

CONCRETE MOISTURE SOLUTIONS



patcraft®

ShawContract®

WHEN CONCRETE ISSUES EXIST – TESTING

- **Moisture testing, at minimum for RH, is recommended on every job** as dictated by adhesives used on site.
- For **larger moisture concerns**, all three tests (RH, MVER, and pH) should be conducted. Provides a greater understanding of potential impact.
- The **tests can be conducted independently without certification**. All products carry a unique warranty and those would be held and honored specific to each manufacturer and product type.
- **Moisture products can be used without testing**, or with minimum testing. Potential claims for moisture related failures are subject to each product warranty and requirements for moisture testing.
- **Certified inspector testing allows for a comprehensive "slab to surface" 10-year warranty held by Shaw Industries**. If moisture related failures, Shaw owns the process and each product used is under that warranty.
- **Shaw moisture testing training of Watchtower** construction teams allows for flexibility. Training could be done regionally or combined in one site to support Watchtower needs.
- **IFTI is an independent moisture testing company** that has a nationwide presence and could be utilized by Watchtower.
- **RH only measures the amount of vapor in the slab - it does not measure the amount of moisture moving through the slab or the PH level**. Testing only RH will not provide the full extent of the moisture issues. **Any level of RH carries the potential risk of adhesive failure, floor failure, mold, and smell.**

MOISTURE ATTRIBUTES

RH

Quantitative
Relative Humidity
ASTM F 2170-11



moisture in concrete



RH level is 95 or greater

MVER (CaCl)

Moisture Vapor
Emission Rate
ASTM F 1869-11



*moisture moving out
of concrete*



CaCl/MVER is 10 lbs or greater

pH

Acidity or
Alkalinity
ASTM F 710-11



*resulting minerals
left behind*



pH level is 11 or greater

BEST PRACTICE
Apply moisture
treatments when
testing indicates
moisture is present:

MOISTURE DECISION TREE

- Purpose of the decision tree is to provide suggestions for optimum solutions based on described ranges of moisture test results for RH, MVER, and pH
- Moisture Resistant Primer (MRP) can be used as a unique moisture solution for conditions up to 99% RH, 14 lbs MVER, and 14 pH
- If concrete profile needs to be opened, use Surface Prep then MRP
(Ideal concrete surface profile (CSP) is 1–3); [see CSP images for example](#)
- MRP used along with Moisture Shield gives an enhanced barrier capability before reaching the levels of MoistureTek
- MRP can also be used for encapsulation of contaminants

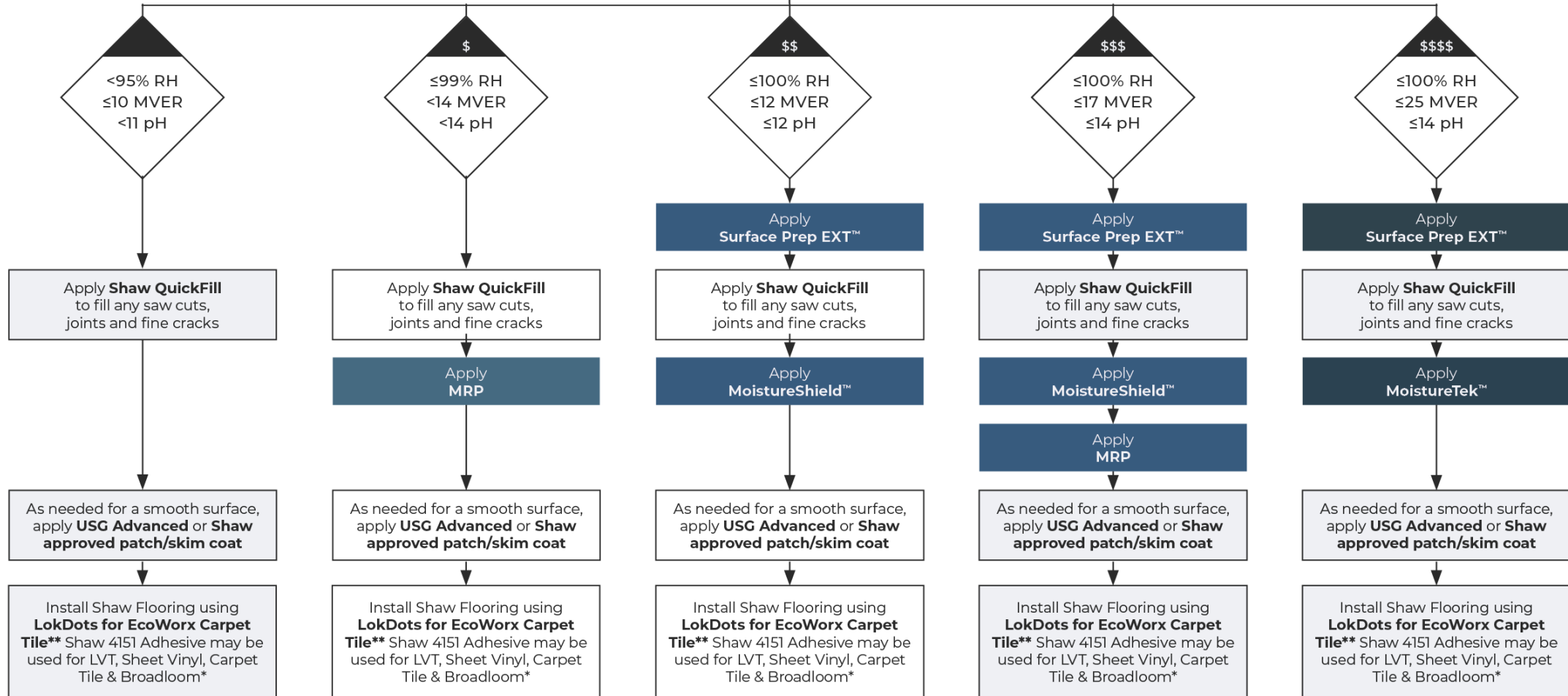
Watchtower Moisture Decision Tree

Perform Moisture Testing by IFTI or
a certified Watchtower Trained Volunteer

RH · MVER · pH

Moderate Moisture

Severe Moisture



MVER – Moisture Vapor Emission Rate, measured by the Calcium Chloride Test

* Not for stretch-in patterned broadloom

** LokDots are not a moisture mitigation system. Moisture / pH testing is not required for EcoWorx when using LokDots, provided the site is absent of hydrostatic pressure. If visible moisture is present or there are known moisture issues such as hydrostatic pressure, additional steps should be taken to address the moisture issues.



MOISTURE MANAGEMENT SOLUTIONS

PREP

Surface Prep EXT™
Concrete Preparation



900 sq ft / 4-gal pail
83.61 m² / 15.14L pail

PROTECT *(based on moisture level and situation)*

**Severe Moisture
MoistureShield™**
Strong Barrier



900 sq ft / 4-gal pail
83.61 m² / 15.14L pail

**Moisture + Contaminants
MRP™**
Moisture Resistant Primer



600 sq ft / 4-gal kit
55.74 m² / 15.14L kit
*using a 9" or 18"
nap roller (1/4" - 3/8")*

**Extreme Moisture
MoistureTek™**
Strongest Barrier



300-350 sq ft / 4-gal kit
27.87–32.51 m² / 15.14L kit
*using a 1/8" x 1/8" x 1/8"
V-notch squeegee*

LEVEL UP

**USG Advanced
Skim Coat**
Patch & Skim Coat



19 sq ft / 9 lb. bag
1.7 m² / 4.0 kg bag
at 1/4 in. (6 mm) thickness

ADHERE

**Shaw 4151
Adhesive**
High Moisture Adhesive



800-1000 sq ft / 4-gal pail
74.32–392.9 m² / 15.14L pail
*Please refer to spec sheet for
coverage chart by flooring
product and applicator size.*

MOISTURE TOLERANT ADHESIVES

LokDots®



- Odorless and non-toxic
- Moisture / pH testing is not required when using LokDots, *provided the site is absent of hydrostatic pressure*
- Easy to install, repositionable
- Ideal for installation in occupied spaces
- Installs over concrete, VCT, VAT, cutback, raised access floors, pressure sensitive & multipurpose adhesive, wood, & Kovara
- Green Label Plus Certified for Indoor Air Quality / Low VOCs

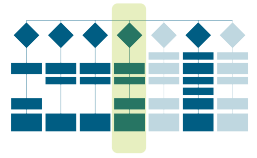
LokDots® is for use with EcoWorx® carpet tile.

Shaw 4151 (Universal)



- For multiple flooring backing systems, including resilient (sheet/LVT/LVP), carpet tile and non-patterned EPBL*
- $\leq 99\%$ RH, ≤ 11 MVER, ≤ 12 pH *provided the site is absent of hydrostatic pressure*
- Spread adhesive using recommended trowel for flooring type
- UL GreenGuard Gold Certified for low VOC emissions

** Not for stretch-in patterned broadloom.*



WHEN TO USE **MRP**

- As an encapsulator for old cutback adhesive or other contaminants. Note that if used in this fashion, any old debris could be points of moisture failure.
- As a poured moisture barrier when the conditions require (99% RH, 14 MVER, 14 pH) - *site is absent of hydrostatic pressure*
- In conjunction with Moisture Shield to achieve higher levels (100% RH, 17 MVER, 14 pH)
- If there is no desire to conduct all three tests and you are looking for an easy installation of a very effective moisture barrier.
- When drilling into a slab for bolt-down chairs, Quikfil can be added into the holes prior to adding the bolt or Quikfil can be applied around the installed bolt. Either method is acceptable.

MRP™

- ▶ Barrier primer isolates contaminants & provides moisture protection
- ▶ 2-part water-based epoxy
- ▶ $\leq 99\%$ RH, ≤ 14 MVER, ≤ 14 pH
(provided the site is absent of hydrostatic pressure)



Moisture Resistant Primer can be used over a variety of challenging surfaces

WHEN TO USE **SURFACE PREP EXT**

If the concrete slab is clean and open, you do not need to use Surface Prep EXT prior to MRP, Moisture Shield, or MoistureTEK

- For a renovation project, whether shot blasting or using Surface Prep EXT, the concrete should be free of existing paint and adhesives.
- While shot blasting can be used on existing residue from paint or adhesive on the floor, it will take additional time to get through those layers to the concrete, then get the concrete to the desired profile. Any gummy residue can inhibit the shot blasting process and ultimately damage very expensive equipment.
- Surface Prep EXT is designed to react with the concrete to etch and open to the desired profile. This process removes the high costs of shot blasting as well as hazardous debris that could become airborne and dangerous to workers and occupants.
- Surface Prep EXT also neutralizes the concrete, lowering the pH to the desired level of 8-10.
- A handheld sprayer, brush, wet mop, and shop vac are the only tools needed to apply Surface Prep EXT. The installation is simple.
- Technical support and training is available.

WHEN TO USE **MOISTURE SHIELD**

Moisture Shield is recommended for renovations where more severe moisture conditions exist (100% RH, 12 MVER, 12 pH)

- 24 hours after a fresh pour of concrete, Moisture Shield can be applied – no moisture testing required
- Minimum equipment required to apply – easy installation
- Technical support and training is available

WHEN TO USE **MOISTURETEK**

Extreme moisture conditions up to 100% RH, 25 lbs MVER, 14 pH

- Renovation project – Surface Prep EXT then MoistureTek
- 24-36 hours after new pour – MoistureTek – no testing required
- Technical support and training are available

SUPPLEMENTAL INFORMATION

Links to Technical Documents & Installation Videos

TECHNICAL DOCUMENT LINKS

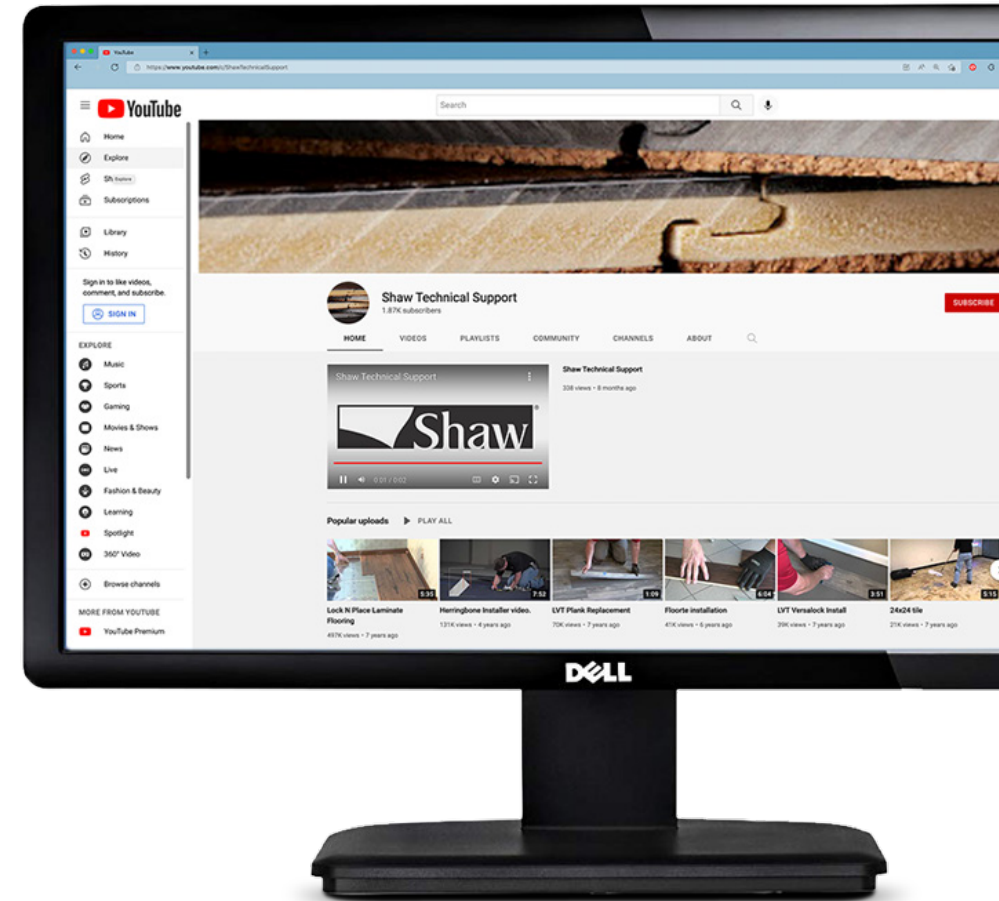
PRODUCT	DOCUMENT TYPE	LINK
PREP & APPLIED MOISTURE BARRIERS		
MRP Moisture Resistant Primer	Application / Specification	https://pdmsview.shawinc.com/viewer/document/doc/20040?
MRP Moisture Resistant Primer	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/20045?
Surface Prep EXT	Application / Specification	https://pdmsview.shawinc.com/viewer/document/doc/18754?
Surface Prep EXT	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/25085?
MoistureShield	Application / Specification	https://pdmsview.shawinc.com/viewer/document/doc/18729?
MoistureShield	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/28711?
MoistureTek	Specifications	https://pdmsview.shawinc.com/viewer/document/doc/14150?
MoistureTek	Installation	https://pdmsview.shawinc.com/viewer/document/doc/7522?
MoistureTek	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/7518?
HIGH MOISTURE ADHESIVES		
LokDots Carpet Tile Adhesive System	Specification	https://pdmsview.shawinc.com/viewer/document/doc/10938?
LokDots	Installation	https://pdmsview.shawinc.com/viewer/document/doc/14109?
LokDots	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/2039?
Shaw 4151 Universal Performance Adhesive	Specification	https://pdmsview.shawinc.com/viewer/document/doc/10759?
Shaw 4151	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/12094?
MOISTURE SOLUTIONS 10-YEAR PROJECT WARRANTY		
High Moisture Management Solutions	Warranty	https://pdmsview.shawinc.com/viewer/document/doc/19146?
High Moisture Management Solutions	Warranty Procedure	https://pdmsview.shawinc.com/viewer/document/doc/34684?



SHAW TECHNICAL SUPPORT CHANNEL

Videos on installation, testing, cleaning, and maintenance

<https://www.youtube.com/@ShawTechnicalSupport>



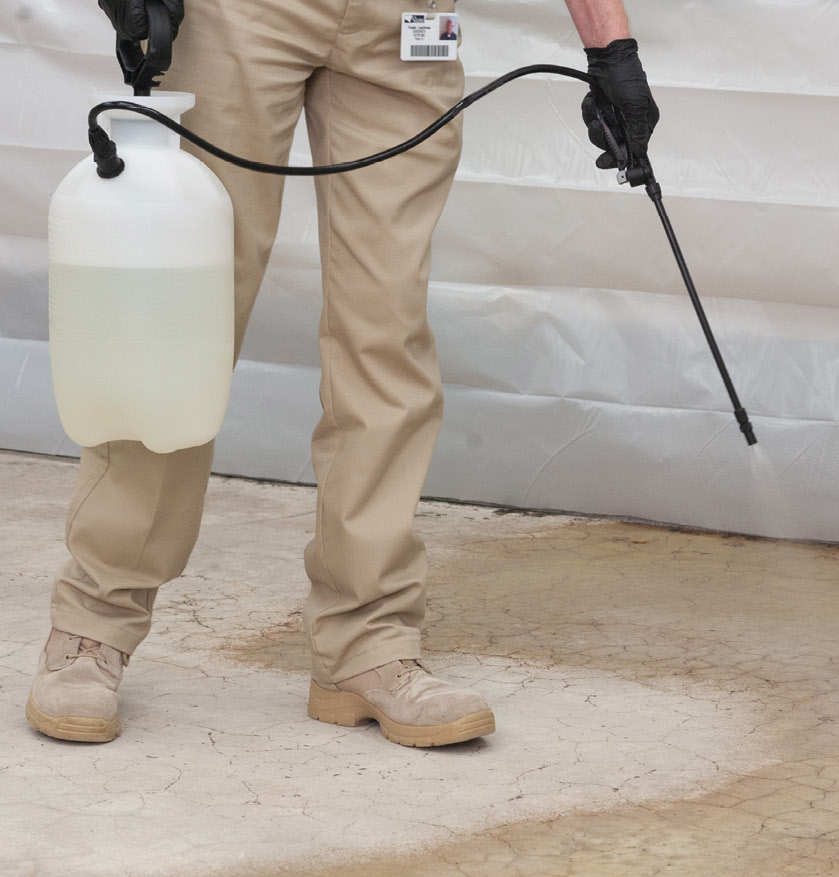
Surface Prep EXT™

- ▶ Opens/prepares concrete quickly
- ▶ Yields a pristine finish
- ▶ Costs less than bead blasting
- ▶ Etches the surface to CSP 2-3 in 2 hrs.
- ▶ Required at $\leq 100\%$ RH, < 12 MVER, < 12 pH



Alternative to
bead blasting

Surface Prep being applied with low-pressure sprayer



SURFACE PREP EXT APPLICATION

SPRAY ON

**WAIT
15-20
MINUTES**

BRUSH IN

**WAIT
2
HOURS**



SURFACE PREP EXT APPLICATION



**RINSE & VACUUM
TWICE**

**TOUCH FOR
DRYNESS**

MoistureShield™

- ▶ Good for most flooring conditions
- ▶ Penetrates concrete 2 to 4 mm
- ▶ Applies & dries in as little as 2-3 hrs
- ▶ Can be applied 24 hours after a fresh pour
- ▶ ≤100% RH, ≤12 MVER, ≤12 pH



Spray on MoistureShield



MOISTURE SHIELD APPLICATION

SPRAY ON

BRUSH IN

**DRIES CLEAR
IN 2 HOURS**

MoistureTek™

- ▶ Maximum moisture protection
- ▶ Requires no testing
- ▶ Apply MoistureTek 24-36 hours after concrete is poured
- ▶ $\leq 99\%$ RH, >25 MVER, >14 pH
- ▶ Covers 300-350 sq ft / 4-gal pail



Poured moisture barrier on prepared surface



MOISTURETEK APPLICATION

**ADD PART B
TO PART A**



MIX



**POUR ONTO
SURFACE**



MOISTURETEK APPLICATION

SPREAD

BACK ROLL

DRY

CONCRETE SURFACE PROFILES (CSP)



Source: International Concrete Repair Institute