

MVERS Plus

Moisture Vapor Mitigation System



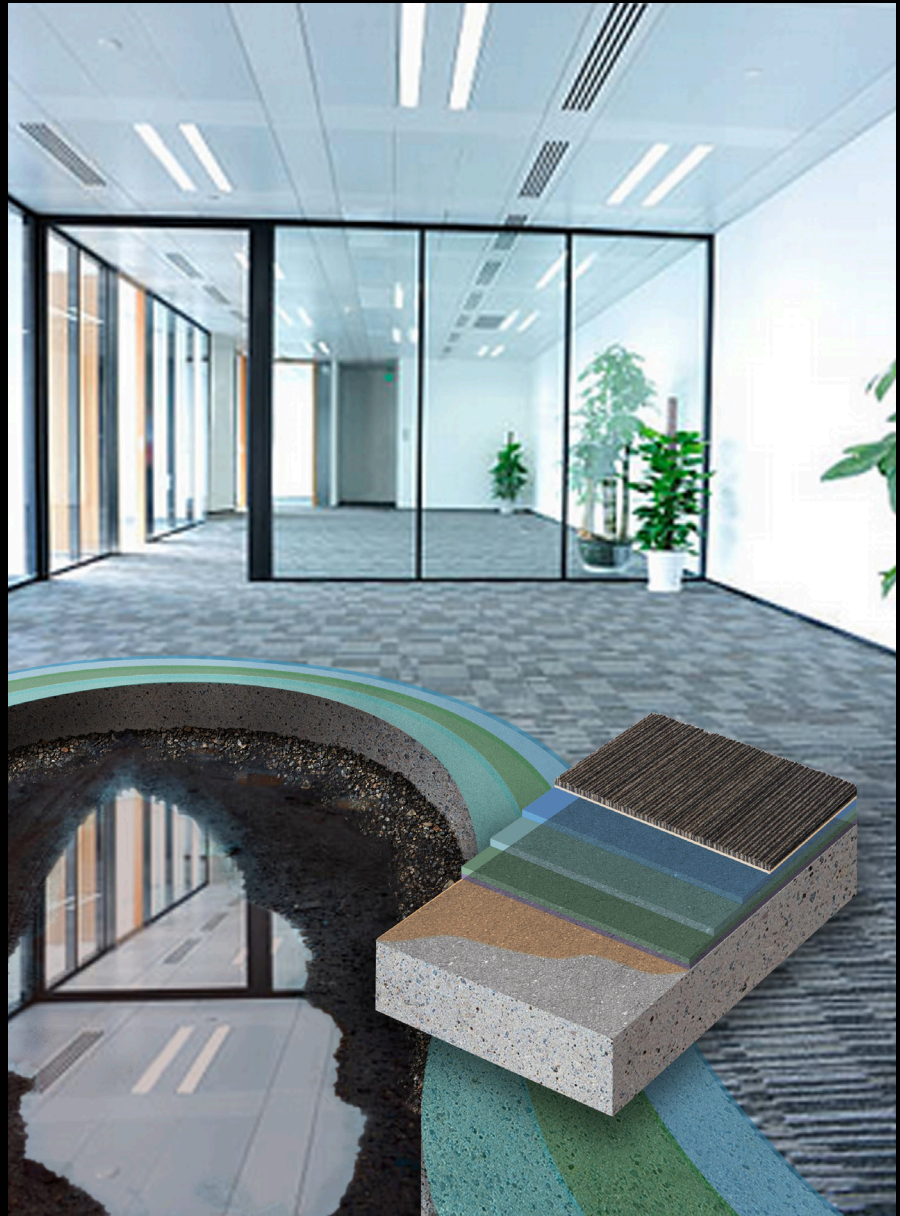
Miracote MVERS+ provides protection for up to **24lbs./1,000sq.ft./24hrs**, and **99%** relative humidity.

Architects, designers and engineers can now specify commercial flooring products with greater confidence because of Miracote MVERS+.

As a general rule, most flooring manufacturers (rubber backed carpet, tile, vinyl, wood or resinous) do not recommend installing their products on concrete slab surfaces when MVERs exceed 3.0 lbs/1,000 sq. ft./24 hrs per ASTM F1869 or when the concrete substrate's internal relative humidity exceeds 75% per ASTM F2170

MVERs + Advantages:

- Impermeable - for non-breathing floor systems
- High compressive, flexural and tensile strengths
- Environmentally friendly, zero VOC, 100% solids
- Low odor during placement and cure
- Can be applied over on-grade concrete that is not fully cured
- For above and below grade concrete
- Can be applied at temperatures down to 40°F (4°C)
- 10 year warranty - visit miracote.com for details
- Eliminates effects of moisture vapor emissions
- Resin-based
- Applied in a single application
- Negative side application (on top of concrete)
- Can contribute to LEED certification
- Miracote resinous flooring systems can be applied directly to the primer, as well as some resilient floor coverings. Consult Crossfield for recommendations.
- Optional polymerized cementitious intermediate coatings available for vinyl, tile, rubber, wood, carpet and other floorings.



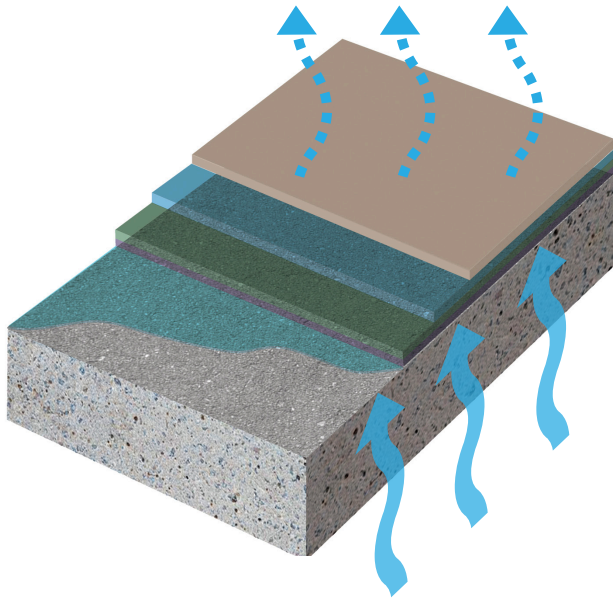
Testing Standards	Miracote MVERS+
ASTM F1869	MVER up to 10lbs. or less - 10 mil thickness MVER up to 10lbs. to 15lbs. - 12 mil thickness MVER up to 15lbs. to 24lbs. - 16 mil thickness
ASTM FF2170 or 2420	84% or less relative humidity - 10 mil thickness 88% to 90% relative humidity - 12 mil thickness 90% to 99% relative humidity - 16 mil thickness



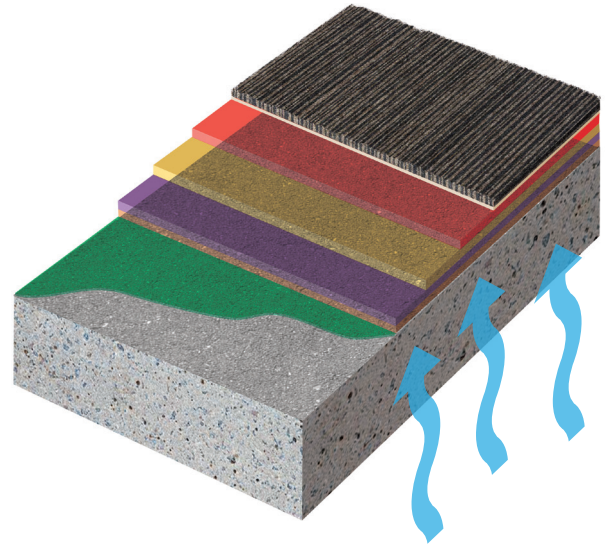
Understanding Moisture Vapor Transmission (MVT)

Moisture Vapor Transmission is the movement of water vapor from “high to low” concentrations, as it attempts to reach equilibrium in its environment. Since concrete is a porous material, moisture vapor can move freely through it, potentially having adverse affects on flooring materials. Choosing the right moisture vapor mitigation system is critical to long-term quality flooring systems.

Vapor permeable flooring systems allow moisture vapor to pass through in both directions, allowing moisture to out-migrate from the slab below, but severely restricting liquid penetration from the top side.



Vapor impermeable flooring systems don't allow moisture to pass through, so pressure can build up, and cause disbondment/adhesive failure. It's critical to specify an impermeable primer that can withstand higher Moisture Vapor Emission Rates (MVER), meets ASTM standards, and is compatible with the flooring manufacturer's product and it's bonding agents.



Environmental Problems:

- High water table
- Drainage deposits
- Residual water from run-off, irrigation, etc.
- Broken plumbing
- Lack of, or the improper installation of a positive side (beneath the concrete slab) moisture vapor barrier
- Free moisture (moisture not used in the hydration of cement) in a relatively new concrete slab

Concrete Problems:

pH: Alkalinity pH problems are noticeable as white efflorescent powder residue deposited on the substrate, especially joints and cracks. It is a sign that excessive moisture is present.

Capillary Action: Concrete is porous and moisture can travel through its capillaries.

Moisture Vapor Damage:

- Causes costly repairs and damages reputations
- Results in disbondment, blistering, pin holes, chipping and pitting, adhesive reversion, and cracking and heaving
- Compromises the most meticulously installed flooring
- Creates potentially unsafe tripping obstacles
- Introduces health concerns / Sick Building Syndrome
- Aids the growth of algae, bacteria, mildew and mold

Escalating Factors:

- Fast track construction (getting “on” the slab too early)
- Use of lightweight aggregates
- Tighter building envelopes
- EPA and AQMD restrictions
- Land limits (building on marginal lands with high water tables)
- Changes in concrete mix designs



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