

G-16

Plaza Paver Systems

Adhered, Mechanically Fastened or Induction Welding Attachment Method

July 2025

The information contained in this supplement serves as a criteria for Specifiers and Authorized Applicators regarding the design and installation of Carlisle Roofing Systems and use of Plaza Pavers for roofing assembly installations. In addition to the information contained herein, attached details are included to provide the Specifiers and Authorized Applicators with quick access to specific information. Specifiers and Authorized Applicators are advised to reference all applicable details included with this spec supplement.

A. Description

The roofing assembly incorporates Carlisle supplied Concrete, Porcelain, Rubber or Wood Pavers in conjunction with a Carlisle Roofing membrane (EPDM, TPO, PVC, KEE HP) system installed in accordance with the appropriate Carlisle Roof Membrane Specification.

1. Membrane Roof Systems

The concrete, porcelain or wood pavers are installed over a slip sheet of HP Protective Mat or 300 HV Protection Fabric in conjunction with an approved Paver Pedestal System over the roof membrane (EPDM, TPO, PVC or KEE HP). The Rubber Pavers are installed directly over the roof membrane (EPDM) or over a slip sheet of 300HV Protection Fabric (TPO, PVC or KEE HP).

- a. **Adhered Assemblies** – Using EPDM, TPO, PVC or KEE HP, insulation may be installed either mechanically (fastened directly to the deck) or set in Flexible FAST bead adhesive to the structural deck. Subsequent layers of insulation or coverboard may be mechanically fastened through all layers or set in Flexible FAST bead adhesive. The membrane shall be fully adhered using the appropriate bonding adhesive following Carlisle's Thermoset (EPDM), Thermoplastic (TPO, PVC, and KEE HP), FleeceBACK (EPDM, TPO, PVC or KEE HP) or FleeceBACK AFX (EPDM or TPO) membrane Specifications.
- b. **Induction Welded Assemblies** – Using TPO or PVC, insulation is mechanically fastened using appropriate Carlisle Fasteners and TPO or PVC Induction Welding Plates which are used to secure both layers to the structural deck. The fastening density of the plates and fasteners shall be in compliance with the Induction Welding Attachment (Attachment I) of the Thermoplastic Specification.
- c. **Mechanically Fastened Assemblies** – Using EPDM, TPO, PVC or KEE HP, membranes are mechanically fastened over insulation/underlayment to the deck with the appropriate Carlisle Fasteners and Fastening Plates. The fastening density of the plates and fasteners shall be installed per Carlisle's Thermoset (EPDM), Thermoplastic (TPO, PVC, and KEE HP) membrane Specification.

2. Inverted Roof Membrane Assembly (IRMA) Systems

A layer of drainage board/mat is loose-laid over the membrane. Layers of insulation are also loose-laid directly on the drainage board/mat. The concrete, porcelain and wood pavers are installed over a slip sheet of HP Protective Mat or 300HV Protection Fabric in conjunction with an approved Paver Pedestal System over the insulation. The rubber pavers are installed over a slip sheet of HP Protective Mat over the insulation. NOTE: Porcelain, Rubber and Wood Pavers are lightweight, weighing 9 lb/sf (porcelain) and 6 lb/sf (rubber and wood) respectively. Check current building code requirements for building height, parapet height and project location to ensure that these overburden options are suitable in IRMA Assemblies.

- a. **Adhered Assemblies** – Using EPDM, TPO, PVC or KEE HP, the membrane is applied to the structural deck with

- an appropriate bonding adhesive.
- b. **Induction Welded Assemblies** – Using TPO or PVC, insulation is mechanically fastened using appropriate Carlisle Fasteners and TPO or PVC Induction Welding Plates are used to secure both layers to the structural deck. The fastening density of the plates and fasteners shall be in compliance with the Induction Welding Attachment (Attachment I) of the Thermoplastic Specification.
- c. **Mechanically Fastened Assemblies** – Using EPDM, TPO, PVC or KEE HP, membranes are mechanically fastened over insulation/underlayment to the deck with the appropriate Carlisle Fasteners and Fastening Plates. The fastening density of the plates and fasteners shall be installed per Carlisle's Thermoset (EPDM), Thermoplastic (TPO, PVC, and KEE HP) membrane Specification.

Any of the assemblies described herein, using a minimum 60-mil membrane, are eligible for a 5, 10, 15, or 20 Year Membrane System Warranty with a Warranty wind speed up to 72 mph. For higher wind speed coverage, project may be submitted to Carlisle for Approval. An Overburden Removal and Replacement Warranty is available with all Carlisle supplied Plaza Paver Systems (Concrete, Porcelain, Rubber and Wood) with 10, 15, or 20 Year Durations for an additional fee.

B. Quality Assurance

1. The specified roofing system must be installed by a Carlisle Authorized Roofing Applicator in compliance with drawings and specifications as approved by Carlisle SynTec.
2. Roof system must be inspected and approved by a Carlisle Field Service Representative prior to Plaza Paver System installation.
3. Do not install this assembly before the concrete deck has reached its' initial structural strength. Project Engineer must be consulted prior to job start-up.

C. Submittals

1. Shop drawings must be submitted to Carlisle by the Carlisle Authorized Roofing Applicator along with a completely executed Notice of Award (Page 1 of Carlisle's Request for Warranty form) for approval. Approved shop drawings are required for inspection of the roof and on projects where on-site technical assistance is requested.
2. Upon completion of the installed work, submit copies of the manufacturer's final inspection to the specifier prior to the issuance of the manufacturer's warranty.

D. Products

In addition to the products listed below, products listed in "Part II" of the Carlisle Thermoset/Thermoplastic Roofing System Specification can be used as part of the Plaza Paver System.

1. Hanover® Pavers

- a. **Prest Pavers:** Hanover Roof and Plaza Pavers provide durability, protection and performance for the roof system from harsh weather conditions. A textured Tudor® finish provides slip resistant properties making Hanover Pavers safer than gravel ballast for pedestrians. By elevating the pavers, water is channeled away from the surface. Roof Pavers allow easy access to the roof and waterproofing system for repairs or standard maintenance procedures. Available in Tudor Finish, 8 standard colors (custom available), in a standard size of 23.5" x 23.5" x 2" (other sizes available upon request) and weighs 25 lb/sf. The use of Hanover Pavers requires the use of one of the pedestals below to maintain material warranty.
 1. **High Tab Pedestals** – are 5/8" high and are stackable to increase the height.
 2. **EPDM Pedestal and Leveling Shims** – are 3/8" fixed height but are not stackable.
 3. **Elevator Pedestal** – consisting of a base and top plate which can be combined with various size couplers to increase height.
- b. **Pedestal Pavers:** For use as an alternative to standard concrete pavers and polyethylene or EPDM pedestal systems, Hanover Pedestal Pavers are produced with integrated concrete feet providing a 1/2" elevation clearance for water drainage. Available in Tudor Finish (for aesthetics) or Diamond (for walkways), 8 standard colors (custom available), in a standard size of 23.5" x 23.5" x 2.25" and weighs 22 lb/sf. As the paver is produced with integral,

pedestal feet, additional pedestal systems are not recommended or required. The use of 300HV Protection Fabric is required with this paver.

- c. **Guardian Pavers:** The Hanover Guardian® Paver System is specially designed to create a monolithic paver surface which provides high wind uplift resistance. Guardian is made up of a unique 3-piece Guardian Pedestal and a specially shaped Guardian Paver that, together, “lock down” and unitize the entire roof paver surface, preventing horizontal and vertical movement. The Guardian Pedestal has a square top that allows its bolt to pass through to a base beneath, fitting into a recessed GROoved portion of the Guardian Paver. Available in multiple finishes, 10 standard colors (custom available), in standard sizes of 17.625" x 35.375" x 2" or 3", 23.5" x 23.5" x 2" or 3", 23.5" x 35.375" x 2" or 3", OR 29.75" x 29.75" x 2" and weighs 25 lb/sf for 2" thicknesses and 38 lb/sf for 3" thicknesses. Guardian pavers must be used with specialized pedestals consisting of a standard elevator pedestal base combined with a patented locking top cap (available in 8 colors). The system achieved -81.1 psf uplift resistance according to Florida's TAS (Testing Application Standard) 108 test.
- d. **Porcelain Pavers:** Hanover® Porcelain Pavers are a premium alternative to concrete pavers. They are hard-wearing, anti-slip, weather resistant and capable of withstanding heavy loads without comprising aesthetics. Porcelain Pavers are resistant to acid, chemicals, mold and salt. They will not stain and do not require sealing. Porcelain Pavers are installed over standard Hanover elevator pedestal bases combined with Hanover's low-tab pedestal tops specially designed for the porcelain pavers, providing an 1/8" joint for water drainage. Porcelain Pavers only weigh approximately 9 pounds per square foot and do not satisfy typical ballast uplift requirements. To increase wind uplift performance, combine with Hanover's ballasted GridLoc structural support system. Available in multiple finishes, 17 colors/designs, in standard sizes of 12" x 48" x 2" or 3/4", 16" x 32" x 3/4", 16" x 48" x 3/4", 24" x 24" x 3/4" OR 24" x 48" x 3/4" and weighs approximately 9 lb/sf.
- e. **GridLoc System:** Hanover's GridLoc® System creates a lightweight, elevated structural support for various overburden systems including concrete pavers, porcelain pavers, bricks, and roof garden trays. When paired with Hanover's adjustable pedestals with special GridLoc pedestal tops, the GridLoc System creates a level, elevated, and fully supported continuous base for systems previously unsuitable for pedestal support. GridLoc must be used for porcelain paver installations above 6" in height above the membrane. For lightweight overburden products, such as porcelain pavers, installed over GridLoc, GridLoc Weights can be added to the grids and the overburden adhered to the grids to enhance wind resistance.
 - a. **GridLoc Grid:** Hanover GridLoc Grids are specially designed, lightweight, structural support panels that create a continuous, fully supported, base for elevated overburden installations. GridLoc Grids are installed over adjustable pedestals to allow for height and slope adjustment. The GridLoc Grids are nominally sized at 16" x 24" x 1.5", cover approximately 2.66 square feet, and weigh 6 pounds each. Grids feature three hexagonal-shaped holes to accept GridLoc Weights or Plugs.
 - b. **GridLoc Weight:** GridLoc Weights are specially designed to fit snugly into the hexagonal shaped holes in the GridLoc Grids to provide additional wind resistance. Each GridLoc Weight is wrapped in thermoplastic material for long-term durability. Weighing 5.31 pounds each, the GridLoc weights can add 5.31 pounds, 10.62 pounds, or 15.93 pounds of additional weight when adding one, two, or three Weights, respectfully.
 - c. **GridLoc Plug:** GridLoc Plugs are designed to fill the hexagonal-shaped holes in the Grids when GridLoc Weights are not used.
 - d. **GridLoc Pedestal Top:** GridLoc Pedestal Tops are used in conjunction with standard Hanover Elevator pedestal bases to provide elevation for the GridLoc system. GridLoc Pedestal Tops feature specially designed pegs that snap into holes located on the bottom of the GridLoc Grids, for proper spacing and securement.

2. Sunny Brook Pavers

- a. **Pressed Concrete Pavers:** Sunny Brook pressed concrete pavers are available in a wide variety of sizes, colors, patterns and textures to accent any building, decor and landscaping. The standard Quarry Stone texture combines aesthetic appeal of decorative aggregates with the strength of concrete to create pavers that are strong, durable and beautiful. Available in Quarry Stone Texture (standard, with 5 additional finishes available), 21 standard colors, in a standard size of 23.5" x 23.5" x 2" (additional sizes available upon request) and weighs 24 lb/sf. Sunny Brook Pavers use MRP Support pedestals as supplied by Carlisle.

3. Westile Pavers

- a. **Western Plaza Pavers:** Westile Western Plaza Pavers are made of a high-density concrete and are well-suited for use in plaza decks, providing a durable, elegant surface while protecting the roof membrane and increasing amenity space. Westile Western Plaza Pavers are to be used in conjunction with high-density polypropylene pedestals that facilitate proper spacing and drainage and provide the ability to create a dead level surface. Available exclusively for projects in the western United States and Canada including the following states and provinces: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming, British Columbia, Alberta, Saskatchewan. Available in Shot Blast Texture (standard, with matte finish available as a special order), 7 standard colors, in a standard size of 24" x 24" x 1.8125" (additional sizes available upon request) and weighs 23 lb/sf. Westile Western Plaza Pavers use Bison or MRP Support pedestals as supplied by Carlisle.

4. Carlisle Rubber Pavers

- a. **Plus Series Rubber Pavers:** Made of recycled rubber, the Plus Series pavers are an economical solution intended for use in low traffic areas as well as walkways to rooftop mechanical units. Available in 6 standard colors, in a standard size of 24" x 24" x 2" and weighs 6 lb/sf. Special adhesive must be applied to all paver-to-paver joints using a special adhesive application tip, once all pavers are in place. Adhesive helps keep pavers from separating during expansion and contraction due to temperature fluctuations. Pavers are installed directly over EPDM roofing membranes or over 300HV Protection Fabric for TPO, PVC and KEE HP roofing membranes.
 - b. **Premium Rubber Pavers:** Premium Series Rubber Pavers feature a top wearing surface of SBR recycled rubber as well as varying percentages of EPDM virgin rubber for superior durability, as well as, wear and fade resistance. This makes the Premium Series pavers ideal for high traffic and plaza areas, and a great alternative to concrete paver systems. The Premium Series also features a broader range of color options that can aide in artistic rooftop design. Available in 10 standard colors, in a standard size of 24" x 24" x 2" and weighs 6 lb/sf. Special adhesive must be applied to all paver-to-paver joints using a special adhesive application tip, once all pavers are in place. Adhesive helps keep pavers from separating during expansion and contraction due to temperature fluctuations. Pavers are installed directly over EPDM roofing membranes or over 300HV Protection Fabric for TPO, PVC and KEE HP roofing membranes.
5. **Bison Wood Pavers:** Commercial grade, hardwood, weather-resistant unitized pavers. Modular 2' x 2', 4' x 2', Slope compensators are available. Custom sizes are available.
- a. **Bison Ipe Wood Tiles:** ASTM E108 Class A Flame Spread; ANSI A137.1 Slip Resistance; ASCE 7 certified. Available in 2' x 2' (23.875" x 23.875" x 1.69"), 4' x 2' (47.9375" x 23.875" x 1.69"), 6 psf and 7.5 psf. Available with Smooth or Ribbed surface.
 - b. **Bison Cumaru Wood Tiles:** ASTM E108 Class A Flame Spread; ANSI A137.1 Slip Resistance; ASCE 7 certified. Available in 2' x 2' (23.875" x 23.875" x 1.69"), 4' x 2' (47.9375" x 23.875" x 1.69"), 6 psf. Available with Smooth surface only.
6. **Carlisle Supplied Accessories:**
- a. **HP Protection Mat:** a nominal 6 oz. per square yard, UV-resistant, polypropylene, needle-punched fabric. HP Protective Mat is installed as a slip sheet for some paver applications.
 - b. **300HV Protection Fabric:** a (16 oz/ sq yd) extremely tough non-woven polypropylene fabric designed for use as a protection course over Carlisle's roofing membranes providing cushion for heavy overburden materials. 300HV Protection Fabric is non-biodegradable and stabilized to resist soil, chemicals and mildew, as well as acids and alkalis.

E. Execution

Follow current specifications for installing roof membranes and seaming per specific membrane. [Sure-Seal (EPDM), Sure-Weld (TPO) or Sure-Flex (PVC/KEE HP)].

General

Exercise care in placing pavers and pedestals over roofing or waterproofing so protection materials are not displaced and roofing or waterproofing is not punctured or otherwise damaged. Carefully replace protection materials that become displaced and arrange for repair of damaged roofing or waterproofing before covering with paver system.

F. Installation

1. Proceed with installing roofing system as described in this section and in accordance with Carlisle published Specifications for the specific membrane type.
2. After installation of the roofing membrane, install slip sheet of HP Mat or 300HV Protective Fabric, as required by paver system, as outlined above.
3. Install appropriate paver pedestal as outlined by the plaza paver system selected.
4. Install Plaza Paver according to manufacturer's written instructions.

G. Associated Installation Details

Concrete Pavers on Pedestals.....	PD-A
Concrete Pavers on Low-Rise or Fixed Height Pedestals.....	PD-B
Concrete Pedestal Pavers	PD-C
IRMA Concrete Paver Assembly – Option 1	PD-D
IRMA Concrete Paver Assembly – Option 2	PD-E
Wood Pavers on Pedestals	PD-F
GridLoc Paver Detail	PD-G
Drain Detail – Low-Rise or Fixed Height Paver Assemblies.....	PD-6.1
Drain Detail –Adjustable Height Paver Pedestal Assembly.....	PD-6.2
Vertical Termination	PD-12.1
Vertical Termination – High-Wind Option	PD-12.2
Horizontal Termination – Aesthetic Option	PD-12.3
Horizontal Termination – High-Wind Option.....	PD-12.4
Rubber Interlocking Pavers	PD-RA
Rubber Paver Joint Adhesive Application	PD-R4.1
Drain Detail - Rubber Paver.....	PD-R6.1
Horizontal Termination – Aesthetic Option	PD-R12.3
Horizontal Termination – High-Wind Option.....	PD-R12.4

End of Section

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Review the appropriate Carlisle warranty for specific warranty coverage, terms, conditions and limitations.