ARDEX tile&stone
Installation Systems

Large and Super Format Tile
Installation Guide

- **Large Format Tile**
- **Super Format Tile**
- **Very Thin Large and Super Format Tile**

Large Format Tile Installation Guide

The current trend toward large format tile has presented new and challenging elements requiring additional skills and preparation techniques for the tiling installation professional. For example, the handling of contemporary, very large format tiles borrow techniques from the glass industry utilizing high vacuum suction handles to move and place tiles.

The elegant appearance of larger tiles requiring fewer and more narrow joints continues to drive popularity. The tiles are not only larger, with lengths in excess of 4' (1.21 m) wide by 10' (3.05 m) long, but thinner with tile thicknesses of 1/8" (3 mm) being more common.

Proper Preparation is Key!

The crucial element to successfully installing large format tiles lies in the preparation of the substrate and using proper installation materials. Whether floor or walls are to receive tile, the flatness and suitability are paramount. The substrate receiving large format tiles should be prepared to a floor flatness (FF) of >50. All properly prepared substrates should have no more than a 1/8" (3 mm) in variance in 10' (3.05 m), with no more than 1/16" (1.59 mm) variation in 24' (7.32 m).

Floor Applications

To achieve acceptable floor flatness, a smoothing and leveling compound with very low viscosity and high fluidity such as ARDEX Liquid BackerBoard® Self-Leveling Underlayment or ARDEX TL 1000™ Self-Leveling Underlayment should be used to ensure the proper flatness required over a large area. Surfaces should be primed with the appropriate ARDEX floor primer before the application of the self-leveler. If use of a floor screed is desired, ARDEX A 38™ Rapid Set Screed may be installed.

Wall Applications

For concrete and masonry wall applications, use ARDEX AM 100™ Smoothing and Ramping Mortar to make the surface smooth, flat and plumb. Tiles can then be installed using the appropriate ARDEX mortar *(see mortar selection guide)*. The surface to receive the tile should have a fully ribbed bed of mortar. The ribs should be continuous and parallel to allow expulsion of air as tiles are placed. The back of the tile should then have either a fully ribbed bed similar to the surface or be back buttered with a flat troweled, even layer of mortar.

When the tile is applied to the receiving surface it should have sufficient pressure to expel all the air between the tile and surface. This can be done by deforming the ribs on the surface into the back buttered tile by lightly tamping the surface of the tile with a rubber grout float to ensure good contact or by marrying the ribs on the tile and substrate so that all voids are closed when the tile is pressed and bedded into place.

Grout Joints

With large format tiles, the joint width should also be considered as the goal is to have as few joints as possible. The Tile Council of North America (TCNA) guidelines for large format tile state that actual grout joint width shall be three times the variation in the facial dimension of the tile and never less than 1/16" (1.59 mm). It is important to stress that perimeter and field movement joints are required within tile installations. Expansion, construction and contraction joints should be carried through the tile without exception. Refer to the most current TCNA handbook, detail method EJ-171 or the Terrazzo Tile and Marble Association of Canada (TTMAC) Tile Installation Manual, detail method 301MJ.

Grouting

ARDEX offers high-performance grouts in 35 colors ideal for, large format tile installations including ARDEX FL™ Rapid Set, Flexible Sanded Grout and ARDEX WA™ High Performance, 100% Solids Epoxy Grout and Adhesive. For exterior wall applications, ARDEX SX™ 100% Silicone Sealant for Tile and Stone applications may be used as a grout. Grouting may proceed according to the tile manufacturer recommendations.

Tile Backings

Where the tiles have a mesh backing adhered with a resin which covers the fiberglass mesh, an epoxy based adhesive such as ARDEX WA™, ARDEX X 77™ with ARDEX E 90™,ARDEX X 78™ with ARDEX E 90™, or ARDEX S 28™ MICROTEC® Rapid-Set, Rapid-Dry, Super-Format Tile and Uncoupling Membrane Mortar should be used. For interior applications ARDEX N 23™ MICROTEC® Rapid Set Natural Stone and Tile Mortar can also be used.

Where a large portion of the fiberglass is available to the adhesive ARDEX X 77™ MICROTEC® Fiber Reinforced Tile and Stone Mortar or ARDEX X 78™ MICROTEC® Fiber Reinforced, Semi-Pourable Tile and Stone Mortar is appropriate, but if the fiberglass is adhered with a polyester resin, use ARDEX WA™ High Performance, 100% Solids Epoxy Grout and Adhesive.

Mortar Selection

The adjacent table shows when a large format porcelain plain backed tile is used, the choice of mortars are either ARDEX X 77™, ARDEX S 28™ or ARDEX X 78™. ARDEX X 77™ provides a unique easy to apply, creamy consistency while still providing no sag achieving double the ISO 13007 standard. ARDEX X 78™ has a semi pourable consistency that provides full contact and delivers outstanding shear strength making it ideal for use in high traffic areas. Both mortars also achieve double the ISO 13007 standards for open time delivering a true 60 minutes to place tiles. ARDEX S 28™ is formulated with ARDEX Self Drying Technology and has a semi-pourable consistency. The creamy, smooth consistency of ARDEX MICROTEC® mortars requires less pressure when setting large tiles, reducing the risk of breaking thinner tiles.

Warranty

ARDEX provides the industry-leading, comprehensive SystemOne™ warranty. Please visit www.ardexamericas.com for full details.

MORTAR SELECTION GUIDE	STANDARD SIZE SECTION PORCELAIN TILES Up to 24" X 24" (600 X 600 mm) Floor and Wall	LARGE FORMAT SECTION PORCELAIN TILES Greater than 24" X 24" (600 X 600 mm) Floor and Wall
Plain Backed Porcelain Ceramic Tiles	ARDEX X 78 MICROTEC or ARDEX X 77 MICROTEC for both floor and wall. Must back butter tile interior or exterior.	ARDEX X 77 MICROTEC, ARDEX X 78 MICROTEC or ARDEX S 28 MICROTEC minimum 1/2" notch. Ideally a mid bed mix, a little thicker as necessary.
Approved Mesh Backed Epoxy (Resin Covered Tiles)	ARDEX WA, ARDEX N 23 MICROTEC (interior only) or ARDEX X 77 with ARDEX E 90 using a 1/2" (12 mm) notch trowel. Back butter tile.	ARDEX X 77 with ARDEX E 90 or ARDEX X 78 with ARDEX E 90 ARDEX S 28 MICROTEC or ARDEX N 23 MICROTEC (internal only). Back butter tile
Exposed Fiberglass Mesh Backed Tiles	ARDEX X 78 MICROTEC or ARDEX X 77 MICROTEC (Not for polyester resin bound – for these use ARDEX WA)	ARDEX X 78 MICROTEC, ARDEX X 77 MICROTEC, or ARDEX S 28 MICROTEC (Not for polyester resin bound, for these use ARDEX WA)
Other Backings/ Coatings	Such as surface coatings to metal layers etc. Testing is required.	Such as surface coatings to metal layers etc. Testing is required.

Always refer to tile manufacturer recommendations

Waterproofing and Crack-Isolation

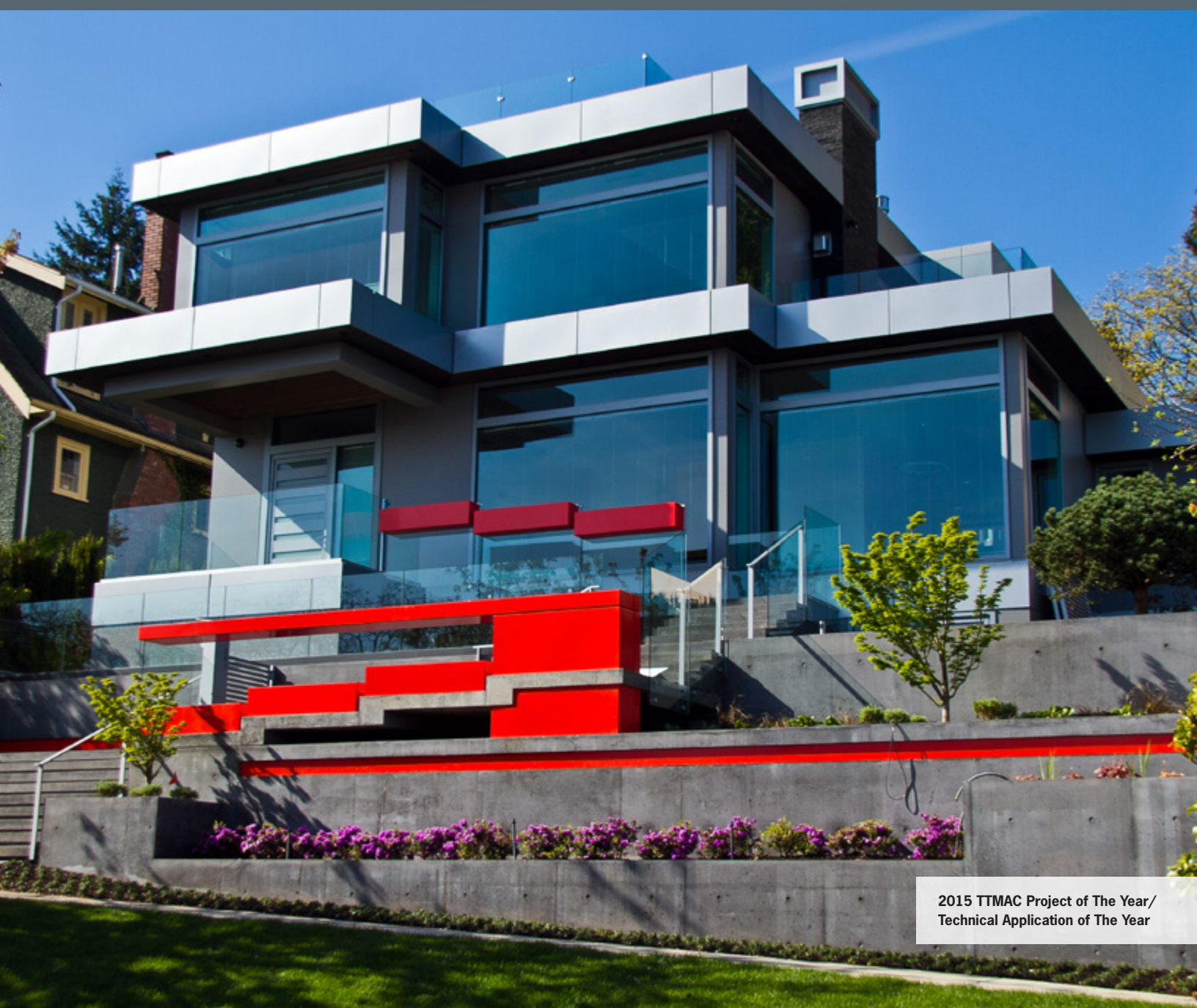**ARDEX 8+9™ Rapid Waterproofing and Crack Isolation Compound**
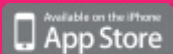ANSI 118.10 and ANSI 118.12

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A Better Way to Install Large Format Tile!

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