

SECTION 07555
PRECAST CONCRETE PAVERS & AMENITIES
OPEN JOINT, PEDESTAL INSTALLATION

PART ONE: GENERAL

- 1.01 RELATED DOCUMENTS:
- A. Drawings and general provision of contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of this Section.
- 1.02 SCOPE
- A. Related Work Specified Elsewhere:
 - 1. Concrete work (Sections of Division 3)
 - 2. Waterproofing membrane (Section 07105)
 - 3. Drains in waterproofed concrete slabs above heated spaces (Section 07105)
 - 4. Drains in concrete slab on grade (Section 02500)
 - B. Work Included This Section:
 - 1. Precast concrete paver systems for slab on grade application and for application on structural concrete slab above heated spaces.
 - 2. Work of this Section shall include the specified rigid board insulation, precast concrete pavers and all accessory materials specified herein or required for complete and proper installation of the pavers system shown on the drawings and specified herein.
- 1.03 QUALITY ASSURANCE
- A. Manufacturer Qualifications:
 - 1. All products covered under this Section shall be produced by a single manufacturer unless otherwise specified.
 - 2. Manufacturer shall submit evidence of having not less than fifteen (15) years successful production of this product.
 - 3. The paver manufacturer shall demonstrate, either by proven field performance of the laboratory freeze-thaw test that the paving units have adequate durability if they are to be subjected to a freeze-thaw environment.
 - a. Satisfactory field performance is indicated when units similar in composition and made with the same manufacturing process as those to be supplied to the purchaser, do not exhibit objectionable deterioration after at least 3 years.
 - b. The units used as the basis for proven field performance shall have been exposed to the same general type of environment, temperature range and traffic volume as is contemplated for the units supplied to the purchaser.
 - B. Subcontractor Qualifications:
 - 1. Subcontractor shall submit evidence of skill and not less than five (5) years specialized experience with this product.
 - C. Pre-Installation Conference: As directed by the Architect.
- 1.04 SUBMITTALS
- A. Shop Drawings: Submit showing all components required for the paver installation requirements. Shop drawings shall include plan drawings showing layout of all paver areas and detail drawings showing how the various components of the systems fit together. Include manufacturer's literature completely describing all components of the paver systems and giving detailed installation recommendations and instructions. Also included detailed installation drawings for all precast.
 - B. Samples for Verification Purposes:
 - 1. Submit samples made up of actual selected precast pavers for type, color and texture required. Include in set of samples the full range of exposed color and texture to be expected in the completed work.
- 1.05 DELIVERY, STORAGE AND HANDLING
- A. Protect concrete pavers and accessory materials during shipment, storage and construction against damage.
 - B. Protect cementitious materials from deterioration by moisture and temperature. Store in a dry location.

1.06 PROJECT CONDITIONS

- A. Comply with manufacturer's requirement regarding weather, substrate and other project conditions.
- B. Field Constructed Mock-Up: Prior to beginning production work, construct a mock up approximately 4 foot by 4 foot for approval by the architect. Mock up may be located so as to be incorporated in the work after approval. Mock up shall be located above a heated space and shall include the specified waterproofing membrane, rigid board insulation, and the precast paver system.

1.07 MANUFACTURERS

- A. The paver systems specified herein are based upon products manufactured by Wausau Tile Inc., Wausau, WI 1-800-388-8728 Phone (715) 359-3121 Fax (715) 359-7456 E-mail paving@wausatile.com
- B. Paver systems equal in appearance and function and meeting these specifications, will be acceptable when the specified submittals are approved in writing by the Architect prior to bid.

PART 2: PRODUCTS

2.01 PAVER SYSTEM

In order to describe type and quality of products intended, these specifications are based upon the "Terra System One" manufactured by Wausau Tile Inc. See paragraph 1.7 herein before for other acceptable manufacturers.

A. TERRA PAVERS:

The paver system shall include the following components and all other accessory materials required for a complete and proper installation.

- 1. Precast Concrete Pavers: Paver units shall be 23 13/16" x 23 13/16" x 2" thick (Note: other sizes are available) and color/texture to be :
Surface Type _____ Number _____ manufactured by Wausau Tile Inc., Wausau, WI (1-800-388-8728, 715-359-3121, Fax: 715-359-7456) or approved equal. See paragraph 1.07 for other acceptable manufacturers. See drawings for layouts and patterns.
 - a. **Portland Cement:** ASTM Specifications C150.
 - b. **Aggregates:** All aggregates used will be normal weight aggregate, conforming to ASTM Specifications C33.
 - c. **Coloring:** Coloring used shall conform to ASTM Standards where applicable.
 - d. **Compression Strength:** Each unit shall have a compression strength of 8,000 psi with no individual unit less than 6,500 psi when tested in accordance with ASTM C140.
 - e. **Flexural Strength:** Each unit shall have a flexural strength of 700 PSI when tested in accordance with ASTM C293.
 - f. **Water absorption:** Shall not be greater than 6% according to ASTM C140.
 - g. **Freeze/thaw:** Durability of the paver shall meet the freeze/thaw tests in accordance with Section 8 of ASTM C67. Specimens, when tested, shall have no breakage and not greater than 1% loss in dry weight of any individual unit when subject to 50 cycles of freeze/thaw.
 - h. **Center load:** Pavers shall support a minimum concentrated load of 1,850 lbs. When pressure is applied to a paver supported on four (4) corners. WT CL96
 - i. **Sizing:** Permissible variations in dimensions shall not differ by more than 1/16" from width, height, length or thickness. Standard units are manufactured with a 3/16" bevel on all four (4) sides of finished surface. Unit shall conform to a true plane and not differ by more than 1/16" in either concave and/or convex warpage.

B. PRECAST STEPS:

- a. See drawings for dimensions of treads and risers and locations and layouts of steps.
- b. Materials and physical properties specified hereinbefore for pavers shall apply also to these precast concrete steps.
- c. Texture and color of the steps exposed surfaces shall be:
Surface Type _____ Number _____ to match the field/border colored pavers.
- d. Tread and riser spacers, below the steps, shall be stair tab units of SBR rubber furnished by the precast step manufacturer, Wausau Tile, for installation of his steps.
- e. Step units shall include the tread and riser integral and to the dimensions shown on the drawings.
- f. Steps are to be furnished by the same manufacturer as the precast concrete pavers.

C. PEDESTALS AND ACCESSORIES:

1. Terra-Tabs and Shim Plates:
 - a. The SBR rubber Terra-Tab units provide spacing tabs 3/16" or 1/8" allowing for drainage and air circulation. Terra-tabs to have a shore hardness of 70, allowing for resiliency without sound transmission. Terra-Tab sizes to correspond with various sizes of pavers.
 - b. Shim Plates (shims) are 1/8" and 1/4" thick and of various sizes to correspond with various size Terra-Tabs. Shim Plates to be of the same material as the Terra-Tab.
2. Terr-Adjust Adjustable Pedestals:

To accommodate various pitches/slopes of project areas. Unit has an outside base diameter of 6 1/8" giving a contact surface area of 29 1/2 sq. inches. Unit telescopes from a minimum 2" to a maximum 5 1/2" and can tilt to a level plane. Terr-adjust extenders and reducers to be used in areas requiring over 5 1/2" or under 2" in height. Units to be high impact styrene. Terra-Tabs are used on top of this unit.
3. Terra-Stand Pedestals:

Accommodates various pitches and height changes of the project area. Unit has outside dimension of 7". Unit telescopes from a minimum of 2" to a maximum of 21" and can tilt to a level plane. Units to be high impact copolymer Polypropylene Terra-Tabs are used on top of this unit.
4. Extenders/Reducers:

Extender gives an additional 4" adjustment to a maximum height of 10". Reducer is made to accommodate height adjustment between 1/2" and 2". Units to be high-impact styrene. Terra-Tab or Terra-Shim plate with spacer unit are used on top of this unit.
5. Paver Blok Handles:

Units to handle paver sizes 12" to 24" nominal, allowing installing contractor to set units into proper location with 3/16" or 1/8" joint between units. Also allows for removal or installing units without causing any damage to units or adjacent units, thus allowing inspection of utilities or drains at any time.
6. Big Blok Handle:

Unit to handle paver sizes 24" to 36" nominal, allowing installing contractor to set units into proper location with 3/16" or 1/8" joint between units. Also allows for removal or installing units without causing any damage to units or adjacent units, thus allowing inspection of utilities or drains at any time.
7. Terra Systems One Mix:

Pre-mixed blended concrete dry mix to have a 5,500 psi at 28 days compressive strength. Air entrainment to be in a concrete dry mix. Material shall comply with requirements of ASTM C 387.
8. Other Accessory Materials: Shall be either provided by the manufacturer of the precast concrete pavers and precast units, or shall be specifically recommended by them.

PART 3: EXECUTION

3.01 INSTALLATION OF PAVER SYSTEM

- A. Inspection of deck and fixed elevation locations. All height or location problems to be corrected before installation.
- B. Compare layout of deck to shop drawings or architect drawings. All variances of field conditions to drawings to be reviewed and corrected prior to starting installation.
- C. Terra-Tabs and shim plates are placed, maximum of 2 shims per location, at intersection of grid line if finished surface is to follow slope of substrates. Paver size center lines must be adhered to.
- D. Level surface installation using Terr-Adjust adjustable or Terra-Stand pedestal systems to follow manufacturers installation procedures. No variances to system allowed.
- E. Minor height and pitch adjustments are handled with 1/8" rubber shim plates.

F. Extender unit is inserted into extended Terr-Adjust to provide heights from 5 1/2" to 10".

G. Reducer unit is used for height adjustments of between 1/2" and 2".

3.02 TOLERANCES

A. Maximum of 1/16" height variation between adjacent pavers.

B. Individual pavers shall not vary more than 1/16" from level across width of the paver.

C. Paved areas shall not vary more than 1/4" from level in a distance of 10' measured at any location and in any direction.

D. Joints between pavers to be 3/16" or 1/8"

3.03 INSTALLATION OF PRECAST STEPS

A. Install in accordance with written instructions of the manufacturer and approved shop drawings.

B. Include all accessory materials required for a complete and proper installation.

3.04 CLEANING AND PROTECTION

A. Remove and replace pavers which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment to eliminate evidence of replacement.

B. Cleaning: Remove mortar stains and all other types of soiling from exposed paver surfaces, wash and scrub clean.

C. Provide final protection and maintain conditions in a manner acceptable to installer, which ensures paver work being without damage or deterioration at time of substantial completion.

6/04