



Surface Prep Training

**CONTACT JAMES ALLRED TO SCHEDULE A
PRESENTATION AND/OR TRAINING DEMO
@ 316-773-8931 OR JAMES-ALL.RED**





Surface Prep: Foundation for Success



5 Keys of Surface Preparation

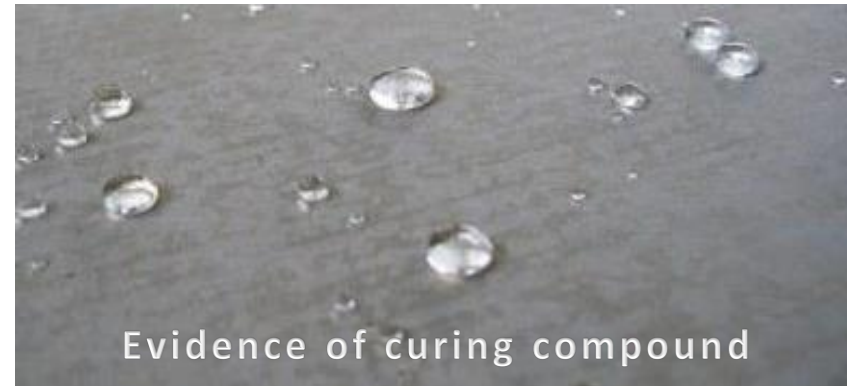
Follow this prioritized checklist:

1. **Clean*** - free of voids, projections, loose materials, oil, grease, sealers, and all other surface contaminants
2. **Flat** (3/16" in 10')
3. **Dry** (moisture tested - preferred)
4. **Porous** (water absorbs - preferred)
5. **Textured** (CSP of 1 to 3 - preferred)

*Do not use chemical solvents for cleaning – always mechanically remove

1 CLEAN: Curing Compounds – Invisible Risk

- Used by the concrete industry to accelerate curing
- Clear in color
- Can not be detected by simply looking at the slab
- Wood flooring adhesives typically adhere to the curing compound, however the compound often releases from the slab under stress – causing the floor to fail



2 FLAT: Correcting the High & Low Spots

High Spots

- Limited number of “mounds”
- Grind to acceptable flatness tolerance

Low Spots – “Bird Baths”

- Limited number of low areas
- Patch with portland cement based patch

Gouges & Voids

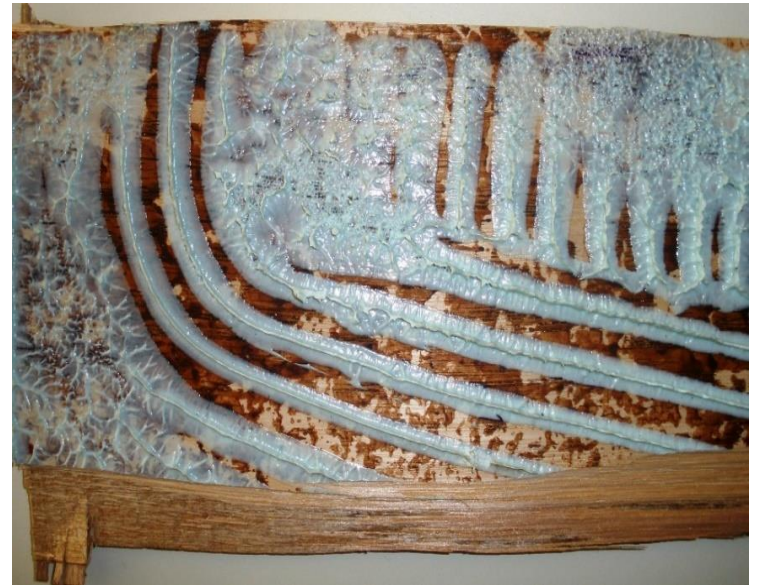
- Caused by impact damage
- Patch with portland cement based patch

Undulation – “Moon surface”

- Large areas with vast height differences
- Correct with cementitious self-leveling compound

2 FLAT: The Effect of Non-“Flat” Subfloors

- Excessively undulating sub-floors yield
 - Hollow spots – poor acoustical quality
 - Poor bonds – lack of “connection” between wood and slab
 - “Soft spots” – floor deflection
 - Squeaking, creaking or “popping” floors
 - Unhappy customers!



3 DRY: Why Control Moisture?

- Cupping
- End lifting
- Buckling
- Color Changes
- Delamination
- Blistering
- Mold



4 POROUS: “Open” slab

- In the same way that epoxy will NOT stick to glass, flooring adhesive will not stick to slick, sealed slabs!
- Curing Compounds
- Sealers
- Burnished Concrete



5 TEXTURED: A Light Broom Finish

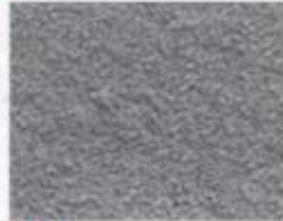
*International Concrete Repair Institute (ICRI)
Concrete Surface Profile (CSP) Scale*



CSP 1
(acid etched)



CSP 2
(grinding)



CSP 3
(light shotblast)



CSP 4
(medium shotblast)



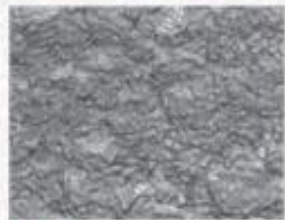
CSP 5
(medium-heavy shotblast)



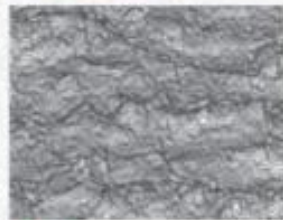
CSP 6
(heavy shotblast)



CSP 7
(heavy shotblast)



CSP 8*
(extreme shotblast)



CSP 9*
(extreme shotblast)





Self-Leveling Made Easy: Step-by-Step



Why Self-Level?

To achieve required flatness.

- The TCNA and NWFA have strict tolerances for subfloor flatness. Nearly every job will require preparation to achieve the 3/16" in 10' required. Large format tiles require 1/8" in 10'.

Large format tiles are becoming the norm.

- Wood plank tiles require additional care due to rectangular shape, desired off set pattern and tightness of joints. Self-leveling is much more cost effective than traditional mud jobs.

Solid wood, wide plank and engineered floors installed over concrete

- To achieve proper bond without hollow spots you need to have a flat substrate. Lack of bond = potential floor failure!

Mud Bed vs Self-Leveling

Mud Bed

- Low material cost
- Time consuming (500 SF/day)
- Very high labor costs
- Back-breaking for your mechanic and helpers
- Difficult to stage materials
- A dying art that is difficult to teach.

Valuable installation time, which provides profit, is spent doing prep work, which has low profit.

Self-leveling

- Higher material costs
- Extremely fast (2000 SF/day at 1/4")
- Much lower labor costs/SF
- Your mechanic has the easiest job and is fresh to set tile the next day!
- Materials are bagged and excess can be easily brought to the next job.
- Warrantied system!

Spend less time prepping and more time installing!

Mud Bed vs Self-Leveling

Cost Comparison for 1000 square feet of mud work vs SL-100

	Mud on Concrete	SLU on Concrete	Mud on Plywood	SLU on Plywood
Mud mix / SLU	\$650	\$800	\$550	\$800
Primer		\$60		\$60
Lathe, Tar Paper, Staples, BostiMat			\$520	\$937
Leveling Pins				\$26.00
Time in hours	32	12	36	13
Labor	\$960	\$360	\$1,080	\$390
Total	\$1,610	\$1,160	\$1,630	\$1,190
Labor Savings		20 Hours		23 Hours
		\$450		\$440
Additional Productivity		\$2,500		\$2,500
Cost of Weekends with family		Priceless		Priceless

What do I need to self-level?

A crew of 3 or 4 workers.

- Typically only one of the workers needs to be skilled. Proper setup and preparation will make the other workers jobs more like an assembly line.

The necessary tools.

- Like all other jobs, the tools are specific to the task. (A full list is provided at the end of the presentation.)

The proper education.

- That is why you are here! Self-leveling might be new and different but it is not difficult. Learning the steps necessary, the proper techniques and a few tips will have you feeling like you have always been self-leveling.



Self-Leveling Installation Tips

Tools + **Temperature** + **Team** = **Flat Substrate in Minimal Time**

Tools

- Push broom or paint roller to apply primer
- Expanding foam, foam tape, or wood/caulk to make dams
- Barrel & Hand-Mixer – 20 bags per hour
- Barrel & Mixer on wheels – 50 bags per hour
- Pump – 60 to 200 bags per hour
- Porcupine Roller
- Gauge Rake
- Smoothing Trowel

Temperature

- Keep mixing water cool with ice
- Eliminate sunlight, drafts, and other temperature changes during pouring

Team

- The Mixer: Never stop mixing!
- The Hustler(s): Barrels moving!
- The Finisher: Rolling and smoothing!



Everyone needs to know their job

Team of 3

- **1 Mixer:** This person is in charge of proper mixing of the SLU. Ideally, their drill will not shut off until the last bag is mixed.
- **1 Laborer:** This person needs to be a hard worker. They will be putting the water and SLU into the mixing barrels for the mixer then brining the barrels of SLU to the area needed.
- **1 Finisher:** This person is in charge of putting the SLU where it is needed, moving it into position with the gauge rake and smoothing it once in place. They will also help bring in the barrels in a three-man team.

Everyone needs to know their job

Team of 4

- **1 Mixer:** This person is in charge of proper mixing of the SLU. Their drill **will not** shut off until the last bag is mixed.
- **2 Laborers:** These two people need to be a hard workers. They will be putting the water and SLU into the mixing barrels for the mixer then brining the barrels of SLU to the area needed. Coordination between these two is essential.
- **1 Finisher:** This person is in charge of putting the SLU where it is needed, moving it into position with the gauge rake and smoothing it once in place.

1. Prepare the substrate

Make sure the substrate is free of oil, gypsum compounds, wax, grease, sealers and/or curing compounds, urethane, paint, asphalt, loose surface material or any contaminate that will act as a bond breaker.

If any contaminates are found, mechanically remove them to achieve a clean, sound substrate. We want to bond to the substrate not the junk on it!

**International Concrete Repair Institute (ICRI)
Concrete Surface Profile (CSP) Scale**



2. Set your elevations



3. Prime the floor



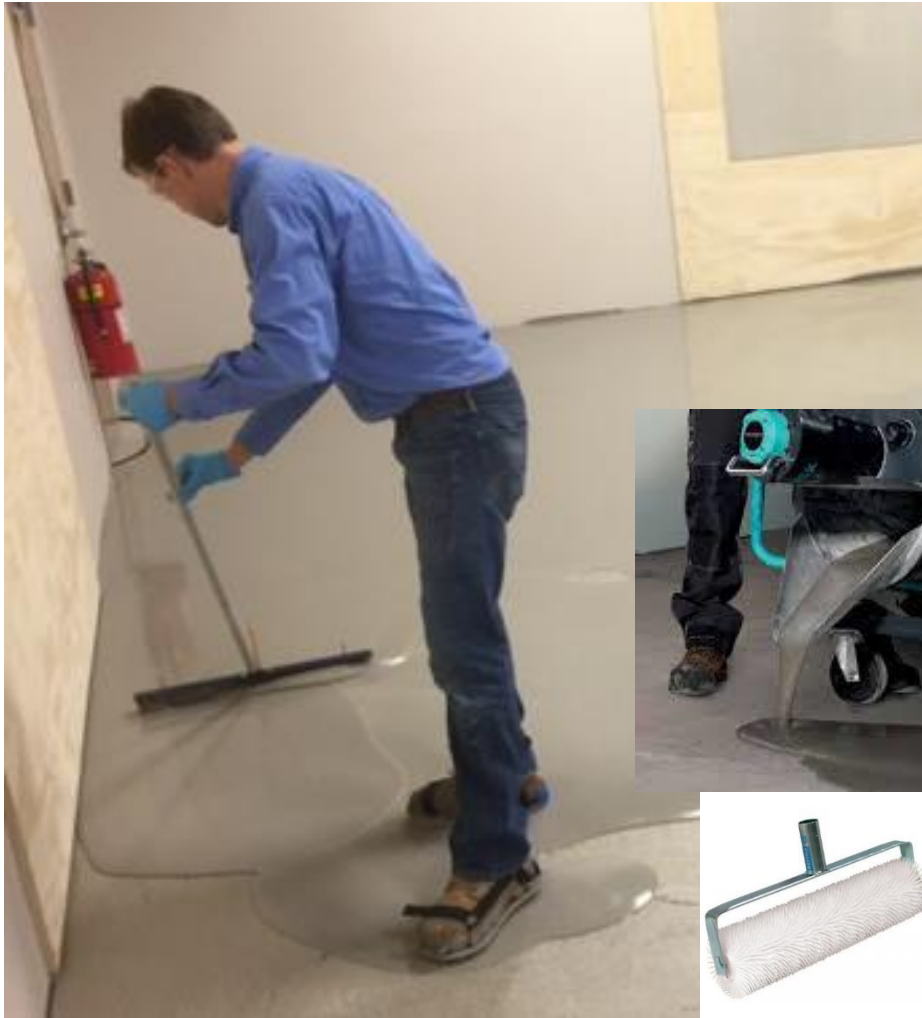
4. Set your level pins



5. Start mixing!



6. Pour, rake & smooth



Finished!



Finished!



Finished!



Before



After



In Review: Tools

Preparation

- Broom
- Vacuum
- Scraper
- Grinder
- Caulk
- Caulking gun
- Spray foam
- Thermometer/Hygrometer
- Infrared temperature gun
- Laser level
- Tape measure/ruler

Application

- Exploded-tip broom
- Leveling pins
- Scissors
- Sheetrock knife
- 3-4 mixing barrels
- Hose
- Pre-cut water measuring bucket
- Drill with SLU paddle
- Gauge rake
- Smoother
- Porcupine/spike roller (optional)
- Plastic soccer cleats

In Review: Best Practices and General Knowledge

- Read and understand the TDS for the product
- Prepare substrate—Test for sealers, curing compounds, deflection, asbestos. Don't use acids, mastic removers, and check for oil, grease, gypsum, wax, etc.
- Control the environment—temperature, ventilation, humidity (never below 50°F or 10°C).
- Not for use in exterior applications or as a vapor membrane.
- Reflect expansion and isolation joints
- Use a barrel mixer kit to mix two bags at a time with a 1/2" drill at 650 RPM for 2 minutes or until lump free.
- Pour the shortest wet edge possible



The next LEVEL

- Productivity of 2 Collomix LevMix 65 will be 60-90 bags per hour
- Capacity of 3 bags per mix, 2 minutes per batch
- Easy clean-up requiring 1 barrel of water and 4-5 minutes of mixing
- Vacuum attachment for dust reduction
- 1/10th the cost of an SLU Pump
- Reduce labor and increase productivity





How to bid




How to quote a self-leveling job?

How many sf can I pour in 1 hour?

- 4 people can typically pour at least 1 pallet/hr
- Average thickness x 48 bags = SF/hour
 - @ 1/4" 25 SF/bag x 48 bags = 1200 SF/hour
 - @ 1/2" 12.5 SF/bag x 48 bags = 600 SF/hour
 - @ 1" 6.25 SF/bag x 48 bags = 300 SF/hour

How long will it take me to prep?

- You need to vacuum, seal any gaps, prime and pin.
- Staging the material must also be considered.
- It typically takes about the same amount of time to prep as it does to pour (4 hrs pour = 4 hrs prep)

 Bostik smart adhesives	
Bostik SLU Worksheet	
Size of project in sf	5000
Bostik Product	SL-100
Average Thickness	1/2
Coverage per bag	12.50
Number of bags needed	400
Gallons of primer needed	12.5
Cost per bag of SLU	\$ 18.00
Cost per gallon of primer	\$ 50.00
Project Material Cost	\$ 7,825.00
Material mark up %	20
Total Material Cost	\$ 9,390.00
Labor Charge per bag	\$ 30.00
Project Labor Charge	\$ 12,000.00
Total Project Estimate	\$ 19,825.00
Cost per bag	\$ 49.56

Typical Project Estimate

5,000 SF pour average 1/2" over concrete

Labor

- 4 employees (\$25/hr)
 - 32 man hours to prep project
 - 32 man hours to pour project
- Approx = \$1,600

Typical charge per bag \$60
Number of bags poured = 400

Materials

- 7g of primer
 - 400 bags of SLU
 - Spray foam, pins, misc
- Approx = \$7,700
Total = \$9,300

Total = \$24,000
(\$4.80/SF)

Labor = **\$1,600**

Materials = **\$7,700**

Profit = \$14,700



Bostik Line Review





Surface Preparation Solutions



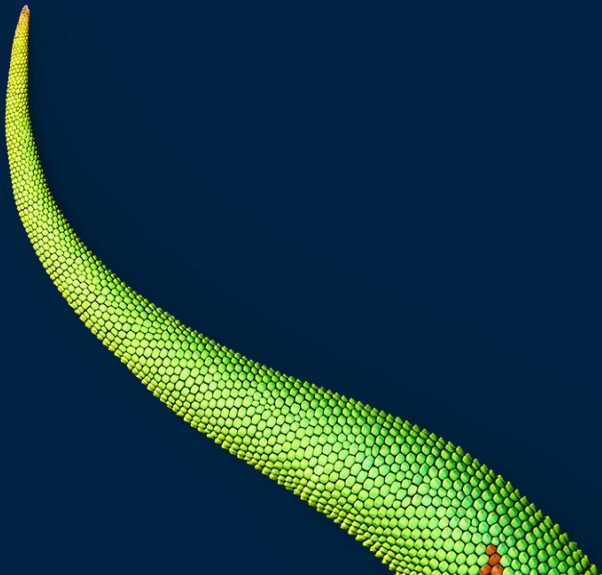
Surface Preparation 1



Surface Preparation Solutions



Primers



Universal Primer Pro

- Deep Penetrating Primer for non-porous substrates
- Rapid Drying Low VOC
- Designed for use prior to the application of Bostik surface preparation products
- All SLU's require a primer!

Substrates:

- Concrete
- Ceramic Tile
- Epoxy Coatings
- Approved plywood
- Marble
- Granite
- VCT (well bonded)
- Terrazzo
- Stainless Steel
- Copper
- Lead
- Aluminum
- Gypsum underlayment's
- Mortar Beds



Universal Primer Pro

Deep Penetrating Primer

Rapid Drying Low VOC

Designed for use prior to the application of Bostik surface preparation products

Substrates:

Concrete

Approved plywood

Ceramic tile

Marble

Granite

Terrazzo



TOTALPrime

- **Textured**, bond promoting primer
- Rapid Drying Low VOC
- For a multitude of difficult substrates

Substrates:

- Concrete
- Burnished Concrete
- Polished Concrete
- Ceramic Tile
- Epoxy Coatings
- Approved plywood
- Marble
- Granite
- VCT
- Terrazzo
- Glazed CMU
- EGP
- Vinyl flooring
- Clean Steel
- Laminate Surfaces
- Gypsum substrates



TOTALPrime

Tile & Stone Essential
Surface Preparation 1

KEY FEATURES

- Textured, bond promoting primer
- 1 to 2 hour rapid dry time
- For multiple substrates

PRODUCT FEATURES

- Ready to use formula
- Single coat application with a roller or brush
- Reduces the need for grinding and scarification
- For use with mortars, self-leveling underlayment and patches
- Tenacious bond strength to a variety of surfaces
- Rapid drying, low VOC and low odor
- Textured surface for increase of mechanical bond
- Low particle size for deeper penetration
- Water based with high solids content
- Contributes points to LEED certified projects

TOTALPrime™

MULTI-SURFACE BOND-ENHANCING PRIMER

Coverage Per Gallon	400-500 SF (non-porous) 100-200 SF (porous)
Application Temp	Range: 50° - 95° F (10° - 35° C)
Dry Time	1-2 hours (non-porous), 30-60 min (porous)
Install Time	Mortars & Patches: Minimum 1 hr SLUs: Minimum 2 hrs Maximum dry time before application: 72 hrs

Encap-Cote™

- **Faster, Easier, More Cost Efficient Residue Isolator.**
 - Alternative to finish patching over cutback or adhesive residue
 - Protects against plasticizer migration
 - Improves adhesive bond
 - Resistant to moderate amounts of moisture vapor and alkaline conditions (RH up to 85%, pH 8.0 – 10.0)
 - Antimicrobial
 - Can be used on or above grade concrete and over APA approved plywood
 - Low VOC – 5 g/L



Available NOW!
Grove Road and Temecula



Encap-Cote™

- **Alternatives: Skim coating the floor with a finish patch.**
- **Roller applied standing up.**
- **Distributor Value Prop - \$0.08/sqft vs \$1/sqft**
 - Easy solution for their customer
- **Leaves a non-tacky substrate for easy glue application.**



Gypsum-Cote™

- **Seals Gypsum and Protects Against Alkalinity Damage**
 - Seals porous substrates for a better bonding surface
 - Improves adhesive spread rate
 - Suppresses alkaline conditions. (RH up to 85%, pH 8.0 – 12.0)
 - Versatile – approved for use over APA flooring grade plywood, concrete, floor patch, and as a primer for gypsum-based substrates in accordance with ASTM F2410.
 - Resistant to moderate amounts of moisture vapor
 - 0 g/L VOC formulation



Available NOW!
Grove Road and Temecula

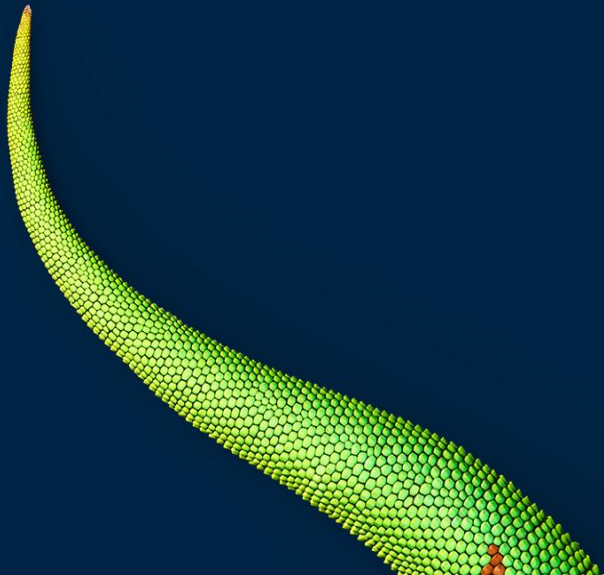


Gypsum-Cote™

- **Alternatives: 4 to 1 primer mixture**
 - Leaves a sticky substrate
 - Collects dust/debris – contaminates substrate affecting bond.



Self-Leveling Underlayments (SLUs)



Hard Surface Essential SLUs

- Most common for tile
- ¼" to 3"
- Install tile next day



SL-100

- Gypsum substrates only
- GoldPlus required before tile



SL-Gyp
(only gypsum substrates)

- Faster solution
- Tile in 4 hours
- Best solution for LHT



SL-200

- Fastest solution
- Tile in 1 hour



SL-Rapid

Self Leveling – SL-Rapid™

Ultra Fluid Rapid Curing Self Smoothing Underlayment

Install 1/8" - 1"

Walkable in 1 hour

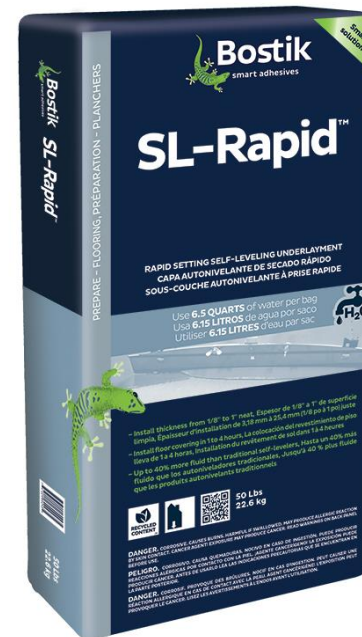
Floor coverings in 1-4 hours

- Tile installations after 1 hour
- Moisture sensitive installation after 4 hours (Hardwood & Resilient)

Extreme working time with extremely rapid cure

Ideal for all installations needed in the same day

Ideal for resilient installation that need a quick smoothing



Self Leveling – SL-200™

Ultra Fluid Self Smoothing Underlayment

Install 1/8" - 1"

Walkable in 2-3 hours

Floor coverings in 6-16 hours

Extreme working time up to 45 min

20% more fluid than traditional SLU's



Self Leveling – SL-175™

Premium Self Leveler & Wear Layer

Install 1/8"- 2", up to 5" with extension

Walkable in 1-2 hours

Install flooring in 6-16 hours

Ideal for fast-paced larger construction projects

- Long working time & Fast Cure

When used as a wear layer accepts stain or dye with a sealer coat on top



Self Leveling – SL-Gyp™

Hybrid gypsum-cement based

Installed ¼"-2" deep

Walkable in 3-4 hours

Flooring in 2-3 days

Low preparation installs

Ideal for wood substrates, distressed gypsum and radiant heat
5000 psi



Self Leveling – SL-100™

Economic Price

¼"-3" deep, up to 5" with extension

Walkable in 2-3 hours

Large volume jobsites

Install flooring in 1-3 days

Applied

- After Universal Primer Pro
- Pumped or Hand poured





Differing Substrate Requirements



The Ideal Substrate

- Clean, open, porous, structurally sound concrete.
- This is our ideal substrate and requires little thought as to what products can or can not be used.



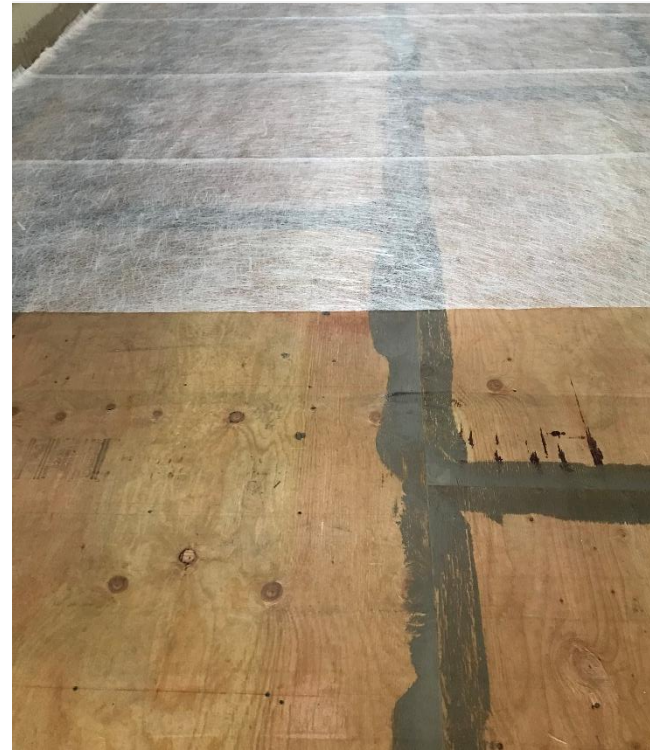
Gypsum Underlayment

- Gypsum is not a suitable substrate for cement based products. Ettringite.
 - Utilize SL-GYP, a Gypsum-Cement Hybrid SLU.
1. Prime with UPP 3:1 then 1:1
 2. Pour SL-GYP from 1/4"-2"



Plywood

- Plywood is more difficult to bond to and deflects more than concrete.
 - Utilize Bosti-Mat, Bostik SL-GYP or attach wire lathe to subfloor.
1. Prime with UPP neat, let dry, loose lay Bosti-Mat or adhere lathe.
 2. Pour Cement sln over Bosti-Mat or lathe.
 3. Pour SL-GYP directly over Plywood.



Non-porous Substrates

- Non porous substrates are extremely difficult to bond to.
 - Utilize TOTALPrime as a bond promoter over substrate or abrade the substrate.
1. Prime with TOTALPrime
 2. Pour any Bostik SLU over the TOTALPrime



Distressed Mud Beds

- Distressed mud beds are weak, susceptible to cracking and have very low psi.
- Utilize Bosti-Mat with a cement based SLU
 1. Prime with UPP 3:1 then 1:1
 2. Loose lay Bosti-Mat over dry primer
 3. Pour Cement SLU over Bosti-Mat



Adhesive Residue

- Adhesive residue has a very weak bond to the subfloor and to itself.
 - Scrape to stain or SL-GYP can be utilized over a thin layer of non-water soluble adhesive residue.
1. Prime with UPP neat
 2. Pour SL-GYP min thickness of $\frac{1}{4}$ "
 3. If scraped you can use any SLU

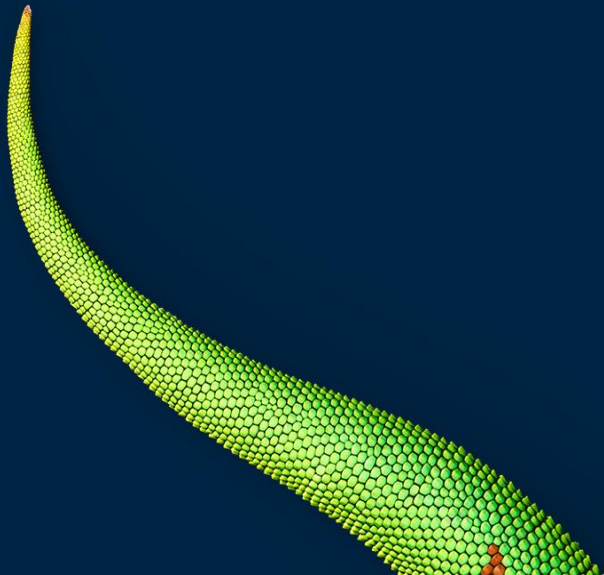


Radiant Heat

- Hydronic Radiant Heat requires a pour $\frac{1}{2}$ " above the top of the tubes.
 - Utilize any SLU or SL-GYP which is the best conductor of heat.
1. Radiant Heat must off 48 hrs before pour.
 2. Follow the substrate requirements for the SLU.



Patches



Ramping Patch - UltraRamp™

Ramping and screed patch

Skimcoat to 2", up to 5" with extension

Install flooring in as little as 1 hour

Interior wear surface

Varying water mix ratios depending on application



Patches – Webcrete 98

Fast-setting Portland cement patch

Skimcoat to 1/2" deep

Extremely flexible and resilient

Floor and wall patching

Applied

- Over many substrates
- Embossing leveler or over existing VCT



Patches - Webcrete® 95

Fast-setting Portland cement patch

Skimcoat to 1/2" deep

Extremely flexible and resilient

Floor and wall patching

Applied

- Over many substrates
- Add 425 admix for embossing leveler or over existing VCT



Skim Coat -- UltraFinish Pro

Fast-setting, high strength skimcoat

Polymer modified Portland cement
Skim coat

Feather edge up to 1/2"

Ideal for small dentations

Embossing leveler with 425





Here for you.

JAMES ALLRED

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JAMES-ALL.RED

Thank you!

