Popkum Bridge Resurfacing

Agassiz, BC, Canada (2018)

PRODUCT USED:

Krystol Internal Membrane™ (KIM®)

OWNER:	ENGINEER:	GENERAL CONTRACTOR:	READY-MIX SUPPLIER:
Province of British Columbia	Ministry of Transportation and Infrastructure	TYBO Contracting Ltd.	Western Ready-Mix Chilliwack

BACKGROUND

To upgrade the bridges on Highway 9 in British Columbia, Canada, the provincial government made a multimillion dollar investment. For the Popkum Train Overpass Bridge in particular, which was built in the 1950s, this investment would bring it up to modern seismic and safety standards. To ensure this upgrade was a long-lasting one, the engineers of this project decided that they needed a waterproofing solution for the bridge deck concrete. Without it, the bridge would be vulnerable to numerous freeze-thaw cycles and the de-icing salts that the roadway is exposed to. Moreover, such salt and freeze-thaw action could significantly reduce the life expectancy of the bridge's concrete, which is something the project team wanted to avoid.

SOLUTION

The team specified KIM, a crystalline concrete waterproofing admixture, for their bridge deck concrete. They knew that once added to the bridge deck's concrete mix, the Krystol® technology within KIM would disperse throughout it, allowing the concrete to chemically react with water and unhydrated cement particles. This reaction would then form insoluble needle-shaped crystals that would fill the capillary pores and micro-cracks in the concrete to block the pathways for water and waterborne contaminants. That would reduce the permeability of the concrete and stop water and chemicals, such as salt, from passing through the concrete's surface, protecting the bridge's reinforcing steel from corrosion.

KIM also provides the concrete with the ability to self-seal cracks to further protect the reinforcing steel and mitigate damage from freeze-thaw cycles. As a result, it can reduce shrinkage cracking and improve the initial quality of the concrete.

All of which would allow the Province of British Columbia to save money as KIM reduces the cost of maintenance and repairs and increases longevity.

KRYTON®

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