

BRIDGE DECK WATERPROOFING — TECHNICAL FEATURE

asphaltic topping, offers "the" failsafe system solution.

Radcon #7 forms a continuous sub-surface barrier within the concrete surface whilst allowing excellent outgassing.

TESTING/PERFORMANCE OVERVIEW

The proven cyclical performance in the field over the past 30 years has verified Radcon #7 as a lifetime waterproofing technology.

1981-1984 BRIDGE DECK TESTS

The first independent testing on Radcon #7 as a Bridge Deck surface treatment began on behalf of Federal Highway Administration, Washington DC.

Some 110 candidate materials were initially offered for this test programme - and was then reduced to 6 materials based on product manufacturers' own testing and product claims as to suitability.

After preliminary tests were concluded, the three best materials (including Radcon #7) were selected for outdoor exposure and asphaltic



DAKTRONG QUANG TRI BRIDGE

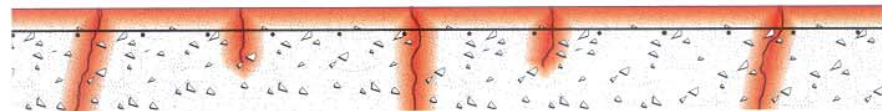
bond testing. It is a matter of record that Radcon #7 proved to be the best performing product overall. Critical aspects in these tests addressed treatment of bridge decks in snowbound areas, freeze/thaw conditions and prevention of chloride ingress by de-icing salts.

Once these tests were completed an asphalt bond test was conducted.

After 12 months of outdoor exposure this test showed that Radcon #7 caused no loss of adhesion.

REACTIVATION

Radcon #7 forms a continuous, sub-surface barrier, totally waterproofing existing cracks and long-term shrinkage cracks as they form. Radcon #7's ability to reactivate and reseal when water is present prevents any water or salts reaching the first line of reinforcement (confirmed in independent testing by Australia's Federal Government testing laboratory; CSIRO).



RADCON #7 CREATES A SUB-SURFACE MEMBRANE

RESEALING WORKING CRACKS

A critical Radcon #7 performance factor is that it can achieve waterproofing in an existing 1.5mm crack, maintain it as it opens to 1.9mm (a 0.4mm opening) and then close on a cyclical basis without the crack leaking. Whilst Radcon #7 cannot repair structural failures (where volatile cracks are present) the material's ability to handle 0.4mm movement without a waterproofing failure should impress any industry professional.

SURFACE DURABILITY

Another key Radcon #7 feature is that it improves durability of the wearing surface. In 1989, Warnock Hersey tests showed Radcon #7 hardened concrete from 6>8 on Moh's scale.

Aside from waterproofing concrete and consolidating the penetrated zone (15mm average penetration), Radcon #7 delivers a wearing surface as hard as granite - which provides a cost-effective option should an asphaltic topping not be required.

COST ADVANTAGES

There are numerous areas where Radcon #7 delivers significant value and realises substantial savings: -

- The applied cost of Radcon #7 is around 1/4 to 1/3 that of membrane applications.
- Substantial costs are negated as no protective structural topping is required. In turn, this facilitates fast tracking of construction, reduces waterproofing system costs and delivers a lighter structure in weight - leading to potential savings in structural engineering needs.

- Once a bridge structure is Radcon #7 waterproofed, the placement of an asphalt surface can be effected at any future time as budgets become available - even more relevant for rail bridges where ballast is to be placed on Radcon #7 waterproofed sections.
- Applied at a rate of 800 square metres per hour, Radcon #7 allows project managers to fast track stalled or delayed projects - particularly as Radcon #7 is completely trafficable within 6 hours of application.

REFERENCE AND TEST DATA

Radcon #7 waterproofed and protected concrete Bridge Decks can be found across Europe, Asia Pacific and the Middle East.

Bridge designers, engineers and builders should contact Radcrete Pacific's head office in Sydney concerning site references and specific queries regarding tests from leading NATA-WFTAO registered testing authorities.

