

# Ensenada International Terminal - Grain Tunnel

Ensenada, Baja California, Mexico (2009)

## BACKGROUND

The Ensenada International Terminal (EIT), part of the massive Hutchison Port Holdings group is a popular choice for companies wanting to avoid the congestion of Southern California's ports.

In 2003 EIT developed a new concept to load grain into ships. This venture allowed EIT to double its handling volumes and increase their loading capacity to 1,000 tons of grain per hour. In 2008 a below grade concrete tunnel to house a belt transportation system and grain silo were added to the grain loading system. EIT's location along the pacific coast of the Baja California peninsula meant the tunnel would be in constant contact with sea water and it was essential the tunnel remain water free. Water in the transport tunnel could ruin entire containers worth of valuable grain. Further, salt water and its ability to corrode the steel and structure was also a key factor in the waterproofing design.

## SOLUTION

IDEA the tunnel's engineer and main designer, approached EIT with Kryton's line of Krystol® crystalline waterproofing products as a solution to its water concerns.

Kryton's unique crystalline technology - Krystol transforms concrete into a watertight barrier – eliminating the need for surface-applied waterproofing systems. Several Krystol products were used in the construction of the grain

tunnels including:

- Krystol® Waterstop System for joints
- Krystol® Crack Repair system
- Krystol Internal Membrane™ (KIM) admixture
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EIT benefited from using Kryton's Krystol system:

- KIM replaced the need for an external membrane system which saved the team time and money. Using KIM instead of an external membrane also reduced potential errors in waterproofing.
- The Krystol Crack Repair system provided a permanent block to water that would not be affected by surface wear or abrasion, providing continuous waterproofing.
- The Krystol Waterstop system provided a barrier to water that would not deteriorate over time, ensuring lifetime joint protection.

The combination of products provided EIT a guaranteed defense against water damage and steel reinforcement corrosion even with the constant head pressure from the Pacific Ocean.

### OWNER:

Ensenada Port Authority

### CONTRACTOR:

IDEA (Ingeniería de Almacенamientos, SA de CV)

### ENGINEER:

Gerardo Navarro Cota

### DISTRIBUTOR:

Comercializadora Tidal, S.A. de C.V.

### PRODUCTS:

Learn more at [kryton.com](http://kryton.com)  
 Krystol Internal Membrane™ (KIM)  
 Krystol® Crack Repair System  
 Krystol® Waterstop System

**CASE STUDY**



BE SURE, BE KRYTON.



***Kryton products were used to keep the grain tunnels leak-free.***



***The tunnel's close proximity to the ocean was a major concern.***