TECHNICAL DATA SHEET

Schluter ALL-SET®

SPECIALIZED MODIFIED THIN-SET MORTAR

Schluter ALL-SET is an improved, modified dry-set cement mortar meeting the requirements of ANSI A118.15H. It is designed to work in conjunction with Schluter waterproofing and uncoupling products within the overall system. It can also be used to install porcelain, ceramic, and stone tiles in other industry approved applications.



Features and Benefits

- Advanced polymer technology that meets or exceeds ANSI A118.15 requirements for high performance thin-set mortar
- Ideal for tiles of all sizes and shapes
- Proven performance with Schluter products
- Portland-limestone cement with reduced carbon footprint and zero VOCs

Where to Use

- Shower walls, floors, and ceilings
- Steam shower walls, floors, and ceilings
- Membrane installation
- Most interior tile and stone installations
- Limited exterior tile and stone installations
- With all shapes, sizes, and weights of porcelain and ceramic tile
- Most types of stone tile

Limitations

- Materials must be acclimated to ambient conditions and installed when the ambient and surface temperatures are within a temperature range of 40°F (4°C) to 95°F (35°C)
- Use ALL-SET white for light colored stones, mosaics, and translucent marble. Flatten trowel ridges to prevent the appearance of lines through translucent products.
- Do not use with moisture-sensitive stones, such as green marble
- For glass tile and backed stone tile, please contact Schluter-Systems Technical Services Representatives at 800-472-4588 (USA) or 800-667-8746 (Canada) for more information regarding installation requirements. Additionally, contact the glass tile manufacturer or stone supplier for suitability of the product for your application.
- Do not exceed an embedded thickness of 1/2" (12.5 mm)

Allowable Substrates

- Concrete
- Plywood and OSB
- Masonry (concrete block, brick)
- Substrate preparation materials (Portland cement mortar, self-leveling underlayment, etc.) per manufacturer specifications
- Schluter membranes and boards as per Schluter-Systems technical literature

Note: Primer may be required for some substrates. Consult your Schluter representative for more information or contact Schluter-Systems at 800-472-4588 (USA) or 800-667-8746 (Canada) or e-mail at info@schluter.com to receive a copy of the appropriate Schluter Installation Handbook.

Surface Preparation

- The substrate must be clean, even, and load bearing.
- Any leveling of the subfloor must be done prior to application of ALL-SET
- For concrete substrates, remove any waxy or oily films and curing compounds (if present) by mechanical scarification.
- Check concrete substrates for potential bond breakers (ASTM F3191): Test by sprinkling water on various areas of the substrate. If water penetrates, a good bond can be achieved; if water beads, surface contaminants are present and loss of adhesion may occur. If droplets bead up, scarify the surface until an absorptive surface is achieved.
- For gypsum substrates, residual moisture in gypsum screed must be 2.0% or less before installing Schluter uncoupling membranes

Mixing

1. Put clean, potable water into a clean pail.
    a. **Installing Schluter membranes:** use 6.0-7.0 qts (5.7-6.6 L) of water per 50 lbs (22.7 kg) of powder.
    b. **Installing tile:** use 5.1-5.8 qts (4.8-5.5 L) of water per 50 lbs (22.7 kg).
2. Slowly add powder while beginning to mix.
3. Mix at a slow speed (<300 rpm) for 5 minutes.
4. Let the mixture slake for 10 minutes.
5. Remix at a slow speed (<300 rpm) for an additional 3 minutes.

To install Schluter membranes the mortar should be mixed to a fairly fluid consistency but still able to hold a notch.

Do not add more water after mixing.

Applying

To substrate:

1. Apply a thin layer or scratch coat of the mortar with the flat side of the trowel to produce solid contact with the substrate.
2. Using an appropriately sized notched trowel, comb additional mortar using the notched side of the trowel held at an appropriate angle. Mortar ridges should run in one direction to ensure they can be properly collapsed.
3. Embed product
    a. **Schluter®-DITRA family of uncoupling membranes:** solidly embed into the mortar using a float, screed trowel, or Schluter-DITRA-ROLLER. When using DITRA-ROLLER, place a weight (e.g., bag(s) of mortar/grout or box of tile not to exceed 75 lbs (34 kg) on the DITRA-ROLLER shelf. Slowly move the roller from one end of the matting to the other, slightly overlapping successive passes. Lift a corner of the membrane to check coverage. Proper installation results in full contact between the fleece webbing and the mortar.
    b. **Schluter®-KERDI family of waterproofing membranes:** solidly embed into the mortar using the flat side of the trowel ora drywall finishing knife and work the membrane onto the entire surface to ensure full coverage and remove air pockets. Lift a corner of the membrane to check coverage. Proper installation results in full contact between the fleece webbing and the mortar.
    c. **Tile:** Solidly embed the tile in the mortar, pushing the tile in a back and forth motion to collapse the mortar ridges. Periodically remove and check tile to ensure sufficient coverage is being attained (>80% for dry applications, >95% for exterior or shower applications – see ANSI A108.5). Back-buttering is a recommended and useful way to help ensure proper coverage, particularly when installing 12" x 12" (305 mm x 305 mm) and larger tiles. Clean all excess mortar from tile and joints while mortar is still plastic using a sponge and clean water.
4. Make sure to observe the open time of the thin-set mortar. If the mortar skins over, remove and re-apply with fresh mortar.

To DITRA or KERDI products:

1. Embed product
    a. **DITRA family of uncoupling membranes:** completely fill the cavities in the membrane.
    b. **KERDI family of waterproofing products:** apply a thin layer of the mortar with the flat side of the trowel to produce solid contact with the fleece.
2. Using an appropriately sized notched trowel, comb additional mortar using the notched side of the trowel. Mortar ridges should run in one direction to ensure they can be properly collapsed.
3. Solidly embed the tile in the mortar, pushing the tile in a back and forth motion to collapse the mortar ridges.
4. Using care not to release the membrane from the substrate, periodically remove and check tile to ensure sufficient coverage is being attained (>80% for dry applications, >95% for exterior or shower applications – see ANSI A108.5). Back-buttering is a useful way to help ensure proper coverage, particularly when installing 12" x 12" (305 mm x 305 mm) and larger tiles.
5. Make sure to observe the open time of the thin-set mortar. If the mortar skins over, remove and re-apply with fresh mortar.
6. Clean all excess mortar from tile and joints while mortar is still plastic using a sponge and clean water.

Movement Joints

Refer to section EJ171 in the TCNA Handbook for Ceramic, Glass, and Stone Tile Installation and Schluter-Systems technical literature

Cleanup

Clean tools with water before mortar sets.

Protection

Maintain ambient and surface temperatures between 40°F to 95°F (4°C to 35°C). Extended cure times before and after grout application may be required if temperatures are lower. Install grout per ANSI A108.10, A108.9, or A108.6 specifications and grout manufacturer's instructions. Protect the installation from traffic and water exposure for a minimum of 24 hours to allow the mortar to set.

Working Properties:

Schluter ALL-SET® Working Properties*	
Open time	20-30 minutes
Pot life	2-4 hours
Time to grout	12 hours
Time to foot traffic	24 hours

*At 70°F (21°C), working properties will vary based on jobsite conditions

Coverage:

Membrane-to-substrate		
DITRA-TROWEL **11/64" x 11/64" (4.5 mm x 4.5 mm)**	DITRA-HEAT/-XL-TROWEL **1/4" x 1/4" (6 mm x 6 mm)**	KERDI-TROWEL **1/8" x 1/8" (3 mm x 3 mm)**
150 ft² (13.9 m²)	100 ft² (9.3 m²)	200 ft² (18.6 m²)

Tile-to-membrane			
Trowel	DITRA/DITRA-HEAT	DITRA-XL	KERDI/KERDI-BOARD
1/4" x 1/4" (6 mm x 6 mm)	60 - 70 ft² (5.6 - 6.5 m²)	45 - 55 ft² (4.2 - 5.1 m²)	90 - 100 ft² (8.4 - 9.3 m²)
1/4" x 3/8" (6 mm x 9.5 mm)	40 - 50 ft² (3.7 - 4.6 m²)	35 - 45 ft² (3.3 - 4.2 m²)	55 - 65 ft² (5.1 - 6.0 m²)
3/4" (19 mm)	25 - 35 ft² (2.3 - 3.3 m²)	20 - 30 ft² (1.9 - 2.8 m²)	30 - 40 ft² (2.8 - 3.7 m²)

Values are approximate. Values based on one 50 lb (22.7 kg) bag of mortar.

Disclaimer Note: Open time, pot life, and grouting time will depend on jobsite conditions.

Product Properties:

Schluter ALL-SET® Properties				
Property	**Duration/Conditions**	**ANSI A118.4 Requirement**	**ANSI A118.15 Requirement**	**Results**
Glazed wall tile shear bond strength	7 days	>300 psi (2.07 MPa)	>450 psi (3.10 MPa)	>450 psi (3.10 MPa)
	7 day water immersion	>200 psi (1.38 MPa)	>250 psi (1.72 MPa)	>250 psi (1.72 MPa)
	28 day heat aging	N/A	>450 psi (3.10 MPa)	>450 psi (3.10 MPa)
Porcelain mosaic tile shear bond strength	1 day	>75 psi (0.52 MPa)	>100 psi (0.69 MPa)	>100 psi (0.69 MPa)
	7 days	>200 psi (1.38 MPa)	>300 psi (2.07 MPa)	>300 psi (2.06 MPa)
	7 day water immersion	>150 psi (1.03 MPa)	>200 psi (1.38 MPa)	>200 psi (1.38 MPa)
	28 days	>200 psi (1.38 MPa)	>400 psi (2.76 MPa)	>400 psi (2.76 MPa)
	28 days w/freeze-thaw cycling	>175 psi (1.21 MPa)	>250 psi (1.72 MPa)	>250 psi (1.72 MPa)
	28 day heat aging	>400 psi (2.76 MPa)	>400 psi (2.76 MPa)	>400 psi (2.76 MPa)
	12 weeks	>200 psi (1.38 MPa)	N/A	>200 psi (1.38 MPa)
Quarry tile shear bond strength	28 days	>150 psi (1.03 MPa)	>150 psi (1.03 MPa)	>150 psi (1.03 MPa)
	28 days w/freeze-thaw cycling	>100 psi (0.69 MPa)	>100 psi (0.69 MPa)	>100 psi (0.69 MPa)
Open time	20 minutes at 28 days	≥75 psi (0.5 Mpa)	≥75 psi (0.5 Mpa)	≥75 psi (0.5 MPa)
Property	**Duration/Conditions**	**ANSI A118.11 Requirement**		**Results**
Quarry tile to plywood shear bond strength	7 days	>100 psi (0.69 MPa)		>100 psi (0.69 MPa)
	28 days	>150 psi (1.03 MPa)		>150 psi (1.03 MPa)
	12 weeks	>150 psi (1.03 MPa)		>150 psi (1.03 MPa)

Industry Standards and Sustainability Designations:

Product Performance Properties	
ANSI A118.4H	Pass
ANSI A118.15H	Pass
ANSI A118.11	Pass
VOC emissions per CDPH v1.2	None detected
VOC content per SCAQMD Rule 1168 testing methods	20.2 g/L
Solids content	76.60%
Density	1.5g/cm³ - 1.6g/cm³ when mixed at 23% water
Time to foot traffic	24 hours
Product Characteristic	
Color	Grey/White
Bag size	50 lbs
Shelf life	2 years from the date on the side of the bag if unopened, not allowed to freeze, and stored off the ground in a dry, cool area protected from direct sunlight, heat sources, and the weather.
Sustainability Information	
VOC certificate	Pass
RED LIST FREE	Pass
Build America/Buy America Act	Compliant
SDS	Available
HPD	Available at Schluter.Ecomedes.com
EPD	Available at Schluter.Ecomedes.com

Additional Resources Available Online:

- Installation Handbooks (Shower System, DITRA, DITRA-HEAT)
- Safety Data Sheets
- Installation and Instructional Videos

Visit schluter.com/p/SET_ALL-SET

Or scan here:

Warranties:

Schluter-Systems products and systems are covered under our warranty program, as applicable. For details and to access Schluter-Systems' warranty documents:

Visit schluter.com/warranties

Or scan here:

To obtain hard copies, please contact Customer Service at: 800-472-4588 (USA) or 800-667-8746 (Canada).

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