



## Signature Bridge Restored with High-Performance Water-Based Coating for Long-Lasting Protection

Ultradurable Kynar Aquatec<sup>®</sup>-based coating provides excellent salt resistance, water repellency and extreme weathering performance.

The Jindo Bridge, which connects Jindo Island and the southwestern tip of the Korean Peninsula, was the first steel-box-girder cable-stayed bridge in Korea and the longest cable-stayed bridge outside of Europe when it was constructed in 1984. With a total length of 1,588 feet (484 meters) and a width of 38.4 feet (11.7 meters), it was also the world's longest and narrowest suspension bridge at the time of its opening.

With a tidal current of 11 knots—the fastest seawater current in all of Asia—the Uldolmok Strait below the bridge looks more like a flowing river than a sea. Because of the narrowness of the passage, the water crashes in and strikes the rocky cliffs on both sides, bouncing back and whirling furiously around.

### Desired Long Service Life

The performance of protective coatings in highly aggressive marine environments can be a critical factor in maintaining the integrity of steel bridges. In addition, the requirement to reduce the number of repainting cycles has become significant in the overall evaluation of life-cycle costs. That's why it is more important than ever to use a high-performance coating system that is known (through testing and validation) to provide optimum long-term protection with a minimal level of maintenance.



**Project:**  
Jindo Bridge, South Korea

**Coating:**  
AKUAFILON<sup>®</sup> coating

**Coating Supplier:**  
AK ChemTech Company, LTD

In 2013, the team responsible for maintaining the landmark Jindo Bridge decided it was time to recoat the structure's piers after nearly 30 years of service. Because the bridge was exposed to a strong seawater tidal current and high winds, the heavy-duty coating selected for the restoration project needed to demonstrate high salt resistance and exceptional weathering performance. At the same time, the use of a low-VOC water-based protective coating was a key requirement.

## New Heavy-Duty Coating Applied

When it came to the selection of a coating system for the bridge restoration, the primary objective was to achieve a long service life with minimal maintenance. After a thorough evaluation of their coating-

choice options, the maintenance team determined that a new water-based PVDF coating, called AKUAFLON® coating, from AK ChemTech Company LTD, would be the selected topcoat solution for achieving the project goals.

AKUAFLON® heavy-duty coating has excellent salt resistance, water repellency and weathering properties under severe environmental conditions. The product is based on Kynar Aquatec® PVDF technology, an innovative platform of emulsions for producing ultradurable water-based coatings that can be formulated with VOC levels below 100 grams/liter.

Coatings containing Kynar Aquatec® emulsions provide the long-lasting durability and extreme weatherability performance of traditional Kynar 500® resin-based coatings, which can withstand

extended exposure to water, humidity, temperature extremes, ultraviolet rays, oxygen and other aggressive marine conditions. Another benefit of the Kynar Aquatec®-based AKUAFLON® coating is its exceptional resistance to dirt pickup for keeping surfaces clean, which results in reduced long-term maintenance costs.

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