

Frequently Asked Questions (FAQ)

What is KIM?

Krytol Internal Membrane (KIM) is a hydrophilic crystalline admixture used to create permanently waterproof concrete. KIM lowers the permeability of concrete, and is used in place of surface applied waterproofing membrane. By stopping the transmission of water through concrete, KIM adds durability and longevity to concrete by protecting it against chemical attack and corrosion of reinforcing steel.

Is KIM compatible with Superplasticizers, Air Entrainers and Accelerators?

KIM is compatible with normal concrete admixtures and is regularly used with water reducers, superplasticizers, air entrainers and accelerators with excellent results.

The exact performance of any two admixtures will depend on numerous factors, including the mix design, order of addition, mixing conditions and environmental conditions.

KIM will delay the setting time of most mixes, so it is often possible to reduce the amount of set retarders or low range water reducers normally used. Your Kryton representative can offer mix specific advice. Test pours are always recommended when using KIM in a new mix design.

Is KIM harmful to concrete in anyway? Does KIM contain chlorides?

KIM is not harmful to concrete in any way. KIM has been tested to the equality standards in ASTM C494 and BS EN 934, and is certified as building code compliant and safe for concrete by the International Code Council Evaluation Services (ICC-ES). KIM contains no chlorides and is regularly tested to ensure no chloride contamination.

Is KIM compatible with concrete made with SCM's such as Fly Ash, Silica Fume and Slag?

Yes – KIM is routinely used in concrete mixes containing fly ash, silica fume and slag cement with excellent results. In addition to further reducing permeability, KIM provides self-sealing which is a property not provided by SCM's.

How long does KIM need to self-seal crack?

Crack sealing will depend on many factors including the depth and width of the crack and the amount of water flowing through the crack. Cracks in KIM concrete have been observed to self-seal after anywhere from a few days to several months.

Cracks that are too large to self-seal, or that will not seal fast enough due to tight construction schedules should be repaired using the Krytol Leak Repair System (Application Instruction 5.12).

KRYSTOL INTERNAL MEMBRANE™ (KIM®)

Concrete Waterproofing



Does KIM have LEED certification?

Not directly. LEED (Leadership in Energy and Environmental Design) is a program designed to promote and reward the construction of energy efficient, sustainable buildings. LEED certification applies to whole buildings, not specific products.

KIM helps to earn LEED points by replacing solvent based waterproofing membranes and reducing construction waste when packaged in dissolvable bags (no empty pails to dispose of).

Visit www.usgbc.org/ to learn more about the LEED program.

Does KIM allow for other waterproofing and drainage systems to be modified or replaced?

KIM can replace traditional waterproofing membranes for below grade concrete subject to hydrostatic pressure. The use of dimpled drain board, granular fill or other drainage systems may still be needed depending on the landscaping and structural capacity of the building. Drainage requirements for the site should be determined by the project's engineer.

What are the minimum and maximum application temperatures for KIM?

The waterproofing performance of KIM will not be affected by temperature as long as the concrete is placed and cured using appropriate methods. Installation temperatures for KIM concrete should be determined following regular ACI guidelines:

For cold weather, reference ACI 306R-88.

For hot weather, reference ACI 305R-99.

Can I paint KIM concrete?

Painting KIM treated concrete is no different than painting regular concrete. Select a paint that is suitable for the required service conditions, and follow the paint manufacturer's instructions regarding surface preparation and application.

Note that as a general rule of thumb, new concrete should not be painted for at least 28 days to allow the concrete to dry and undergo its initial shrinkage before paint is applied.

What effect does KIM have on moisture vapour transmission? Does it have a perm rating (g/m²/24hrs)?

Vapour permeability ratings are applicable to membrane systems, not integral materials like KIM or T1/T2. KIM and T1/T2 will reduce vapour permeability and moisture vapour transmission through concrete; however, the final performance will depend on many factors, including the basic properties of the concrete.

Testing performed by the British Board of Agrément demonstrated a 20% reduction in moisture vapour permeability for KIM concrete compared to a control. The actual reduction in moisture vapour emission through concrete may be greater because KIM will block liquid water from passing through the concrete, disrupting a significant source of moisture transfer.

Can KIM, Krystol T1 or Krystol Broadcast be substituted for one another?

No.

While each product contains the same Krystol waterproofing technology, each product has been optimized for its intended application method. Always follow the instructions found in Kryton's Technical Data Sheets and Application Instructions.