

# All from a single source: Supply and installation of a membrane tunnel waterproofing system

## Tunnel waterproofing system

- **Project name**  
Tunnel Drammen (UDK01), Norway
- **Project owner**  
Bane NOR SF, Oslo, Norway
- **Client**  
Veidekke Entreprenør AS, Oslo, Norway
- **Installation period**  
August 2021 - August 2022
- **Products**  
Secutex® R1001-B2  
Carbofol® Tunnel membrane 2.0  
Carbofol® Rondelles  
Carbofol® ME-Anchors  
Carbofol® Click-System / Injection connection





This flyer effectively summarises the key aspects of our involvement in the Drammen Tunnel project, highlighting the products, installation expertise, comprehensive service, and innovative solutions we provided.

## Pioneering solutions for tunnel waterproofing

The Drammen Tunnel, a state-of-the-art 6 km long double-tracked railway tunnel between Drammen and Kobbervikadalen, Norway, is a testament to modern engineering. Designed for a functional service life exceeding 100 years, this project required the utmost in waterproofing excellence. Naue was at the forefront, delivering and installing a comprehensive system to protect against groundwater impact, ensuring longevity and reliability.

## Expertise and precision in execution

Our commitment to excellence was demonstrated through the meticulous installation by our teams of certified, highly experienced welders. Guaranteeing a smooth construction process, our teams worked tirelessly to install every component with precision, adhering to the highest quality standards.

## Beyond products: A full-service approach

At Naue Sealing, our service extends far beyond product delivery. Our Norwegian branch/permanent establishment handled all administrative tasks, from material importation and tax matters to ensuring compliance with local regulations. We provided end-to-end service.

Naue was responsible for the delivery and installation of approximately 170.000 m<sup>2</sup> protection geotextile Secutex® R1001-B2, 170.000 m<sup>2</sup> Carbofol® tunnel membrane 2.0, 400.000 pcs Carbofol® Rondelles and 600 pcs Carbofol® ME-Anchors.

## Carbofol® ME Anchor: Revolutionizing tunnel sealing

The Carbofol® ME Anchor represents a leap in sealing technology. This non-penetrating solution ensures the effective fixing of reinforcements while maintaining the integrity of the waterproofing membrane, marking a significant advancement in tunnel engineering.

## Carbofol® Click System / Injection connection

For the gap-grouting of the inner shell arch area, injection hoses were placed on the tunnel geomembrane. The Carbofol® Click System was used.

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