

New technology makes better moisture barrier

New moisture barriers based on epoxy-cementitious hybrid technology have lifted the efficiency and durability of concrete repair to a new high.

Damp nightmare

For a long time, repairing a concrete element or a brick wall subject to penetrating dampness was a nightmare.

Within weeks, moisture penetrates the repaired substrate blistering paint, delaminating render or patch repair and causing loss of bond with the mother substrate.

Stopping moisture penetrating finished surfaces was a challenge that could call for other types of treatment such as resin injection or treating the moisture at its source.

Power blend

An epoxy-cementitious hybrid moisture barrier is a powerful blend of cementitious polymer-modified powder with moisture-tolerant water-based epoxy resins.

When cement particles contact water, they get hydrated and form a porous structure. However, if partial hydration is allowed, then a buffer zone of non-hydrated cement particles can be created by encapsulating these particles with an epoxy resin for future hydration.

The hybrid moisture barriers are usually applied 2 mm thick over a concrete substrate with >4% moisture content.

Damp trapped

The layer entraps any rising moisture within it. It keeps the moisture busy hydrating unreacted cement particles while the epoxy resin is curing and gaining strength, forming a thin crust on the upper side of the 2 mm moisture barrier.

A pressure gradient is created, which reduces the impact of the moisture on following treatments or toppings and stops moisture from pene-



NEW-TECH BARRIERS HANDLE DAMP

trating to repair compounds or coatings applied on a concrete surface exposed to moisture.

Strong bond

Epoxy-cementitious hybrid moisture barriers have a cementitious finish and a high bond strength to concrete or steel surfaces as well as to most repair materials.

Saves time

Also, hybrid moisture barriers can save time for recently poured concrete structures. Moisture threat in green or damp concrete can be lessened by their use.

New concrete needs at least four weeks before applying added treatments such as resinous "non-breathable" coatings, floor toppings or waterproofing. This is because new concrete continues to hydrate over four weeks, during which the high moisture content of green concrete will drop to about 4%.

Because hybrid moisture barriers can drop the moisture content to 4% or less within 48 or 36 hours, their application enables following trades to proceed with floor coatings or waterproofing without waiting those four crucial weeks.

ACRA know-how

Hybrid moisture barriers are a key new weapon in the arsenal of ACRA members for successfully repairing damp concrete surfaces and applying different types of toppings on green concrete, provided that they are applied correctly and followed by the right choice of repair system. ■

