Technical Bulletin
040301-C

Moisture / Hydrostatic Pressure

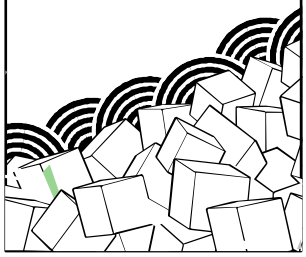
Moisture is described as diffuse wetness, such as vapor in the atmosphere or condensed liquid, on the surface of objects. Water vapor can rise through a concrete matrix through capillary action in usually one of three ways:

1.) Hydrostatic head will occur where slabs on grade are below the water table or where there is high moisture content in the ground; hydrostatic head can push water through the concrete. The rate of flow will depend on the thickness / density of the slab and difference in elevation between the water table and the slab; when this happens the slab will normally show signs of surface moisture.

2.) Water vapor transmission happens when there is a higher relative humidity under the slab than on the surface of the slab. This will continue until the water vapor above and below the slab become somewhat equal. A good example would be when lifting a rubber floor doormat and seeing moisture while the surrounding area appears to be dry.

3.) Concrete breathes and capillary action allows water that is in contact with the underside of the slab to rise to the surface. This water usually evaporates into the air near the surface depending on the relative humidity above the slab. The higher the humidity in the air above, the dryer the slab will appear even though water vapor transmission continues to pass through the slab.

Moisture has always been an important issue in determining the correct surface preparation and selection of flooring and adhesive types. MAPEI provides the contractor with many solutions for different types of moisture-affected areas. MAPEI Planiseal MRB (moisture reduction barrier), MAPEI Mapelastic HPG (hydrostatic pressure guard), MAPEI Mapelastic PRP 315 (waterproofing / crack suppression) and many other products are available for specific uses. Please contact your local MAPEI representative or distributor for the availability of these fine products.



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