

Popkum Bridge Resurfacing

Agassiz, BC, Canada (2018)

BACKGROUND

The Provincial government announced a multi-million-dollar investment to upgrade the bridges on Highway 9, including the Popkum Train Overpass Bridge. The goal of the project is to bring the bridge, built in the 1950s, up to modern seismic and safety standards. To ensure the upgrades are long lasting engineers decided they needed a concrete waterproofing solution for the bridge deck concrete, because of the numerous freeze thaw cycles and the de-icing salts the roadway is exposed to. The salt and freeze thaw action can significantly reduce the life expectancy of concrete, something the team wanted to avoid.

SOLUTION

The team specified Krystol Internal Membrane (KIM), crystalline concrete waterproofing admixture, for their bridge deck concrete. When added to concrete, the Krystol Technology within KIM chemically reacts with water and un-hydrated cement particles to form insoluble needle-shaped crystals that fill capillary pores and micro-cracks in the concrete and block the pathways for water and waterborne contaminants.

KIM reduces the permeability of concrete and stops water and chemicals, such as salt, from passing through the surface, protecting the 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. KIM reduces shrinkage cracking and improves the initial quality of the concrete. Adding KIM to their concrete bridge deck will save the Province money as it reduces the cost of maintenance and repairs and increases longevity.

OWNER:

Province of British Columbia

ENGINEER:

Ministry of BC Highways and Bridges

GENERAL CONTRACTOR:

TYBO Contracting

READY-MIX:

Western Ready-Mix Chilliwack

PRODUCTS:

Learn more at kryton.com
 Krystol Internal Membrane™ (KIM®)



Krystol Internal Membrane™ (KIM®) was added to the concrete mix for this bridge deck to permanently waterproof it.



KIM adds durability and longevity to concrete by protecting it against chemical attack and corrosion of reinforcing steel.