

SURFACE APPLIED VAPOR REDUCTION SYSTEMS
RECOMMENDED SPECIFICATION FOR MAXXON DPM SURFACE APPLIED VAPOR BARRIER
UNDER MAXXON CEMENTITIOUS UNDERLAYMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Description of Work: This is the recommended specification for Maxxon DPM (Damp Proof Membrane) surface applied vapor retarder over concrete subfloors and is not limited to:
1. Maxxon Level-Right Floor Underlayment covering normal project conditions and applications.
 2. Division 3 Section-Concrete: "Cast Underlayment"

1.02 REFERENCES

- A. ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slab
- B. ASTM F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- C. ASTM E1907 Standard Practices for Determining Moisture-Related Acceptability of Concrete Floors to Receive Moisture-Sensitive Finishes
- D. ASTM C96 Standard Test Methods for Water Vapor Transmission of Materials
- E. ASTM D4541B Pull-off Strength of Coatings
- F. TCNA F 180 Tile Council of North America Installation Handbook
www.tileusa.com
- G. Maxxon Corporation Maxxon Procedures for Attaching Finished Floor Goods to Maxxon Underlayments
www.maxxon.com

1.03 SUBMITTALS

- A. Product Data: Submit sale sheets *Maxxon DPM Brochure*, *Level-Right Thick and Thin Brochure*, *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments*, and *Drying Conditions for Maxxon Underlayments* with project materials clearly identified for each required product or system.
- B. Acoustical Data (if required): Submit sound tests according to IBC code criteria ASTM E492 (IIC) and ASTM E90 (STC) or ASTM E1007 (F-IIC) and E336 (F-IIC).
- C. Code Approvals: See www.maxxon.com for the current list of code approvals.

1.04 QUALITY ASSURANCE

- A. Performance Standards:
1. All materials, unless otherwise indicated, shall be manufactured by Maxxon Corporation and shall be installed in accordance with its current printed directions and by a Maxxon Corporation Authorized Applicator.

1.05 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered in their original unopened packages and protected from damage and exposure from the elements. Damaged or deteriorated materials shall be removed from the premises.

PART 2 GENERAL – MAXXON DPM

2.01 PRODUCTS AND MANUFACTURERS

- A. Manufacturer: Maxxon Corporation, Hamel, MN. Telephone: (800) 356-7887

2.02 MATERIALS

- A. Maxxon DPM Surface Applied Vapor Retarder:
 - 1. One-part system consisting of a two-component moisture tolerant, high density, low odor, chemically enhanced epoxy based product which must reduce vapor emissions to 3 lbs./24 hours/1000 sq ft or less and be compatible with floor finishes and adhesives approved by the manufacturer. Characteristics:
 - i) Component A and B: Precise blend of white and yellowish liquid
 - ii) Compressive Strength: >11,000 psi (>80 Mpa) (ASTM D-695)
 - iii) Flexural Strength: >4,000 psi (>27 Mpa) (ASTM D-790)
 - iv) Bond/Adhesion: >100 psi (>0.7 Mpa) at 5 day old concrete
>500 psi (>3.5 Mpa) at 28 days on moist concrete
>500 psi (>3.5 Mpa) at 28 days on dry concrete
 - v) Permeance: (ASTM E-96) <1.0 perm (<5.7E-08 grams/Pa · s · m²)
 - vi) Cured for installation of flooring: 12 hrs at 73°F (23°C)

2.03 PROJECT CONDITIONS

- A. Before, during and after installation of Maxxon DPM and cementitious underlayment, building interior shall be enclosed, with adequate ventilation and heat maintained at a temperature above 50°F (10°C) and below 100°F (37.7°C) until structure and subfloor temperature are stabilized.

PART 3 EXECUTION FOR MAXXON DPM

3.01 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Installation shall not begin until the building is enclosed, including roof, windows, doors, and any other apertures.
 - 2. Examine all construction substrates and conditions under which Maxxon DPM material is to be installed. Do not proceed with the Maxxon DPM installation until unsatisfactory conditions are corrected.

3.02 REQUIREMENTS

- A. Protect adjacent surfaces not designated to receive Maxxon DPM.
- B. Substrate preparation:
 - 1. Remove existing floor coverings, coatings and adhesives down to bare concrete, curing compounds, efflorescence, dust, grease, laitance, etc. with steel shot blasting, abrasive (sand) blasting or grinding using a diamond cup blade. Acid etching is not recommended.
 - 2. Assure that all slabs have surface profile ICRI CSP 2-5 (ICRI, Des Plaines, IL, Guideline No. 03732) for mechanical bond. Smooth surfaces are not acceptable, they must be shot blasted.
 - 3. Repair defective areas such as honeycombs, cracks or other defects with a suitable repairing or manufacturers' recommended mortar.
 - 4. Treat saw cut and expansion joints as per manufacturers' application guideline.

5. Carefully rinse all the surfaces to be treated with clean water. Leave no standing water.

C. Application:

1. Install in accordance with reference standards and manufacturer's instructions.

3.03 GENERAL INSTALLATION REQUIREMENTS

A. Application of Maxxon DPM: Apply Maxxon DPM material in quantities as per manufacturers' specifications and recommendations

1. Apply one coat for moisture vapor emission rate (MVER) up to 25 lbs/24 hrs*1000 SF (4.0 to 5.0 g/hr/m²) or surfaces that are extra rough and porous.
2. Apply using roller or squeegee to the still moist substrate, and carefully scrub it into the pores with a long handled scrub brush. Follow with a roller to achieve a uniform coverage.
3. Broadcast clean, dry, fresh water washed and dried #20 silica sand (0.5 to 1.0 mm) to "rejection" (full broadcast) or at a rate of 30 lbs/100 SF (1.5 kg/m²) into the fresh Maxxon DPM where a Level-Right underlayment follows.

PART 4 GENERAL – LEVEL-RIGHT PRODUCTS

4.01 PRODUCTS AND MANUFACTURERS

A. Manufacturer: Maxxon Corporation, Hamel, MN. Telephone: (800) 356-7887

4.02 MATERIALS

A. Cementitious Self-Leveling Poured Floor Underlayment: Floor underlayment compound shall be one of the following cementitious underlayments as manufactured by Maxxon Corporation, Hamel, MN. All others must receive prior approval.

1. Level-Right
 - i) Up to 5500 psi
2. Level-Right PLUS
 - i) Up to 7000 psi
3. Level-Right FS-10
 - i) Up to 7200 psi
4. Level-Right WearTop
 - i) Up to 6200 psi
5. Level-Right FeatherEdge
 - i) Up to 5500 psi

*****Sample USGBC LEED Credits Impacted By Level-Right, Level-Right PLUS, And Level-Right FS-10 (ID 1; MR 2, 4, 5; IEQ 3.2, 4.3)*****

USGBC LEED	Category	Credit	
Innovation & Design	Sound Control	ID 1	Enhanced Living Environment
Materials & Resources	Recyclable Materials	MR 2	Recyclable packaging and shipping materials
Materials & Resources	Recycled Content	MR 4	Pre-Consumer Fly Ash
Materials & Resources	Regional Materials	MR 5	Blue Rapids, KS 66411; Job site manufactured with local sand & water
Indoor Environmental Quality	Air Quality Before Occupancy	EQ 3.2	GREENGUARD Certified (Field testing MUST be completed prior to claiming credit)
Indoor Environmental Quality	Low emitting materials: Floor system	EQ 4.3	GREENGUARD Children and Schools Certified

*****Sample USGBC LEED Credits Impacted By Level-Right WearTop (MR 2, 5)*****

USGBC LEED	Category	Credit	
Materials & Resources	Recyclable Materials	MR 2	Recyclable packaging and shipping materials
Materials & Resources	Regional Materials	MR 5	West Grove, PA 19390; Job site manufactured with local sand & water

- B. Sand Aggregate:
 - 1. Sand shall be silica aggregate meeting requirements of Maxxon Sand Specification 101.
- C. Mix Water:
 - 1. Material Standard: Potable, free from impurities and from a domestic source.
- D. Maxxon Overspray Primer Sealer:
 - 1. If Level-Right is used, seal all areas that receive glue down floor goods with Maxxon Overspray according to manufacturer's specifications. Maxxon Overspray Primer Sealer is not recommended over Level-Right FS-10, Level-Right PLUS, or Level-Right WearTop.
- E. Maxxon Acrylic Primer Sealer (Alternate to Overspray):
 - 1. If Level-Right is used, seal all areas that receive glue down floor goods with Maxxon Acrylic according to manufacturer's specifications. Maxxon Acrylic Primer Sealer is not recommended over Level-Right FS-10, Level-Right PLUS, or Level-Right WearTop.
- F. Maxxon Reinforcement or Maxxon CSM (Crack Suppression Mat):
 - 1. If reinforcement in the Maxxon underlayment is needed or required.

4.03 QUALITY ASSURANCE

- B. Slump Test:
 - 1. Level-Right products shall be tested for slump as they are being pumped. Mix according to manufacturer's recommendations.
- C. Field Samples:
 - 1. At least one set of 3 molded cube samples shall be taken from each day's pour during the Level-Right application. Cubes shall be tested as recommended by the Maxxon Corporation in accordance with modified ASTM C109M depending on type of underlayment. Test results shall be available to architect and/or contractor upon request from applicator.

PART 5 EXECUTION FOR LEVEL-RIGHT

5.01 EXAMINATION

- A. Site Verification of Conditions:
 - 1. Installation shall not begin until the building is enclosed, including roof, windows, doors, and any other apertures.

5.02 REQUIREMENTS

- A. Underlayment Application:
 - 1. Follow manufacturers' recommendations for priming and pouring cementitious underlayment over Maxxon DPM.
- B. Drying:
 - 1. The general contractor must provide and maintain correct environmental conditions to keep the building clean and dry, and protect against infestation of moisture from a variety of potential sources. The general contractor must supply mechanical ventilation and heat if necessary to remove moisture from the area until the cementitious underlayment is dry.
 - 2. Protection from Heavy Loads: During construction, place temporary wood planking over cementitious underlayment wherever it will be subject to heavy wheeled or concentrated loads.

5.03 PREPARATION FOR INSTALLATION OF GLUE DOWN FLOOR GOODS

A. Floor Goods Procedures:

1. See the Maxxon Corporation's "Procedures for Attaching Finished Floor Goods to Maxxon Underlayments" brochure for guidelines for installing finished floor goods. This procedure is not a warranty and is to be used as a guideline only.

B. Moisture Testing of Underlayment:

1. ASTM F2170 Test Method for Determining Relative Humidity in Concrete. Follow the respective floor goods manufacturers' recommendations for relative humidity requirements. When manufacturer does not have a relative humidity requirement, refer to Maxxon's *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments* brochure.

5.04 PROTECTION

- A. Protection From Heavy Loads: During construction, place temporary wood planking over Level-Right underlayments wherever it will be subject to heavy wheeled or concentrated loads.

See Maxxon Corporation's *Procedures for Attaching Finished Floor Goods to Maxxon Underlayments* brochure for guidelines for installing finished floor goods. This procedure is not a warranty and is to be used as a guideline only.

END OF SECTION