

Short Form Guide Specification

Section 07555 Roof Ballast / Paver

Part 1 - General

1.01 Scope of Work

A. Furnish and install a Westile Ballast Paver system in accordance with specifications as provided by Westile.

1.02 Related Sections

- A. Section 07555: Roofing Membrane
- B. Section 07220: Roof Insulation
- C. Section 07715: Fascias

1.03 References

- A. Applicable American Society for Testing and Materials (ASTM) Standards
- B. Factory Mutual Data Sheet TAB 1-29
- C. Underwriters Laboratories
- D. ICBO Evaluation Service Report No. 4338
- E. SPRI Wind Design Guide for Ballasted Systems (1995)

1.04 System Description **Select One, Delete all that do not apply******

- A. System Design 1: Pavers in Straight Bond
****OR****
 - A. System Design 2: Pavers in Staggered Bond
****OR****
 - A. System Design 3: Pavers in Staggered Bond with Edge Attachment
****OR****
 - A. System Design 4: Pavers in Staggered Bond with Edge Attachment and All Pavers Clipped or Adhered to One Another

1.05 Submittals

- A. Submit manufacturer's installation specifications.
- B. Submit two copies of Westile's warranty.
- C. Submit performance testing

1.06 Quality Assurance

- A. Water absorption: 5% nominal.
- B. Compressive strength: 5,000 p.s.i. at 28 days cure
- C. Flexural strength: 400 pounds
- D. Meets or exceeds SPRI guide for concrete pavers, 1995

1.07 Delivery, Storage, and Handling

- A. Deliver materials on manufacturer's unopened stretch wrapped pallet with labels intact and legible.
- B. Store materials on raised platforms.
- C. Handle materials to prevent damage.
- D. Do not exceed the structural capacity of deck if placing Ballast Paver units on the

roof.

- E. Protect membrane and installed areas of Ballast Paver from damage when transporting pallets of Ballast Paver or other material. Place $\frac{3}{4}$ inch plywood sheets in traffic path or use carts with pneumatic tires.

1.08 Warranty

- A. Ballast Paver 20 year Limited Material Warranty
- B. Ballast Paver 5, 10, or 15 year Limited Wind Uplift Warranty

Part 2 - Products

2.01 Manufacturer

- A. Westile
8311 W. Carder Ct.
Littleton, CO 80125
800-433-8453

2.02 Materials

- A. Westile Ballast Paver

2.03 Related Materials

- A. Mechanical Clips or approved adhesive
- B. Slip Sheet: nonwoven polyester
- C. Metal terminations used to retain or secure Ballast Paver units shall be manufactured by Metal Era, W.P. Hickman or an approved equal.
- D. Stone ballast used in Westile's Composite Ballast Paver System shall be approved by the membrane manufacturer. Westile recommends the use of ASTM #3 stone.

Part 3 - Execution

3.01 Preparation of Surface

- A. Comply with manufacturer's instructions for preparation of substrate to receive membrane roofing system. Install roof membrane, flashings and insulation in accordance with manufacturer's instructions.
- B. If required by membrane manufacturer or if limited foot traffic is anticipated install a slip sheet as recommended by the membrane manufacturer.

3.02 Ballast Paver System Designs (Select One, Delete all that Do Not Apply)

- A. System design #1 - Pavers in Straight Bond
 1. Face upper shiplap edge of ballast paver at roof edge.
 2. Install pavers in straight bond.
 3. Maintain 1 $\frac{1}{4}$ inch maximum distance between the upper shiplap and/or the 11 $\frac{3}{4}$ inch dimension of the ballast paver where they meet the first roofing element.
 4. Install mechanical clips where pavers meet any roof protrusions (HVAC equipment, roof drains, structural members, roof curbs, etc.) and where there are any pavers less than full size. A one part polyurethane adhesive may be substituted for mechanical clips.
 5. Use a slip sheet between the pavers and the roof membrane at

designated areas of foot traffic and where mechanical clips are used.

6. At ridges or valleys, the cut to fit pavers are adhered to the adjacent full size paver with a one part polyurethane.

7. At center of roof, pavers may be cut to a minimum width of 6 inch.

****OR****

7. At center of roof, pavers may be installed under shiplap to under shiplap with a maximum space between the under shiplaps of 1 inch.

****OR****

A. System design #2 – Pavers in Staggered Bond

1. Face upper shiplap edge of ballast paver at roof edge.

2. Install pavers in staggered bond.

3. Maintain 1 ¼ inch maximum distance between the upper shiplap and/or the 11 ¾ inch dimension of the ballast paver where they meet the first roofing element.

4. Install mechanical clips where pavers meet any roof protrusions (HVAC equipment, roof drains, structural members, roof curbs, etc.) and where there are any pavers less than full size. A one part polyurethane adhesive may be substituted for mechanical clips.

5. Use a slip sheet between the pavers and the roof membrane at designated areas of foot traffic and where mechanical clips are used.

6. At ridges or valleys, the cut to fit pavers are adhered to the adjacent full size paver with a one part polyurethane.

7. At center of roof, pavers may be cut to a minimum width of 6 inch.

****OR****

7 At center of roof, pavers may be installed under shiplap to under shiplap with a maximum space between the under shiplaps of 1 inch.

****OR****

A. System design #3 – Pavers in Staggered Bond with Edge Attachment

1. Face upper shiplap edge of ballast paver at roof edge.

2. Install pavers in staggered bond.

3. Maintain 1 ¼ inch maximum distance between the upper shiplap and/or the 11 ¾ inch dimension of the ballast paver where they meet the first roofing element.

4. Install mechanical clips where pavers meet any roof protrusions (HVAC equipment, roof drains, structural members, roof curbs, etc.) and where there are any pavers less than full size. A one part polyurethane adhesive may be substituted for mechanical clips.

5. Install an approved perimeter attachment around entire perimeter of Ballast Paver System.

6. Use a slip sheet between the pavers and the roof membrane at designated areas of foot traffic and where mechanical clips are used.

7. At ridges or valleys, the cut to fit pavers are adhered to the adjacent full size paver with a one part polyurethane.

8. At center of roof , pavers may be cut to a minimum width of 6 inch.

****OR****

8. At center of roof, pavers may be installed under shiplap to under shiplap with a maximum space between the under shiplaps of 1 inch.

****OR****

- A. System design #4 - Pavers in Staggered Bond with Edge Attachment and All Pavers Clipped or Adhered to One Another
1. Face upper shiplap edge of ballast paver at roof edge.
 2. Install pavers in staggered bond.
 3. Maintain 1 ¼ inch maximum distance between the upper shiplap and/or the 11 ¾ inch dimension of the ballast paver where they meet the first roofing element.
 4. Install mechanical clips where pavers meet any roof protrusions (HVAC equipment, roof drains, structural members, roof curbs, etc.) and where there are any pavers less than full size. A one part polyurethane adhesive may be substituted for mechanical clips.
 5. Install an approved perimeter attachment around entire perimeter of Ballast Paver System.
 6. Use a slip sheet between the pavers and the roof membrane at designated areas of foot traffic and where mechanical clips are used.
 7. At ridges or valleys, the cut to fit pavers are adhered to the adjacent full size paver with a one part polyurethane.
 8. At center of roof, pavers may be cut to a minimum width of 6 inch.
- ****OR****
8. At center of roof, pavers may be installed under shiplap to under shiplap with a maximum space between the under shiplaps of 1 inch.

****OR****

- A. Composite system
1. Face upper shiplap edge of ballast paver at roof edge.
 2. Install pavers in staggered bond minimum 10 feet perimeter from roof edge.
 3. Maintain 1 ¼ inch maximum distance between the upper shiplap and/or the 11 ¾ inch dimension of the ballast paver where they meet the first roofing element.
 4. Install mechanical clips where pavers meet any roof protrusions (HVAC equipment, roof drains, structural members, roof curbs, etc.) and where there are any pavers less than full size. A one part polyurethane adhesive may be substituted for mechanical clips.
 5. Install an approved perimeter attachment around entire perimeter of Ballast Paver System when System 3 or 4 are used.
 6. Use a slip sheet between the pavers and the roof membrane at designated areas of foot traffic and where mechanical clips are used.
 7. At ridges or valleys, the cut to fit pavers are adhered to the adjacent full size pavers with a one part polyurethane.
 8. At center of roof, pavers may be cut to a minimum width of 6 inch.
 9. Use ASTM #3 stone ballast at 12 lbs. per square foot on roof interior.

****OR****

- A. Walkway System
1. Install minimum 18 inch wide a slip sheet under walkway.
 2. Install single or multiple course walkway between roof access and maintained equipment locations.