

Step-Safe[®]

Precast Polymer Concrete Tactile Dome Safety Tile

Step-Safe[®] is a pre-cast polymer concrete tile that is designed to alert visually impaired pedestrians of impending hazards in pedestrian travel routes in public buildings and/or public rights-of-way. Step-Safe[®] complies with the minimum requirements as established by the Access Board and those of the US Department of Justice and the US Department of Transportation as defined in the American with Disabilities Act. Step-Safe[®] has a proven history of resistance to the effects of abrasion, weather and other environmental conditions. The reverse side of the Step-Safe[®] tiles has a uniform application of a coarse exposed aggregate to enhance adhesion of the tiles to the Portland cement concrete substrate using an exterior latex-based adhesive material.

Material Design

Step-Safe[®] tiles are comprised of a polymer concrete composed of specially blended polyester resins, promoters, initiators, and inert aggregate that provide high strength and resistance to corrosive agents such as de-icing chemicals, etc. Step-Safe[®] polymer concrete has the appropriate coloring agent and or pigment mixed uniformly throughout so color will not fade due to exposure to abrasion or UV radiation. The aggregate component shall be a gap-graded combination of silica sand and appropriate fillers.

Step-Safe[®] is available in 300mm x 300 mm (11.8" x 11.8") square size and is installed at 12" x 12" with gap for expansion. Tiles are also available in 600mm x 600mm (24" x 24") square size. Step-Safe[®] tiles are available in a variety of standard colors including safety yellow, charcoal gray, forest green, bright white, chocolate brown and brick red. Custom colors are also available as per specific project requirement. Step-Safe[®] tiles can be custom fit to various radii using standard tile saws. For dome size and configuration details, please see Step-Safe[®] Drawing.

Installation Procedure

Installation in Freshly Poured Concrete:

1. Pour and place new concrete and finish the surface using trowels as per project requirements.
2. Prior to setting Step-Safe[®] tiles, remove approx. ¼ in. to ½ in. of the fresh concrete in the area where tiles are to be set. This can be done with a hand trowel and will help reduce problems in forcing the tiles into the fresh concrete.
3. Place the Step-Safe[®] tiles into the freshly poured concrete, evenly in lines parallel to existing edge conditions, or as directed by the architect or engineers drawing. Leave approximately 1/8" gap between adjacent tiles on all sides to accommodate expansion. Tiles should be pressed into the concrete, taking care to assure that the edges of the tile surface are not higher than the surrounding finished concrete surface; only the Truncated Domes should be above the finished concrete surface per ADA specifications. **Do not use hammers to install the tiles.**
4. To assist in the proper installation and uniform elevation of tiles, if necessary, place a piece of plywood over the entire surface and add weight until the concrete has cured.
5. Allow concrete to cure before opening the surface to pedestrian traffic.

Installation on Existing Concrete Surfaces:

1. All contact surfaces should be free of hydrostatic pressure, paint, membranes, oils, curing compounds or any other material, which could impede tile/grout adhesion. Concrete surface must be at least 28 days old. Surfaces must be even, free of projections and in sound condition.
2. Remove the concrete in the area where the Step-Safe[®] tiles are to be installed. This can be done with grinders, mills or light chipping hammers. The depth of the removal should be equal to the thickness of the Step-Safe[®] tile (0.5 in.) plus the thickness of the tile setting/bonding grout.

3. Follow setting/bonding grout manufacturer's recommendations and instructions for mixing and application. Apply the specified setting/bonding material and maintain uniform thickness to assure proper tile elevation with surrounding concrete surfaces.
4. Place the Step-Safe® tiles evenly in lines parallel to existing edge conditions or as directed by the architect or engineers drawing. Leave approximately 1/8" gap between adjacent tiles on all sides to accommodate expansion. Tiles should be pressed into the setting/bonding grout taking care to assure that the edges of the tile surface are not higher than the surrounding concrete surface; only the Truncated Domes should be above the concrete surface as per ADA specifications.
Do not use hammers to install the tiles.
5. To assist in the proper installation and uniform elevation of tiles, if necessary, place a piece of plywood over the entire tile surface and add weight until the setting/bonding grout has cured.
6. Allow the setting/bonding grout to cure before opening to traffic.

Note: Alternatively, retrofit applications can also be installed by cutting a 2' x 4' full-depth section of the existing concrete ramp (where ADA tiles would be installed) and pouring/placing new concrete with Step-Safe tiles. This would not only ensure faster construction but also eliminate the need for repairing the entire sidewalk.

Properties*

Property	Value	Method
Compressive Strength	10,000 psi min.	ASTM C 109
Flexural Strength	3,000 psi min.	ASTM C 384
Tensile Strength	1,800 psi min.	ASTM C 307
Impact Strength	100 ft. lbs. min.	ASTM D 2444
Water Absorption	0.2% max.	ASTM D 570
Slip Resistance	0.80 min. wet/dry	ASTM C1028
Freeze-Thaw Resistance	No Change	ASTM C 666
Fire Test	Flame Spread < 50 Smoke Developed < 70 Class A Rating	ASTM E84-87, UL723, NFPA255, UBC 42 1

* To be used as general guidelines only

Packaging

Step-Safe® 12" x 12" tiles are packaged in a box of 10 tiles. Each tile weighs approximately 6 lbs. The gross weight of the 10-tile box is approximately 65 lbs. A pallet consists of 36 boxes. Step-Safe® 24" x 24" tiles are packaged in a crate of 8 tiles. Each tile weighs approximately 24 lbs. The gross weight of the 8-tile crate is approximately 210 lbs.

Storage

Step-Safe® tiles shall be stored indoors in a cool, dry environment in its original packaging. Care must be taken to ensure that tiles are not damaged during inventory.

Warranty

The following warranty is made in lieu of all other warranties, either expressed or implied. Step-Safe® is warranted for a period of five (5) years from the date of shipment. This product is manufactured of selected raw materials by skilled technicians. Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of product and no warranty is made as to the results of any use. The only obligation of either seller or manufacturer shall be to replace any quantity of this product that proves to be defective. Neither seller nor manufacturer assumes any liability for injury, loss or damage resulting from the use of this product.

* See full manufacturer's warranty.

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