

SECTION 09 36 00 – Dry-Lay Tile

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Concrete work and concrete floor sealer is specified in Section 03 30 00.
- B. Tiling as specified in Section 09 30 00.

1.2 SUMMARY

- A. Section includes dry-lay tile flooring system with tile top surface to facilitate adhesive free sustainable floor installations. The dry-lay tile flooring system is supplied pre-assembled and ready to install. The dry-lay tile system allows for quick installation and easy removal and replacing of components, enabling flexibility to change floor layouts as required.

B. REFERENCES

- 1. Porcelain tile meets ISO 13006
 - a. Length & Width
 - b. Straightness of Sides
 - c. Rectangularity
 - d. Warpage
 - e. Water Absorption
 - f. Breaking Strength
 - g. Modulus of Rupture
 - h. Resistance to Deep Abrasion
 - i. Coefficient of Linear Thermal Expansion
 - j. Thermal Shock Resistance
 - k. Moisture Expansion
 - l. Frost Resistance
 - m. Resistance to Household Chemicals
 - n. Resistance to Staining
- 2. Tile Council of North America Handbook TCNA for Ceramic Tile Installation

1.3 PERFORMANCE REQUIREMENTS

- A. Porcelain tiles must be interchangeable with each other except where cut for special conditions.
- B. Porcelain tiles must meet all porcelain tile requirements as defined by ISO 13006 for dry pressed ceramic tiles with low water absorption less than or equal to 0.5%.
- C. Critical Radiant Flux: Tile shall meet Fire performance testing in accordance with ASTM-E648 testing greater than or equal to 0.45 watts/cm², Class 1

- D. Recycled Content: Tile shall be required to have a minimum recycled content of 30% and must be reusable in another facility.
- E. VOC & Aldehyde Emissions: System tested to UL 2818, Greenguard Gold Certified.
- F. Coefficient of friction per ASTM (C1028) greater than or equal to 0.6
- G. Chair Castor Durability 100,000 cycles at 300 lbs. with no change to appearance.
- H. MOHS Scratch Hardness is 7, suitable for Commercial Applications.

1.4 SUBMITTALS

- A. Samples: Submit One full-size unit for each components of each type of dry-lay tile flooring system required. Showing each tile color, texture and grout element.
- B. Shop Drawings: Submit drawings showing dry-lay tile layout including starting point of installation, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, thresholds, ceramic accessories, and relationship to adjoining work and any special edge conditions based on field-verified dimensions.
- C. If required show edge details of ramps, steps, handrails.
- D. Product Data Sheet: For Porcelain flooring system to indicate compliance with specified design criteria reported in this specification.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years' experience.
- B. Installer Qualifications: An entity that employs installers and supervisors who are approved by manufacturer in the installation of dry lay tile systems.
- C. Tolerances:
 - 1. Manufacturing Tolerance:
 - a. Size: Plus, or minus 0.020 inch (0.50mm) of required size.
 - b. Flatness: Plus, or minus 0.035 inch (0.89mm), measured on a diagonal on top of tile.

1.6 DELIVERY STORAGE AND HANDLING

- A. Deliver flooring components clearly labeled with manufacturer's name and item description.
- B. Handle and store packages containing flooring in a manner which avoids overloading building structure.
- C. The General Contractor and or owner shall provide a dry accessible area to receive and unload material with a free path to elevators, hoists and/or the area receiving the floor.

- D. The subfloor shall be free of moisture, dust, dirt and other debris. Once installed, the tile floor must be maintained in the same manner.

1.7 PROJECT CONDITIONS

- A. The General Contractor and/or Owner shall provide a clean, level, dry subfloor, temperature controlled, and protected from the weather.
- B. Subfloor shall be level to within 1/8" (3mm) in 10 feet (3m) or 1/16" in 1' in accordance with the industry standards and methods as outlined in the Tile Council of North America Handbook (TCNA) for Ceramic Tile installation, section F113-16 for thinbed installation of tile. A secondary subfloor preparation step may be required to meet this specification. For example, grinding the subfloor or using a flowable and self-leveling underlayment.
- C. Storage and installation areas shall be maintained at a temperature not less than 60°F and below 70% relative humidity for 24 hours a day before, during and after installation. Porcelain floor tiles should be unpacked a minimum of 24 hours prior to install and allowed to acclimatize to the atmospheric conditions that will prevail after installation and during use. It is recommended to install the porcelain floor product as close to occupancy conditions as possible.
- D. Overhead construction work must be completed before installing tile to avoid damage to floor finishes. Any damage to finishes resulting from construction work done after floor is installed shall be the responsibility of the general contractor.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Haworth, Inc.; [**Haworth Porcelain Floor**], located in Kentwood, MI, manufactured in The Netherlands.
 - 1. Substitutions will be considered, providing the alternative products meet or exceed the feature requirements as indicated herein and the performance requirements including the rolling load as outlined in section 1.3 and receive prior written approval by the Architect. The manufacturer shall certify that all panels meet or exceed the stated design criteria

2.2 MATERIALS

- A. Porcelain tile dry lay flooring system: The surface of tile system consisting of a .43" (10.9mm) technical porcelain tile & carrier system that fits into a 0.37" (9.4mm) grout for an overall height of 0.8" (20.3mm).
 - 1. General Description:
 - a. Tiles: Manufacturer's standard, modular, components, designed to interconnect and system consists of a polymer carrier, bonded via a metal interlayer to the back of each top surface module.
 - b. The polymer carrier has a joining system that consists of a series of pegs which are molded into the sides of the grid. The 'L' shaped flexible joining strip (or "grout") is perforated with holes within which the pegs interlock.

- c. The dry-lay tile flooring system can be removed and reinstalled as many times as necessary, allowing the user to change the floor layout with minimum disruption. The floor elements can be interchanged, while the floor is in use. At the end of the product life cycle, every element can be recycled, or re-purposed.
2. Tile and Grout Module Size: 23.62"x 23.62" (600mm x 600mm)
3. Tile Thickness: [0.8" (20.3mm)]
4. Tile Colors, Textures, and Patterns: Provide tile that complies with ISO13006 for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the Drawings and identified in the Schedule. Tile shall also be provided in accordance with the following:
 - a. Factory Color and Pattern: As selected by Architect from manufacturer's full range. Porcelain tile is a natural product and color variation is standard.
 - b. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the subfloor which is to receive tile for dryness, cleanliness, unevenness, or any irregularities that will affect the quality of the tile.
 1. Verify that material storage and installation areas are at recommended temperature and relative humidity before, during, and after installation.
 2. Verify that subfloor is level to within 1/8" (3mm) in 10 feet (3m) or 1/16" in 1' in accordance with the industry standards and methods as outlined in the Tile Council of North America Handbook (TCNA) for Ceramic Tile installation, section F113-16 for thinbed installation of tile. A secondary subfloor preparation step may be required to meet this specification. For example, grinding the subfloor or using a flowable and self-leveling underlayment.
- B. Do not commence installation of dry-lay tile until subfloor is level, clean and dry, temperature controlled, and protected from the weather.

3.2 INSTALLATION

- A. Tile layout and starting point shall be established from approved shop drawings so that mechanical and electrical work can be installed.
- B. Lay tile to pattern indicated. Arrange pattern so that a full tile or joint is centered on each wall and that no tile less than 4-inch width is used. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Installer is to coordinate with other trades to maintain the integrity of the installed flooring.

- E. Floor system and accessories shall be installed by an authorized factory trained installation company.
- F. No dust or debris producing operations by other trades shall be allowed in areas where tile is being installed to ensure clean subfloor.
- G. Installer shall keep the subfloor broom clean as installation progresses.
- H. After installation, the porcelain floor surface must be protected with RAM board when applying heavy loads to protect the top surface from marking or cracking.

3.3 ACCEPTANCE

- A. General Contractor or Owner shall accept completed floor in whole or in part, prior to allowing other trades to perform work which affects the surface finish.
- B. General Contractor shall suitably protect the floor surface finish and accessories from damage, contamination or overloading. Where floor will be exposed for prolonged periods cover with plywood or other similar type walkways.
- C. The General Contractor shall be responsible for the final under tile cleaning.

END OF SECTION 09 36 00