1. PRODUCT NAME

TEC® TotalFlex® XMS Tile Adhesive

2. MANUFACTURER

TEC Specialty Products LLC
1105 South Frontenac Street
Aurora, IL 60504-6451 U.S.A.
800.832.9002 Customer Service
800.832.9023 Technical Support
tecspecialty.com

3. DESCRIPTION

TotalFlex XMS Tile Adhesive is an ultra-high performance, one-component, moisture-curing modified silane adhesive for interior and exterior wall tile applications, countertops and mosaic tile for shower floors. This accelerated curing formulation was specially designed for challenging applications including gauged porcelain tile panels/slabs, exterior building facades, submerged use in pools as well as for clear and transparent glass. Total Flex XMS provides robust non-sag/non-slump adhesion combined with long open time and extra smooth troweling. Total Flex XMS exhibits excellent adhesion to a wide range of substrates and tiles. No mixing is required.

Key Features and Benefits

- Ultra-versatility – Ideal for Gauged Porcelain Tile Panels/Slabs & Thin-set wall applications
- Exceeds ISO 14448 requirements for exterior wall tile reactive adhesives
- Approved for interior and exterior use. Highly resistant to freeze/thaw conditions.
- Approved for continuous water immersion such as pools, water features as well as showers
- Can be used with clear and transparent glass
- Ready to use – No mixing required
- Requires only one side adhesive application
- Long open time up to 60 minutes
- Smooth/creamy for exceptionally easy troweling
- Fast grab and accelerated bond development. Grout as soon as 12 hours.

Packaging

2 gallon plastic pail (7.6 L)	Product #10015806
4 gallon plastic pail (15.1 L)	Product #10013156

Coverage

Trowel Size	Approximate Coverage
Gauged Porcelain Tile Panels/Slabs	
Euro-Notch	15-20 sq.ft./gal. (0.4-0.5 m²/L)
$3/8$" Slant Notch	15-20 sq.ft./gal. (0.4-0.5 m²/L)
Standard-sized Wall Tile	
$1/4$" x $1/4$" x $1/4$" (6 x 6 x 6 mm) Square Notch	25-30 sq.ft./gal. (0.6-0.7 m²/L)
Ceramic or Glass Mosaics	
$3/16$" x $5/32$" (4.7 x 4 mm) V-Notch	41-48 sq.ft./gal. (1.0-1.2 m²/L)

Recommended Applications

- Interior and exterior walls, countertops and mosaic tile for shower floors
- Gauged porcelain tile panels/slabs and thin set applications
- Submerged use including pools, water features and showers
- Porcelain, glass, metal, stone, and resin-backed tiles
- Residential, light & heavy commercial

Suitable Substrates

When properly prepared, suitable substrates include:

- Cured concrete, brick and masonry (interior and exterior installations)
- APA Grade Trademarked Exposure 1 Plywood (exterior grade)
- Steel, aluminum, epoxy, and fiberglass
- Gypsum wallboard (dry interior wall areas only. Priming may be required)
- Water resistant gypsum wallboard (i.e.: greenboard, interior walls only, dry to intermittent water exposure only)
- Cementitious backer units (CBU) or glass mat backerboard
- Existing ceramic tile and natural stone, provided it is well-bonded to an approved substrate
- Extruded foam waterproof board
- TEC® HydraFlex™ Crack Isolation and Waterproofing Membrane, Triple Flex™ Waterproofing Crack Isolation Membrane

Substrate Preparation

All substrates must be clean, dry, structurally sound, and free from oil, grease, dust, adhesive, paint, sealers, or concrete curing compounds. Maximum deflection must comply with industry standards of $L/360$ for ceramic tile installations and $L/720$ for natural stone and GPTP installations or applicable building codes. All contaminants must be removed prior to installation of tile. For Gauged Porcelain Tile Panels/Slabs installation, reference the TEC Thin Porcelain Panel Installation Guide on tecspecialty.com. Maximum variations in all substrates must not exceed ¼" in 10 ft. (6 mm in 3 m) and $1/16$" in 1 ft. (1.6 mm in 0.3 m) from the required plane for tile less than 15" (381 mm) on all sides. Maximum variations in all substrates must not exceed $1/8$" in 10 ft. (3 mm in 3 m) and $1/16$" in 2 ft. (1.6 mm in 0.6 m) from the required plane for tile 15" (381 mm) or greater on any one side. Movement joints must be provided per TCNA Method EJ-171 or TTMAC guidelines.

Storage

Store in cool, dry location out of direct sunlight. Do not leave pail uncovered for extended periods when not in use. To maximize storage shelf life, cover remaining adhesive with the supplied plastic film and securely seal the lid. Cured adhesive can be peeled from the surface and sides to expose uncured adhesive.

Shelf Life

Maximum of 1 year from date of manufacture in unopened container.

Limitations

- Do not use for flooring installations except for mosaic tile for shower floors and pools.
- Do not use to install tile weighing more than 4 lbs per square foot (19.5 kg per square meter).
- Only install when the temperature is between 40-95ºF (4.4-35ºC).
- High humidity will shorten open/repositioning time while low humidity will extend cure time.
- Ensure that the project complies with provisions of the IBC (International Building Code) as well as applicable building codes and has the required approvals.
- Always read and follow the installation guidelines provided by the tile manufacturer with particular attention to; 1) minimum joint size, 2) treatment as a soft joint, and 3) cap flashing for exterior installations.
- Contact TEC Technical support before installing glass with a decorative coating on the tile backing, glass tile larger than 6" x 6" (15 x 15 cm) for exterior use or 2' x 4' (61 x 122 cm) for interior use or for tile weighing more than 4 lbs per ft² (19.5 kg per m²) as these materials require more detailed precautions.

Cautions

Read complete cautionary information printed on product container prior to use. For medical emergency information, call 1-888-853-1758.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered TEC brand product(s) under normal environmental and working conditions. Because each project is different, TEC Specialty Products LLC cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

Product Data

4. TECHNICAL DATA

Physical Properties

Applicable Standard

Exceeds ISO 14448:2016 specifications for reactive adhesives used for the installation of tiles to exterior walls.

Description	
Adhesive Type	One-component moisture-curing modified silane
Physical State	Smooth paste
Color	White
VOC Content	40.1 g/L
Density	9.60 lbs/gal (1.15 g/cm³)
Flash Point (closed cup)	>200°F
Shelf Life	Maximum of 1 year from date of manufacture in unopened container.
Storage Conditions	50°-90°F (10°C -32°C)
Freeze/Thaw Stability	Protect from freeze in storage and transit
Open Time	Up to 60 minutes depending on humidity and temperature
Repositioning Time	30-45 minutes depending on humidity and temperature
Time Before Grouting	12 hours
Service Temperature	-30-194°F (-34-90°C)
Application Temperature	40°-95°F (4°C -35°C)
Hardness (Shore A, ASTM D2240)	65 @ 72 hours
Tensile Strength @ break (ASTM D412)	1.81 N/mm²
Elongation	91%

5. INSTALLATION INSTRUCTIONS

Mixing

Ready to use. No mixing required.

General Guidelines

TotalFlex XMS Tile Adhesive is applied to one side only and cures by reacting with moisture from the air, substrate and tile. To ensure consistent curing, dampen the substrate with a wet sponge (SSD - surface saturated dry) or lightly spritz the substrate or applied adhesive with water just prior to setting the tile. Adding moisture is particularly important when installing tile in low ambient humidity conditions (<30% RH), when combining two non-porous materials and for large format tile. TotalFlex XMS is designed for applications where the maximum depth of adhesive will not exceed ½". Excess adhesive thickness will inhibit curing. Note that open time and repositioning time will vary depending on humidity and temperature. Relative humidity above 50% will cause shorter open/repositioning times while relative humidity below 20% will noticeably extend cure times.

Application

Gauged Porcelain Tile Panels/Slabs Installation:

To ensure consistent adhesive curing, immediately before tile installation, dampen the substrate surface with a moist sponge or spray mist. Substrate surface should be SSD (surface saturated dry). Apply adhesive using the recommended trowel to either the substrate surface or the back of the tile. Only one side requires adhesive coverage. Refer to Coverage Guide for trowel size.

Gauged porcelain tile panels/slabs require special equipment, handling, and techniques to insure a successful long-lasting installation. For additional installation instructions, please refer to the TEC Gauged Porcelain Tile and Gauged Porcelain Tile Panels/Slabs Installation Guide found on the TECspecialty.com website.

1. Using the flat back side of the trowel, key in a light coat of adhesive to the substrate or back of tile.

2. Apply additional adhesive with the recommended trowel combing it in straight lines parallel to the short side of the tile. Ensure 100% surface coverage including corners and edges.

3. Spread only as much adhesive as can be tiled while the adhesive will transfer to the opposite surface. Do not allow the adhesive to skin over.

4. Edge leveling straps and caps are required to minimize lippage between panel edges.

5. Carefully align and firmly place the tile.

6. Using a high-speed cordless orbital sander with pad, work from the center of the panel outward to the edges. This will expel air from behind the panel and maximize edge-to-edge adhesive coverage.

7. Cinch down the leveling caps tightly to bring adjoining panel edges into alignment.

8. Clean excess adhesive from the panel's surface and clean out between the panel joints to the full depth of the panel while the adhesive is still fresh.

Standard-sized Wall Tile Installation:

TotalFlex XMS offers excellent slip resistance for wall tile applications up to 4 lbs/ft² (19.5 kg/m²). Apply adhesive to wall surface only. Refer to Coverage Guide for trowel size.

1. Using the flat back side of the trowel, key in a light coat of adhesive to the wall surface.

2. Apply additional adhesive with the recommended trowel combing it in straight lines parallel to the short side of the tile. Ensure 100% surface coverage including corners and edges.

3. Spread only as much adhesive as can be tiled while the adhesive will transfer to the opposite surface. Do not allow the adhesive to skin over.

4. Press the tile firmly onto wall and then push in a direction perpendicular to the notched trowel ridges to achieve optimum coverage. Periodically remove and check a tile to assure proper adhesive coverage. Clean excess fresh adhesive between tiles, maintaining a minimum of $^2/_3$ of grout depth between tiles for grouting.

5. Allow adhesive to cure for 12 hours before grouting.

Glass Tile Installation:

TotalFlex XMS has been tested and approved to be used with glass tile for the following applications:

1. Wall applications only for non-pool installations. See separate application section for pool installation instructions.

2. Interior and exterior

3. Dry, intermittent water exposure, and submerged applications including chlorinated and salt water

4. Maximum glass tile sizes: Exterior installations up to 6" x 6". Interior installations up to 2' x 4'.

In specifying a setting system for the bonding of glass tile, the following factors must be taken into consideration:

Glass Tile Type: Glass tile can be manufactured in multiple ways such as clear, translucent with a colored body, or translucent with a colored backing. Each tile type has a different aesthetic appearance. The color and composition of the adhesive can influence the final appearance, especially with translucent tile. Always pre-test a small area to confirm suitability.

Refer to Coverage Chart for trowel size. Note that glass tile installations require 100% continuous adhesive coverage. Always read and follow the glass tile manufacturer's specifications for suitability and installation.

1. Using the flat side of the trowel, key adhesive into the substrate.

2. Apply additional adhesive and comb in one direction with the notched side of the trowel.

3. Knock down the ridges to ensure they are not visible through the tile.

4. Firmly place the tile into the adhesive.

5. Remove paper facings following the tile manufacturer's instructions. Removing the paper while the adhesive is still fresh allows for individual tile adjustment.

6. Clean excessive adhesive from tile with a dry non-abrasive towel.

7. Allow adhesive to cure for 12 hours before grouting.

Countertop Installation:

TotalFlex XMS Tile Adhesive is designed for applications where the maximum depth of adhesive will not exceed ½ in. Excess adhesive thickness will inhibit curing.

1. Check for surface levelness before countertop installation. Cabinet adjustment or shimming may be required. Cantilevered applications may require bracing per code requirements.

2. Apply adhesive with a small hand tool adhesive spreader as required at the cabinet and sink perimeters.

3. If bonding two non-porous surfaces or under very dry conditions (less than 30% humidity) lightly spritz water on the adhesive using a plant mister spray bottle.

4. Lower the countertop onto the cabinets.

5. Materials may be repositioned within 10-15 minutes after countertop placement.

6. Allow 12 hours for adhesive cure before use.

Mosaic Tile Installation:

Refer to Coverage Chart for trowel size. TotalFlex XMS can be used for installing sheet-mounted mosaic glass tile or stone tiles or individual tiles in thin-set applications. Applications include; pools and pool decks, shower walls & floors. Refer to tile manufacturer for suitability for intended application.

1. Using the flat side of the trowel, key adhesive into the substrate.
2. Apply additional adhesive and comb in one direction with the notched side of the trowel.
3. For mosaic and glass tile, knock down the ridges to ensure they are not visible through the tile.
4. Firmly place the tile into the adhesive and then push in a direction perpendicular to the notched trowel ridges to achieve optimum coverage. Periodically remove and check a tile to assure proper adhesive coverage.
5. To achieve the flattest possible surface, lightly tap the sheets with a wooden beating block and a finish hammer. To unify sheet transitions, tap from one sheet to the next.
6. Remove paper facings following the tile manufacturer's instructions. Removing the paper while the adhesive is still fresh allows for individual tile adjustment.
7. Clean excessive adhesive from tile with a dry non-abrasive towel.
8. Allow adhesive to cure for 12 hours before grouting.

Pool Tile, Water Features and Spa Installation:

TotalFlex XMS Tile Adhesive was developed for use in chlorinated or saltwater pools. Suitable substrates for pool installations include TEC HydraFlex Crack Isolation Waterproofing Membrane, TEC Triple Flex Waterproofing Crack Isolation Membrane and stainless steel. Refer to Coverage Guide for trowel size. TotalFlex XMS allows for grouting after 12 hours and pool filling after 7 days when used with TEC Power Grout® or TEC AccuColor EFX® Epoxy Grout and Mortar. Refer to the TEC Pool and Water Feature Installation Guide on the TEC website for detailed pool instructions.

Clean-up

Clean excess adhesive from face of tile, while mortar is still fresh, with a dry non-abrasive towel. Dried adhesive may be carefully scraped from the tile surface using a plastic scraper.

Caulking/Grouting

Caulking/grouting the tile joints may be accomplished when tiles are held firmly in place, typically 12 hours after installation is completed. Low humidity and low temperatures will extend cure time, working time, and pot life. High humidity and high temperatures will decrease cure time, working time, and pot life. Gauged porcelain panel manufacturers typically specify the use of 100% silicone sealant to allow for dimensional changes in exterior applications. The use of TEC brand grouts and TEC® AccuColor 100® 100% Silicone Sealant is highly recommended.

6. AVAILABILITY

TEC premium surface preparation, tile, stone, carpet, wood and resilient floor covering installation products are available nationwide.
To locate TEC products in your area, please contact:

Phone: 800-832-9002
Website: tecspecialty.com

7. LIMITED WARRANTY

The product(s) covered by this Product Data Sheet are sold subject to a Limited Warranty and related terms. **TEC Specialty Products disclaims the implied warranties of merchantability and fitness for a particular purpose and all incidental and consequential damages arising out of the sale, purchase or use of this product.** For Limited Warranty details visit tecspecialty.com. To obtain a hard copy of the Limited Warranty call TEC Specialty Products at 800-832-9023 or mail a written request to the address in Section 2 of this Product Data Sheet.

8. MAINTENANCE

Not applicable

9. TECHNICAL SERVICES

Technical and safety literature

To acquire technical and safety literature, please visit our website at tecspecialty.com.

10. FILING SYSTEM

Division 9

TEC®
Specialty Products

TEC Specialty Products LLC **|** 1105 South Frontenac Street, Aurora, IL 60504-6451

@TECInstallationSystems   tecinstallationsystems   TECInstallationSystems   TEC Installation Systems

DSTFXMS R0425-20