Database at [www.HolcimElevate.com](http://www.HolcimElevate.com) for additional information regarding appropriate Roof Systems.
3. It is the installing contractor's responsibility to follow all applicable building codes.
4. Contact Elevate Technical Services for full warranty requirements.
5. DensDeck is a registered trademark of Georgia-Pacific Gypsum LLC, SECUROCK is a registered trademark of USG Corporation, and Structodek is a registered trademark of Blue Ridge Fiberboard, Inc., and DEXcell is a registered trademark of National Gypsum Company.
6. Appropriate flashing details required. See specific flashing details and guides as needed for the applicable system.
7. The inclusion and placement of air and vapor control layers is the responsibility of a design professional. Terminating control layers within the roofing assembly is consistent with industry best practices and is represented solely for illustration purposes.
8. Hail coverage requires the use of adhered membrane and adhered cover board. Approved cover boards include ISOGARD HD, ISOGARD HG as well as appropriate DensDeck Prime, Securock and DEXcell products.

Please contact Elevate Technical Services at 800-428-4511 for further information.

This sheet is meant to highlight Elevate products and specifications and is subject to change without notice. Elevate takes responsibility for furnishing quality materials that meet published Elevate product specifications or other technical documents, subject to normal manufacturing tolerances. Neither Elevate nor its representatives practice architecture. Elevate offers no opinion on and expressly refuses any responsibility for the soundness of any structure. Elevate accepts no liability for structural failure or resultant damages. Consult a competent structural engineer prior to installation if the structural soundness or structural ability to properly support a planned installation is in question. No Elevate representative is authorized to vary this disclaimer.

April 11, 2025

Sales: (800) 428-4442 | Technical (800) 428-4511