

Las Maravillas Wastewater Treatment Plant Expansion

Tijuana, Baja California, Mexico (2021)

PRODUCTS USED:

Krytol Internal Membrane™ (KIM®) Krytol® Waterstop System

OWNER:

Grupo Ruba

GENERAL CONTRACTOR/DISTRIBUTOR:

Laval Tijuana S.A. de C.V.

READY-MIX SUPPLIER:

CEMEX

BACKGROUND

Over the years, the Mexican government has made a significant investment in wastewater storage and treatment facilities. In fact, just in the year 2021 alone, the government launched at least 38 tenders for constructing, upgrading, and improving wastewater treatment plants. The government has also made it clear that new complexes must be connected to a wastewater treatment plant. All of which make it evident just how much the country values wastewater facilities.

Because of that, the low-income housing developer Grupo Ruba soon found themselves needing to expand a previously built wastewater treatment plant in Tijuana, Mexico. Known as Las Maravillas #1, this plant had a capacity of 40 L per second and served around 10,000 people. However, its capacity was no longer enough, so Grupo Ruba started developing Las Maravillas #2 with Laval Tijuana S.A. de C.V. and CEMEX.

Some of the concerns surrounding this expansion were focused on how Grupo Ruba and the other companies would keep the structure reliable in both looks and operation. To do so, the team knew they needed the expansion to be permanently leak-free. Without that quality, wastewater would likely escape, spilling out of the new structure and tarnishing its image.

However, with around 10 years of past successful experiences working with Kryton's Smart Concrete® products, Laval Tijuana S.A. de C.V. knew they had the right solution for these concerns.

SOLUTION

With that in mind, Laval Tijuana S.A. de C.V. soon got to work arranging the application of Kryton's award-winning, waterproofing KIM admixture and the Krytol Waterstop System.



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They knew that KIM was free of volatile organic compounds and certified safe to be in contact with potable water. They also knew that it was a highly reliable form of waterproofing, capable of giving their concrete the ability to protect itself from leaks by chemically reacting to water to form insoluble, interlocking crystals that block any possible pathways for water. At the same time, they knew that the concrete joints of the structure needed extra waterproofing protection, which the Krytol Waterstop System would provide.

All of which ensured that the team at Laval Tijuana S.A. de C.V. was confident that their work would be successful, allowing them to add KIM to close to 2,000 m³ (70,629.33 ft³) of concrete and the Krytol Waterstop System to nearly 800 m (2,624.67 ft) of concrete with ease.

In the end, the results exceeded their expectations, with Laval Tijuana S.A. de C.V.'s engineer, Rigoberto Laborin, noting that his team experienced one of the best startups of a wastewater treatment plant they've ever had in recent memory. Adding to that, he noted the following:

So far, the plant's operating great. But what I'm most appreciative of is the fact that we're not anxious at the time of startup when you fill the tank. We know Kryton technology will work, and we know that we'll get a result.

Moreover, using KIM and the Krytol Waterstop System allowed them to save time during construction, ensuring the expansion was fully waterproof since the start of construction. They didn't have to spend extra time and labor on manually applying an external waterproofing membrane. Instead, they could just add KIM directly into their concrete mix for immediate full-depth waterproofing and apply the Krytol Waterstop System to the nearby joints.

That provided Grupo Ruba with all they needed to get a safe, functional expansion to their original Las Maravillas wastewater treatment plant.

