LEGACY REPORT

ER-4338

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Legacy report on the 1997 *Uniform Building Code*™

DIVISION: 07—THERMAL AND MOISTURE PROTECTION
Section: 07760—Roof Pavers

BALLAST PAVER EXTRUDED CONCRETE, INTERLOCKING BALLAST FOR SINGLE-PLY ROOFING SYSTEMS

WESTILE OLDCASTLE, INC.
8311 WEST CARDER COURT
LITTLETON, COLORADO 80125

1.0 SUBJECT

Ballast Paver Extruded Concrete, Interlocking Ballast for Single-ply Roofing Systems.

2.0 DESCRIPTION

2.1 General:

Ballast paver is a dense, extruded, interlocking concrete paver for loose-laid single-ply ethylene propylene diene rubber (EPDM) membranes on flat roofs. The concrete mix consists of portland cement and sand proportioned to achieve a 28-day compressive strength of 5,000 pounds per square inch. The blocks have a nominal density of 125 pounds per cubic foot and weigh 12 pounds ± $^3/_4$ pound per square foot. Each paver is $1^1/_2$ inches thick, $11^3/_4$ inches wide and $16^1/_2$ inches long. The basic unit contains seven channels on the bottom of each paver that provide bidirectional roof drainage. There are 12 bearing pads molded with no abrasive edges contacting the single-ply membrane.

The ballast paver system may be installed with straight bond or modified bond configurations. Paver layout for the straight bond configuration is noted in Figure 1. Pavers for the modified bond configuration are arranged in a staggered pattern and incorporate a 0.040-inch-thick 3003-H14 aluminum alloy clip between the pavers. The aluminum clips are required at free edges of half pavers along roof edges and protrusions. See Figures 2 and 3. Maximum building height for the straight bond and modified bond configurations is as noted in Tables 1 and 2, respectively. The system may be used in areas subject to a maximum wind velocity of 100 miles per hour and on buildings up to 90 feet in height. In other areas and for buildings exceeding 90 feet in height, substantiating data must be submitted to the building official for approval. The single-ply EPDM system must be recognized in a current evaluation report. The ballast paver system may be installed on roof slopes between $^1/_4$:12 and 2:12. Foam plastic insulations used with the system must be listed and comply with Section 2602 of the 1997 *Uniform Building Code*™.

2.2 Identification:

A label containing the Westile Oldcastle, Inc., name and address and the evaluation report number (ER-4338) is affixed to each shipping pallet.

3.0 EVIDENCE SUBMITTED

Reports of wind uplift, strength and durability tests.

4.0 FINDINGS

That the Ballast Paver Extruded Concrete, Interlocking Ballast for Single-ply Roofing Systems complies with the wind design provisions of the 1997 *Uniform Building Code*™, subject to the following conditions:

4.1 The pavers are manufactured, identified and installed in accordance with this report and the manufacturer's instructions.

4.2 Installation is by roofers specifically recognized by Westile Oldcastle, Inc.

4.3 The pavers are installed on single-ply EPDM roofing system, provided their use is specifically recognized in an evaluation report.

4.4 The structural roof system under the single-ply roofing system must be adequate to support the added roof weight due to the pavers.

This report is subject to re-examination in one year.

TABLE 1[1,2]
STRAIGHT BOND CONFIGURATION—WITHOUT ALUMINUM CLIPS
MAXIMUM BUILDING HEIGHT (feet)

BASIC WIND SPEED (mph)	EXPOSURE C					EXPOSURE B				
	Parapet Height[3] (inches)					Parapet Height[3] (inches)				
	0	2	6	12	18	0	2	6	12	18
70	Not permitted	Not permitted	Not permitted	90	90	Not permitted	Not permitted	Not permitted	90	90
80	Not permitted	Not permitted	Not permitted	40	90	Not permitted	Not permitted	Not permitted	40	90
90	Not permitted	Not permitted	Not permitted	Not permitted	60	Not permitted	Not permitted	Not permitted	Not permitted	90
100	Not permitted	Not permitted	Not permitted	Not permitted	40	Not permitted	Not permitted	Not permitted	Not permitted	60

[1]For wind speed and exposure areas, see Chapter 16 of the *Uniform Building Code*.
[2]Parapet height noted in this table is the parapet projection above the ballast paver surface.
[3]Linear interpolation may be used for intermediate parapet heights.

TABLE 2[1,2]
STRAIGHT BOND CONFIGURATION—WITH ALUMINUM CLIPS
MAXIMUM BUILDING HEIGHT (feet)

BASIC WIND SPEED (mph)	EXPOSURE C					EXPOSURE B				
	Parapet Height[3,4] (inches)					Parapet Height[3,4] (inches)				
	0	2	6	12	18	0	2	6	12	18
70	90	90	90	90	90	90	90	90	90	90
80	90	60	60	90	90	90	60	60	90	90
90	60	20	20	60	90	60	20	20	60	90
100	Not permitted	Not permitted	Not permitted	Not permitted	60	Not permitted	Not permitted	Not permitted	Not permitted	60

[1]For wind speed and exposure areas, see Chapter 16 of the *Uniform Building Code*.
[2]Parapet height noted in this table is the parapet projection above the ballast paver surface.
[3]Minimum height of roof perimeter flashing must extend to the top of the pavers.
[4]Linear interpolation may be used for intermediate parapet heights.

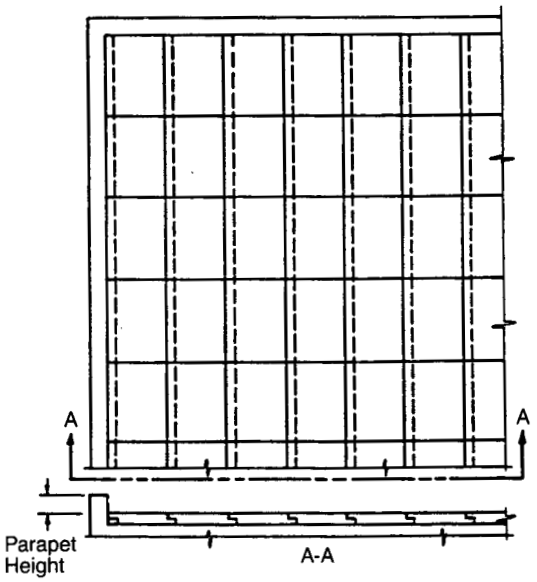


FIGURE 1—PAVER LAYOUT
STRAIGHT BOND CONFIGURATION

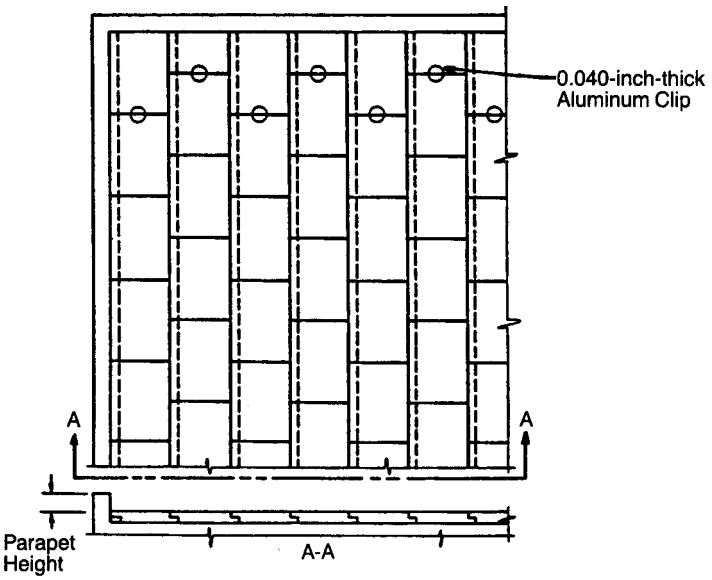
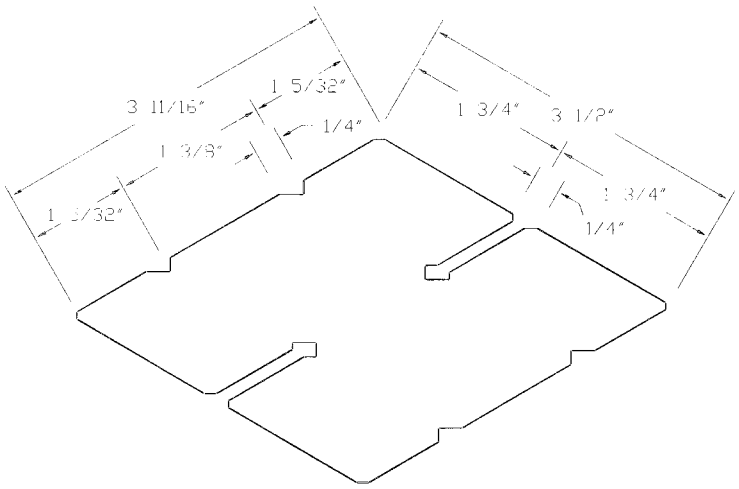
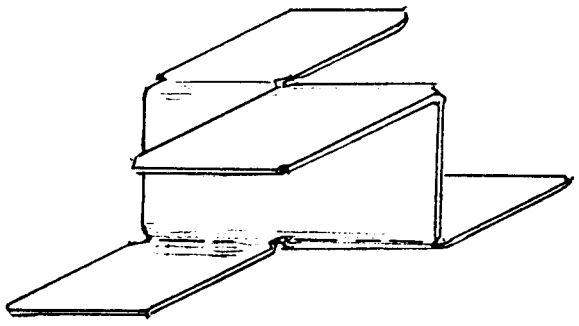


FIGURE 2—PAVER LAYOUT
MODIFIED BOND CONFIGURATION



WESTILE MECHANICAL CLIP
20 GAGE ALUMINUM ALLOY 3003H14



CONFIGURATION FOR USE

FIGURE 3