

# UNCOUPLING MEMBRANES



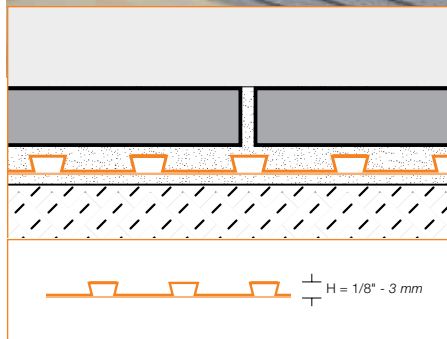
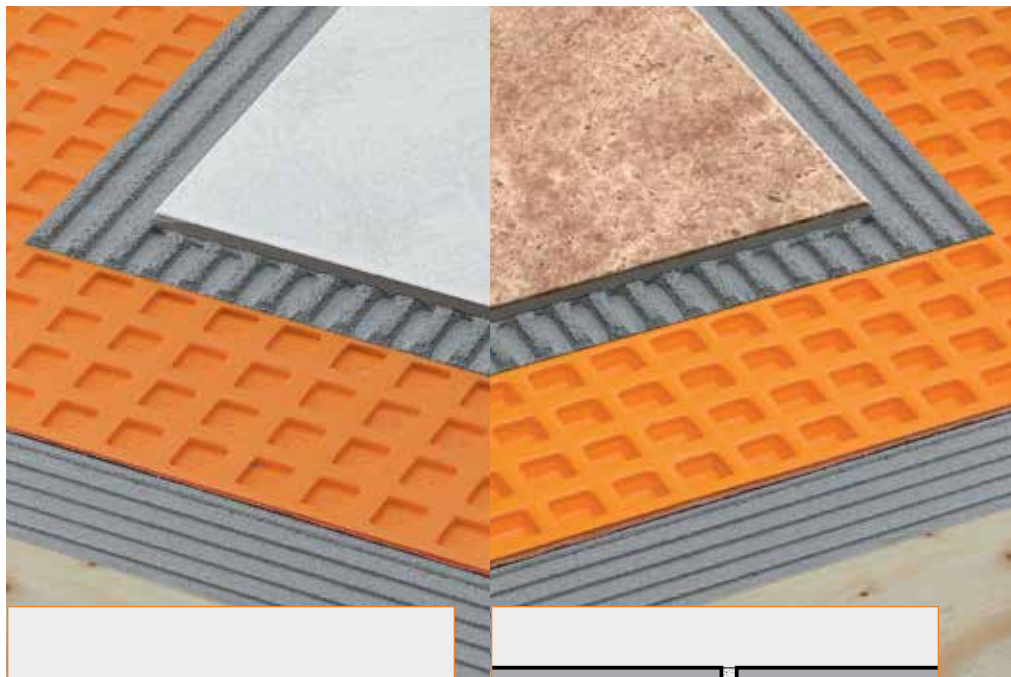
## INNOVATIVE SOLUTIONS FOR CERAMIC AND STONE TILE

### UNCOUPLING, WATERPROOFING, VAPOR MANAGEMENT, AND SUPPORT/LOAD DISTRIBUTION

Ceramic and stone tiles are durable, easy to maintain, and hygienic, representing the ideal surface coverings. However, today's lightweight construction methods can make the installation of hard surface coverings particularly challenging. In order to protect the integrity of the tile assembly, an underlayment that performs multiple functions is required.

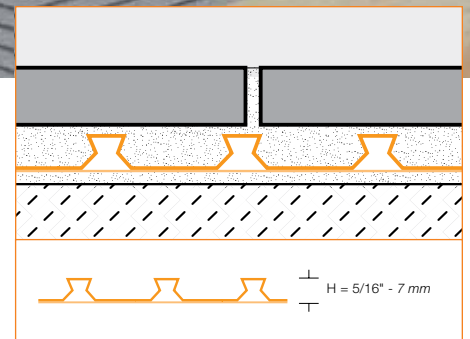
### Application and Function

**6.1 Schluter®-DITRA** and **6.1 Schluter®-DITRA-XL** are polyethylene membranes with a grid structure of square cavities, each cut back in a dovetail configuration, and an anchoring fleece laminated to the underside. The anchoring fleece is embedded in thin-set mortar to provide a mechanical bond to the substrate. Tile is installed over DITRA or DITRA-XL using the thin-bed method in such a way that the mortar becomes mechanically anchored in the square, cutback cavities of the matting. Designed specifically for ceramic tile and dimension stone installations, DITRA and DITRA-XL serve as an uncoupling layer, waterproofing membrane, and vapor management layer that accommodates moisture from beneath the tile covering. Further, DITRA and DITRA-XL perform all these functions while still providing adequate support/load distribution for the tile covering. The combination of these four essential functions allows for the successful installation of tile over a wide range of substrates, including plywood/OSB, concrete, gypsum, heated floors, etc. DITRA is 1/8" (3 mm) thick, which



**6.1 Schluter®-DITRA**

minimizes tile assembly thickness and reduces transitions to lower surface coverings (e.g., carpet, engineered wood, and vinyl). DITRA allows for ceramic tile application over single-layer plywood or OSB subfloors on joists spaced up to 19.2" (488 mm) o.c. DITRA-XL is 5/16" (7 mm) thick, which permits even transitions between tile and 3/4"-thick hardwood flooring. DITRA-XL allows for



**6.1 Schluter®-DITRA-XL**

ceramic tile application over single-layer plywood or OSB subfloors on joists spaced up to 24" (610 mm) o.c.

### Uncoupling

Tile has been successfully installed for thousands of years by incorporating an uncoupling layer, or forgiving shear interface, within the tile assembly.



DITRA and DITRA-XL provide uncoupling through its open rib structure, which allows for in-plane movement that effectively neutralizes the differential movement stresses between the substrate and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface.

### Waterproofing

DITRA and DITRA-XL provide reliable waterproofing in interior and exterior applications. Its polyethylene composition protects the substrate from moisture penetration, which is particularly important in today's building environment where most substrates are moisture-sensitive.

### Vapor management

The distinguishing feature of DITRA and DITRA-XL is the existence of free space created by the configured channels on the underside of the matting. The free space provides a route for excess moisture and vapor to escape from the substrate that could otherwise cause damage to the tile layer above. Thus, DITRA and DITRA-XL effectively manages moisture beneath the tile covering.

### Support/load distribution

When placed on a solid foundation, columns or pillars can support tremendous loads. The same physical principle applies to DITRA and DITRA-XL installations. Column-like mortar structures are formed in the cutback cavities of the matting. Loads are transferred from the tile covering through these column-like mortar structures to the substrate. Since the matting is virtually incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities. The ability of DITRA and DITRA-XL installations to support and distribute heavy loads while preserving the integrity of the tiled surface has been verified through extensive laboratory and field testing, including applications exposed to vehicular traffic.

### Material Properties and Areas of Application

DITRA and DITRA-XL are manufactured using high-density polyethylene (HDPE), which does not rot and is inert, non-toxic, and physiologically safe. The material is highly resistant to solutions containing salts, acids, and alkalis, as well as many organic solvents, alcohols, and oils. Resistance to specific stresses can be provided if concentration, temperature, and exposure time are known. DITRA and DITRA-XL are waterproof and minimize the transmission of vapor (water vapor permeance of DITRA is 0.006 perms per ASTM E96).

DITRA and DITRA-XL meet the American National Standard for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations (ANSI A118.10), are listed by cUPC®, and are evaluated by ICC-ES (see Report Nos. ESR-2467 and PMG-1204). For copies of the above listing or report, please contact Schluter®-Systems at 800-472-4588 (USA) or 800-667-8746 (Canada) or by e-mail at [info@schluter.com](mailto:info@schluter.com). Links to the listing and report can also be accessed at [www.schluter.com](http://www.schluter.com).

DITRA and DITRA-XL were evaluated according to the "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1" for California Specification 01350 and found to comply with the VOC requirements. California Specification 01350 is referenced by various green building standards and rating systems.

### Suitable Substrates

For complete installation guidelines and warranty criteria, please contact Schluter®-Systems at 800-472-4588 (USA) or 800-667-8746 (Canada) or by e-mail at [info@schluter.com](mailto:info@schluter.com) to receive a copy of the Schluter®-DITRA Installation Handbook and a step-by-step installation video. To download a PDF version of the Handbook or to view the installation video online, please visit [www.schluter.com](http://www.schluter.com). All substrates must be clean, even, and load bearing. Bond-inhibiting surfaces must be

removed prior to the application of DITRA and DITRA-XL.

**Note:** Type, thickness, and format of the tile or stone surface covering must be suitable for the intended application. Minimum tile format is 2" x 2" (5 x 5 cm).

### Wood

All wood materials, including OSB, plywood, and framing members, are subject to expansion, contraction, bending, and deflection as a result of changes in moisture content and loading. Further, these deformations fluctuate over the life of the building structure. DITRA and DITRA-XL's uncoupling function protects the ceramic or stone tile covering from the aforementioned deformations by neutralizing the differential movement stresses between the wood structure and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface. Therefore, DITRA and DITRA-XL can replace a second layer of plywood in most applications. Since the uncoupling function of the matting is based on its geometric configuration, the increased thickness of DITRA-XL results in increased uncoupling capacity. Thus, DITRA-XL is optimized for tile installation over bending and deflecting substrates such as plywood and OSB, including applications over single-layer plywood/OSB subfloors on joists spaced at 24" (610 mm) o.c.

Wood continually absorbs and releases moisture. The free space beneath DITRA and DITRA-XL allows the wood to breathe and provides a route for any residual moisture in the wood substrate to escape.

Since DITRA and DITRA-XL is virtually incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities.

Industry standard guidelines referencing uncoupling membranes over wood substrates include methods F147 and F148 in the TCNA Handbook for Ceramic, Glass and Stone Tile Installation and method 313F (Detail D) in the Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09 30 00 Tile Installation Manual.

**Note:** DITRA and DITRA-XL may be installed



over existing vinyl floors (no cushioned or perimeter bonded vinyl). However, various steps must be taken to ensure a successful installation. Please refer to the Schluter®-DITRA Installation Handbook for details.

## Concrete

There are various challenges associated with the installation of hard surface coverings on concrete substrates. To begin, the coefficient of thermal expansion of concrete is close to twice that of ceramic tile. Additionally, tile contractors are often expected to install tile over young concrete (concrete cured less than 28 days). However, rigid surface coverings installed over young concrete are susceptible to damage as a result of shrinkage during curing. Pre-stressed/post-tensioned concrete slabs are also commonplace in today's construction environment. Although pre-stressing is used to help control deflections in concrete structures, these slabs are still subject to deformations caused by changes in moisture, temperature, and loading. Many concrete slabs on or below grade are subject to moisture migration, which can be problematic. Furthermore, these structures experience the same deformations as stated above.

DITRA and DITRA-XL's uncoupling function protects the ceramic or stone tile covering by neutralizing the differential movement stresses between the concrete substrate and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface.

DITRA and DITRA-XL's waterproofing ability not only protects the substrate from moisture and harmful substances, it also slows the drying of fresh concrete, thus reducing the chances of cracking and curling.

The free space beneath the DITRA and DITRA-XL matting provides a route for any residual moisture in the concrete slab to escape. This allows the installation of DITRA and DITRA-XL and the tile covering as soon as the slab can be walked upon. Vapor management is also essential for slabs subject to moisture migration.

Since DITRA and DITRA-XL is virtually incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities. This allows DITRA and

DITRA-XL to be installed in commercial and industrial applications exposed to heavy vehicular traffic, provided the type, format, and thickness of the tile are appropriate for the application.

Industry standard guidelines referencing uncoupling membranes over concrete substrates include method F128 in the TCNA Handbook for Ceramic, Glass and Stone Tile Installation and method 311F (Details A, C and D) in the Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09 30 00 Tile Installation Manual.

## Gypsum

Bonding ceramic or stone tiles directly to gypsum concrete substrates is generally considered questionable or not recommended. The challenges associated with gypsum-based underlayments include the requirement of an extended drying period before installing tile and continued sensitivity to the reintroduction of moisture throughout the life of the installation. In addition, since the coefficient of thermal expansion of gypsum concrete is substantially greater than that of ceramic tile, shear stresses caused by temperature fluctuations can result in delamination or cracking of the tile covering. This is particularly important when gypsum concrete is used as a thermal mass for radiant heated floors. With the increasing popularity of radiant heated floors, which typically utilize gypsum concrete, tile installers need a reliable installation system to address these issues. DITRA and DITRA-XL's uncoupling function protects the ceramic or stone tile covering by neutralizing the differential movement stresses between the gypsum concrete substrate and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface.

DITRA and DITRA-XL's waterproofing function prevents the reintroduction of moisture to gypsum concrete underlayments, which, if not prevented, could significantly compromise performance of the underlayment and lead to damage of the tiled surface. The residual moisture in gypsum concrete is allowed to escape through the air channels on the underside of the matting. This is particularly important since gypsum concrete must dry in order to gain strength.

Since DITRA and DITRA-XL is virtually incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities.

Industry standard guidelines referencing uncoupling membranes over gypsum substrates include methods F180 and F200 in the TCNA Handbook for Ceramic, Glass and Stone Tile Installation and method 314F (Details B and F) in the Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09 30 00 Tile Installation Manual.

## Heated Floors

Radiant heating is one of the fastest growing market segments in the construction industry. Unlike other surface coverings, the low thermal resistivity of ceramic and stone tiles allows them to be used in radiant heat applications without sacrificing the energy efficiency of the system. However, there are inherent challenges in combining rigid surface coverings with radiant panel heating systems. A viable installation system must address the magnified fluctuations in temperature that contribute to increased shear stresses between the heated assembly and the tile covering. The system must also limit thermal striping by promoting even heat distribution and protect the assembly from moisture, which is particularly important when gypsum concrete is used as the thermal mass. Differential movement stresses are magnified in radiant-heated floor applications because of significant temperature gradients.

DITRA and DITRA-XL's uncoupling function protects the ceramic or stone tile covering by neutralizing the differential movement stresses between the heated assembly and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface.

DITRA and DITRA-XL's waterproofing function provides simple, effective, and permanent protection for moisture-sensitive substrates, such as gypsum concrete and wood, used in heated floor applications.

The open rib structure of the DITRA and DITRA-XL matting allows the residual moisture in the substrate to escape.



This is particularly important for gypsum concrete since it must dry in order to gain strength. In addition, the free space beneath the matting limits thermal striping by promoting even heat distribution throughout the assembly.

Industry standard guidelines referencing uncoupling membranes over heated floors include methods RH111, RH112, RH122 and RH123 in the TCNA Handbook for Ceramic, Glass and Stone Tile Installation and method 314F (Details A, B, C, D, E and F) in the Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09 30 00 Tile Installation Manual.

### Exterior Applications

Ceramic and stone tiles are ideal surface coverings for the exterior and have been used successfully for thousands of years. Exterior balconies and terraces are ideal opportunities for the installation of tiled surfaces. However, these installations have typically presented significant challenges to tile setters. Since hard surface coverings are rigid by nature and have different physical properties compared to virtually every substrate, they cannot be bonded directly to the substrate, particularly in exterior applications where they are exposed to potentially severe climatic changes and the recurring introduction of moisture.

DITRA and DITRA-XL's uncoupling function protects the ceramic or stone tile covering by neutralizing the differential movement stresses between the substrate and the tile, thus eliminating the major cause of cracking and delaminating of the tiled surface. This is particularly important since these stresses are magnified by the significant temperature gradients common in exterior applications. DITRA and DITRA-XL provides effective waterproofing that will protect the tile assembly from the recurring introduction of water which is common in exterior applications.

The free space beneath the DITRA and DITRA-XL matting provides a route for any residual moisture in the substrate to escape. This is especially important when installing tile over a young slab, a concrete slab subject to moisture migration, or a fresh mortar bed.

Since DITRA and DITRA-XL is virtually

incompressible within the tile assembly, the advantages of uncoupling are achieved without sacrificing point load distribution capabilities.

### Installation

For complete installation guidelines and warranty criteria, please contact Schluter®-Systems at 800-472-4588 (USA) or 800-667-8746 (Canada) or by e-mail at [info@schluter.com](mailto:info@schluter.com) to receive a copy of the Schluter®-DITRA Installation Handbook and a step-by-step installation video. To download a PDF version of the Handbook or to view the installation video online, please visit [www.schluter.com](http://www.schluter.com).

### Thin-set Facts

**Question:** Can ceramic tile, including porcelain tile, be set on DITRA and DITRA-XL with unmodified thin-set mortar?

**Answer:** YES. In fact, we recommend it.

**Here's why:** Portland cement-based unmodified thin-set mortars are dependent upon the presence of moisture for hydration in order to gain strength. Since DITRA and DITRA-XL is impervious, it does not deprive the mortar of its moisture. This allows the cement to properly hydrate, resulting in a strong, dense bond coat. In fact, after the mortar has reached final set (usually within 24 hours), unmodified thin-set mortars achieve higher strengths when cured in continually moist conditions.

**Question:** Can ceramic tile, including porcelain tile, be set on DITRA and DITRA-XL with latex-modified thin-set mortar?

**Answer:** We DON'T recommend it.

**Here's why:** Latex-modified mortars must air dry for the polymers to coalesce and form a hard film in order to gain strength. When sandwiched between two impervious materials such as DITRA and DITRA-XL and ceramic tile, including porcelain tile, drying takes place very slowly through the open joints in the tile covering. [According to the TCNA Handbook for Ceramic, Glass and Stone Tile Installation, this drying

period can fluctuate from 14 days to over 60 days, depending on the geographic location, the climatic conditions, and whether the installation is interior or exterior]. Therefore, extended cure times would be required before grouting if using modified thin-set mortars between DITRA or DITRA-XL and ceramic tile, including porcelain tile. If extended cure times were not observed, the results could be unpredictable. This is even more important to consider in exterior applications that are exposed to rain, as there is the additional concern of latex leaching.

### Additional Notes:

Over 25 years of field experience and testing by the Tile Council of North America (TCNA) support the efficacy of using unmodified thin-set mortars to bond ceramic tile, including porcelain tile, to DITRA/DITRA-XL in both interior and exterior applications. Remember, the type of mortar used to apply DITRA or DITRA-XL depends on the type of substrate. The mortar must bond to the substrate and mechanically anchor the fleece on the underside of the matting. For example, bonding DITRA and DITRA-XL to wood requires latex-modified thin-set mortar. Additionally, all mortars (modified and unmodified) have an acceptable temperature range that must be observed during application and curing.

### Movement Joints

DITRA and DITRA-XL do not eliminate the need for movement joints, including perimeter joints, within the tiled surface. Please refer to the Schluter®-DITRA Installation Handbook for movement joint placement guidelines.

### Wood Underlayment

In some applications, adding a layer of plywood or OSB before installing DITRA or DITRA-XL and the ceramic or stone tile covering is required to reduce deflection and curvature of the sheathing between the joists. Please refer to the Schluter®-DITRA Installation Handbook for plywood/OSB underlayment



installation guidelines.

### Exterior Installations

It is recommended that DITRA and DITRA-XL be allowed to adapt to ambient air temperature before installing. Further, if low temperatures are expected during installation, proper care to ensure sufficient strength gain of the thin-set mortar must be taken.

### Connection to Floor Drains

Schluter®-KERDI-DRAIN or Schluter®-KERDI-LINE may be used to provide drainage in DITRA or DITRA-XL applications. DITRA or DITRA-XL are sealed to the fleece-laminated KERDI-DRAIN bonding flange with a section of KERDI membrane using unmodified thin-set mortar. KERDI-FIX is used to seal the section of KERDI to the stainless steel KERDI-DRAIN bonding flange. The KERDI waterproofing collar on KERDI-LINE is sealed to DITRA or DITRA-XL using

unmodified thin-set mortar. Industry standard guidelines referencing floor drains with integrated bonding flanges include method B422 in the TCNA Handbook for Ceramic, Glass and Stone Tile Installation, and method 326DR in the Terrazzo, Tile and Marble Association of Canada (TTMAC) Specification Guide 09 30 00 Tile Installation Manual.

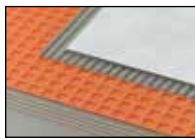
**Notes:**

- 1) When KERDI-DRAIN or KERDI-LINE are used in shower applications, walls must be waterproofed up to the height of the showerhead. Please refer to the Schluter®-Shower System Installation Handbook for complete details.
- 2) Various configurations of KERDI-DRAIN and KERDI-LINE are listed by ICC-ES (Report No. PMG-1204), UPC® (IGC 195), CSA (B79), and NSF (as a special engineered product meeting applicable requirements of ASME A112.6.3).
- 3) DITRA, DITRA-XL and KERDI meet the American National Standard for

Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations (ANSI A118.10), are listed by cUPC®, and are evaluated by ICC-ES (see Report Nos. ESR-2467 and PMG-1204).

For copies of the above listings or report, please contact Schluter®-Systems at 800-472-4588 (USA) or 800-667-8746 (Canada) or by e-mail at info@schluter.com. Links to the listings and report can also be accessed at www.schluter.com.

## Product Item Numbers



| 6.1 Schluter®-DITRA |             | Uncoupling and waterproofing membrane |   |             |
|---------------------|-------------|---------------------------------------|---|-------------|
| Item No.            | Width       | Length                                | Area                                    | Thickness   |
| DITRA 5M            | 3' 3" - 1 m | 16' 5" - 5 m                          | 54 ft <sup>2</sup> - 5 m <sup>2</sup>   | 1/8" - 3 mm |
| DITRA 150           | 3' 3" - 1 m | 45' 9" - 14 m                         | 150 ft <sup>2</sup> - 14 m <sup>2</sup> | 1/8" - 3 mm |
| DITRA 30M           | 3' 3" - 1 m | 98' 5" - 30 m                         | 323 ft <sup>2</sup> - 30 m <sup>2</sup> | 1/8" - 3 mm |



| 6.1 Schluter®-DITRA-XL |             | Uncoupling and waterproofing membrane |  |              |
|------------------------|-------------|---------------------------------------|--|--------------|
| Item No.               | Width       | Length                                | Area                                       | Thickness    |
| DITRA-XL/175           | 3' 3" - 1 m | 53' 3" - 16.25 m                      | 175 ft <sup>2</sup> - 16.25 m <sup>2</sup> | 5/16" - 7 mm |



| 8.1 Schluter®-KERDI-BAND |                  | Waterproofing strip |           |  |
|--------------------------|------------------|---------------------|-----------|--|
| Item No.                 | Width            | Length              | Thickness |  |
| KEBA 100/125/5M          | 5" - 12.5 cm     | 16' 5" - 5 m        | 4 mil     |  |
| KEBA 100/125/10M         | 5" - 12.5 cm     | 33' - 10 m          | 4 mil     |  |
| KEBA 100/185/5M          | 7-1/4" - 18.5 cm | 16' 5" - 5 m        | 4 mil     |  |
| KEBA 100/250/5M          | 10" - 25 cm      | 16' 5" - 5 m        | 4 mil     |  |
| KEBA 100/125             | 5" - 12.5 cm     | 98' 5" - 30 m       | 4 mil     |  |
| KEBA 100/185             | 7-1/4" - 18.5 cm | 98' 5" - 30 m       | 4 mil     |  |
| KEBA 100/250             | 10" - 25 cm      | 98' 5" - 30 m       | 4 mil     |  |



**8.1 Schluter®-KERDI-FLEX** Waterproofing strip for use above movement joints

| Item No.    | Width        | Length        | Thickness |
|-------------|--------------|---------------|-----------|
| FLEX 125/5M | 5" – 12.5 cm | 16' 5" - 5 m  | 12 mil    |
| FLEX 250/5M | 10" – 25 cm  | 16' 5" - 5 m  | 12 mil    |
| FLEX 125/30 | 5" – 12.5 cm | 98' 5" - 30 m | 12 mil    |
| FLEX 250/30 | 10" – 25 cm  | 98' 5" - 30 m | 12 mil    |



**8.1 Schluter®-KERDI-KERECK-F** Preformed corner

| Item No.       | Thickness | Packaging          |
|----------------|-----------|--------------------|
| KERECK / FI 2  | 4 mil     | 2 Inside corners   |
| KERECK / FI 10 | 4 mil     | 10 Inside corners  |
| KERECK / FA 2  | 4 mil     | 2 Outside corners  |
| KERECK / FA 10 | 4 mil     | 10 Outside corners |



**8.1 Schluter®-KERDI-KM** Pipe seal

| Item No.   | Dimensions           | Thickness | Packaging |
|------------|----------------------|-----------|-----------|
| KM 5117/22 | 7" x 7" – 17 x 17 cm | 4 mil     | 5 units   |

Hole diameter,  $\phi = 7/8" - 22 \text{ mm}$



**8.3 Schluter®-KERDI-FIX** Adhesive/sealant

| Item No.                  | Cartridge Volume |
|---------------------------|------------------|
| KERDIFIX / <i>color</i> * | 9.81 oz – 290 ml |

**\*Color Codes**



To complete the item number, add the *color* code (e.g., KERDIFIX / *BW*).



**Schluter®-DITRA-TROWEL** Trowel

| Item No. | Notch Size                     | Packaging |
|----------|--------------------------------|-----------|
| TRL-DIT6 | 11/64" x 11/64" – 4.5 x 4.5 mm | 6 units   |
| TRL-DIT  | 11/64" x 11/64" – 4.5 x 4.5 mm | 1 unit    |



**Schluter®-KERDI-TROWEL** Trowel

| Item No. | Notch Size             | Packaging |
|----------|------------------------|-----------|
| TRL-KER6 | 1/8" x 1/8" – 3 x 3 mm | 6 units   |
| TRL-KER  | 1/8" x 1/8" – 3 x 3 mm | 1 unit    |



**Schluter®-DITRA-ROLLER**

| Item No. | Width           |
|----------|-----------------|
| DIRO     | 14-1/4" – 37 cm |



## Schluter®-DITRA and Schluter®-DITRA-XL 10-Year Limited Warranty

**COVERAGE AND CONDITIONS:** Subject to the conditions and limitations as stated hereinafter, **Schluter-Systems\*** warrants that **Schluter®-DITRA** or **Schluter®-DITRA-XL** (the "Products") will meet all composition and performance criteria for a period of ten (10) years from the date of purchase only when the Products are used and installed in accordance with the terms and conditions of the Schluter®-DITRA Installation Handbook and industry standard guidelines that are not in conflict with the Handbook in effect at the time of installation. Further, efflorescence is considered to be a natural occurrence with cementitious materials and is therefore not considered to be a defective condition and is not covered by this warranty. It is the responsibility of the owner/ builder/ installer to ensure the suitability of all building materials and all associated building materials for the owner's intended use. It is recommended that the owner consult with an experienced and professional installer.

**RESOLUTION:** If the Products fail to meet this warranty, then the owner's exclusive remedy and the sole obligation of Schluter-Systems, at its election, shall be to a) reinstall or replace the failed portion of the floor covering assembly or b) pay an amount not to exceed the original square foot cost of the installation of the floor covering assembly verified to be defective. Floor covering assembly is defined to include all DITRA or DITRA-XL materials, non-reusable flooring surfaces, and the appropriate setting and grouting materials. Further, due to conditions beyond the control of Schluter-Systems (e.g., color and shade availability, discontinuation, normal wear and tear), Schluter-Systems cannot guarantee or warrant an exact match to the specific tile, stone, or other flooring materials used in the installation. In such events, substantially similar materials may be substituted.

**DISCLAIMER:** THERE ARE NO WARRANTIES BEYOND THIS EXPRESSED WARRANTY AS STATED ABOVE. ALL OTHER WARRANTIES, REPRESENTATIONS OR CONDITIONS, EXPRESSED OR IMPLIED, ARE DISCLAIMED AND EXCLUDED, INCLUDING WARRANTIES, REPRESENTATIONS OR CONDITIONS OF **MERCHANTABILITY** OR FITNESS FOR A PARTICULAR PURPOSE ARISING BY STATUTE OR OTHERWISE BY LAW OR FROM A COURSE OF DEALING OR USAGE OF TRADE. SCHLUTER-SYSTEMS EXCLUDES AND IN NO EVENT SHALL HAVE ANY LIABILITY FOR LOST PROFITS OR ANY OTHER INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES, ARISING OUT OF OR OTHERWISE CONNECTED TO FAILURE OF THE PRODUCTS OR FLOORING SYSTEM OF WHICH THEY ARE PART, NOR MISUSE OF THE PRODUCTS OR FLOORING SYSTEM, REGARDLESS OF ANY STRICT LIABILITY, ACTIVE OR PASSIVE NEGLIGENCE OF SCHLUTER SYSTEMS, AND REGARDLESS OF THE LEGAL THEORY (CONTRACT OR TORT OR EXTRA-CONTRACTUAL OR OTHER), NOR FROM ACTS OF WAR, TERRORISM, FAULTY AND NEGLIGENT PENETRATION OF THE SYSTEM, FIRES, EXPLOSIONS, ACTS OF GOD, INTENTIONAL ACTS OF DESTRUCTION OR ANY LOSSES DUE TO STRUCTURAL FAILURE OR OTHER CAUSES UNRELATED TO THE PRODUCTS OR DELAYS, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS WARRANTY IS GIVEN IN LIEU OF ANY OTHER WARRANTY EXPRESSED OR IMPLIED. THE REMEDIES CONTAINED HEREIN ARE THE ONLY REMEDIES AVAILABLE FOR BREACH OF THIS WARRANTY. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS; SOME STATES AND PROVINCES DO NOT ALLOW DISCLAIMERS OR OTHER RESTRICTIONS OF IMPLIED WARRANTIES, SO SOME OF THE ABOVE DISCLAIMERS MAY NOT APPLY TO YOU.

**TRANSFERABILITY:** This Limited Warranty extends ONLY to the original end user (defined as original intended owner and user of the property/unit in which the installation is incorporated - herein referred to as "Owner") and is not transferable or assignable, unless approved in writing by the Technical Director or an Officer of Schluter-Systems or otherwise prohibited by specific state or provincial law.

**MODIFICATIONS TO WARRANTY:** No changes or modification of any terms or conditions of this warranty are allowed unless authorized by written agreement and signed by the Technical Director or an Officer of Schluter-Systems.

**EFFECTIVE DATE:** This warranty shall supersede and replace any and all prior oral or written warranties, agreements, or other such representations made by or on behalf of Schluter-Systems relative to the Products or the application of the Products and shall apply to any installation occurring on or after January 1, 2013.

**CLAIMS ON THIS LIMITED WARRANTY:** To make a claim under this Limited Warranty, the Owner must provide Schluter-Systems with written notice within 30 days of any alleged defect in the Products covered by this Limited Warranty, together with date and proof of purchase of the Products, proof of the costs of the original installation and name and address of all installers, failing which this Limited Warranty shall be of no legal effect. Schluter-Systems reserves the right at its election and as a condition of this Limited Warranty to inspect the alleged failed and defective condition.

All U.S. Claims shall be sent to:

Schluter Systems L.P.  
Attn: Warranty Claims Dept.  
194 Pleasant Ridge Road  
Plattsburgh, NY 12901-5841

All Canadian Claims shall be sent to:

Schluter Systems (Canada), Inc.  
Attn: Warranty Claims Dept.  
21100 chemin Ste-Marie  
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\*For the purpose of this warranty **Schluter Systems, L.P.** shall provide the warranty for all products for end users located in the United States, and **Schluter Systems (Canada) Inc.** shall provide the warranty for all products for end users located in Canada. This warranty is limited to sales of the Products made in and intended for use in the United States and Canada.



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