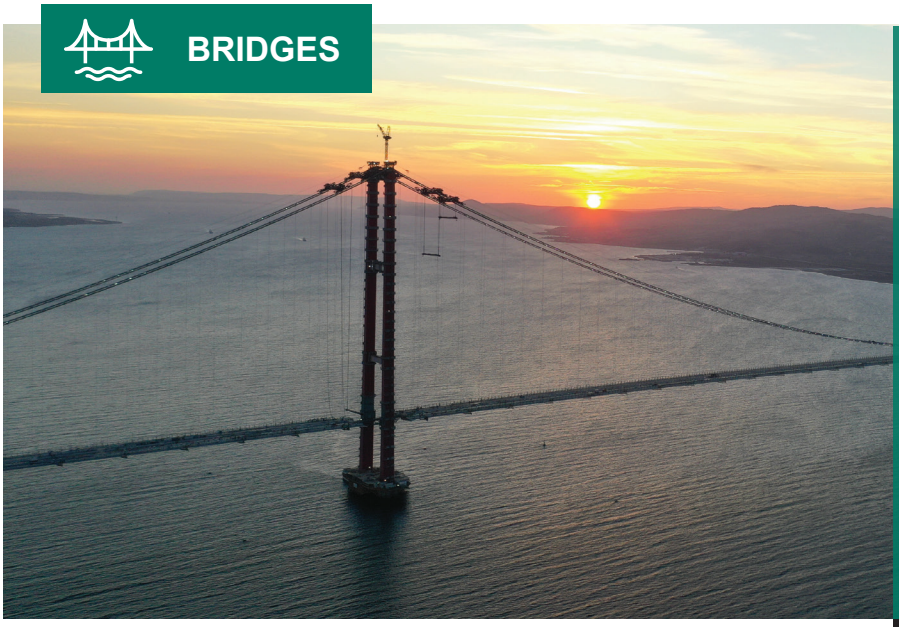
D.S. BROWN®

Project Highlight

REV 1/26

BRIDGES



D.S. Brown's Cableguard Elastomeric Wrap works in tandem with an integrated dehumidification system to protect the 1915 Canakkale Bridge in the harsh marine conditions of the Dardanelles Strait.

1915 Canakkale Bridge

The 1915 Canakkale Bridge, crossing the Dardanelles Strait in Turkey, is a record-breaking engineering marvel with a main span of 2,023 meters, making it the longest single span suspension bridge in the world. This ambitious project faced numerous challenges: harsh marine conditions with high salinity and humidity, strong winds, and the need for a 120-year design life. Additionally, the construction schedule was extremely tight, requiring innovative solutions to ensure durability and timely completion.

To address these challenges, D.S. Brown delivered its advanced bridge cable corrosion protection solution: The Cableguard™ Elastomeric Wrap System. Applied at 2.28 mm thickness, this wrap was installed on the main cables to create a watertight and airtight seal. The system works in tandem with an integrated dehumidification system, which continuously circulates dry air inside the cable voids to prevent moisture accumulation and corrosion.

The combination of these technologies ensures:

- Long-term structural integrity
- Reduced maintenance costs
- Support for sustainability goals by minimizing environmental impact and resource consumption over the bridge's lifespan.

INSTALLATION

Installation was completed in March 2022 after an accelerated construction schedule. The application of Cableguard™ required precision to ensure uniform coverage and airtight sealing. Specialized crews worked in challenging conditions at significant heights, coordinating closely with engineering teams to integrate the dehumidification system seamlessly.

Location: Dardanelles Strait, Turkey

Bridge the World with Leading Infrastructure Solutions

300 East Cherry Street • North Baltimore, OH 45872 | Phone: 419.257.3561 | dsbrown.com

SUSTAINABILITY & INNOVATION

The 1915 Canakkale Bridge sets new benchmarks for sustainable infrastructure. The integrated dehumidification system is energy-efficient, reducing power consumption while maintaining optimal conditions inside the cables. By preventing corrosion, it minimizes the need for resource-intensive maintenance and extends the bridge's service life, lowering its overall carbon footprint.

Cableguard™ Elastomeric Wrap further enhances sustainability by providing long-lasting protection without frequent replacement. Together, these innovations ensure that the bridge remains safe, functional, and environmentally responsible for generations to come.

PRODUCTS USED

Cableguard™ Elastomeric Wrap (2.28mm thick):

This high-performance elastomeric wrap provides exceptional resistance to UV radiation, ozone, and extreme temperatures. Its flexibility allows for easy installation around complex cable geometries while maintaining a watertight seal.

Integrated Dehumidification System:

Designed to maintain relative humidity below critical levels inside the cable system, this energy-efficient solution recirculates dry air between the girder and cables. By keeping the relative humidity inside the cable at a level that prevents corrosion, cable life is dramatically increased.

Combined Benefits:

Together, these solutions deliver unmatched protection against environmental degradation, ensuring the bridge meets its 120-year design life with minimal maintenance.

OWNER

- Turkish Ministry of Transport and Infrastructure – Oversaw project delivery and compliance with national infrastructure goals.

CONSTRUCTION TEAM

- DLSY Joint Venture (Daelim, Limak, SK, Yapi Merkezi) – Responsible for design-build execution. Engineering support provided by COWI, ensuring structural integrity and innovative design solutions.

STATS

- World's longest suspension bridge: 2,023 m main span
- Tower height: 318 m (taller than the Eiffel Tower)
- Deck width: 45.06 m, accommodating six lanes of traffic
- Main cable diameter: 876 mm
- Deck clearance above water: 69 m
- Design life: 120 years
- Traffic capacity: 45,000 vehicles per day
- Total project cost: >$2.5 billion
- Integrated dehumidification system for sustainability
- Cableguard™ Elastomeric Wrap thickness: 2.28 mm

Cableguard™

"The Gold Standard in Bridge Cable Protection."

Bridge the World with Leading Infrastructure Solutions

300 East Cherry Street • North Baltimore, OH 45872 | Phone: 419.257.3561 | dsbrown.com