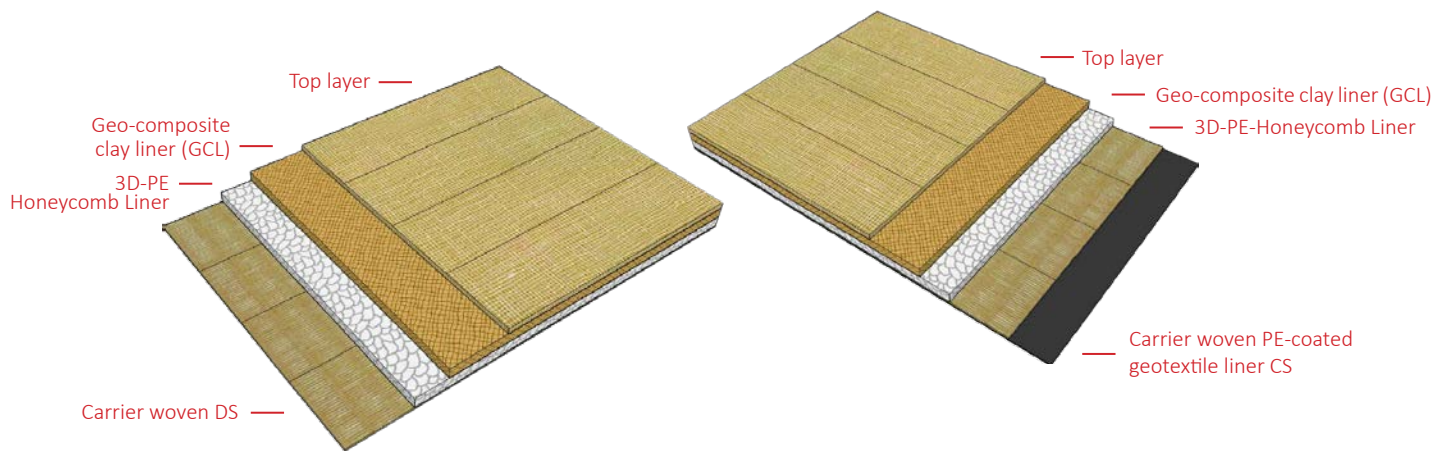




# BPA-CEMtobent<sup>®</sup>

BENTONITE WATERPROOFING LINER  
SOLUTIONS FOR BELOW GROUND REINFORCED CONCRETE  
CONSTRUCTIONS, FOUNDATIONS AND TUNNELS

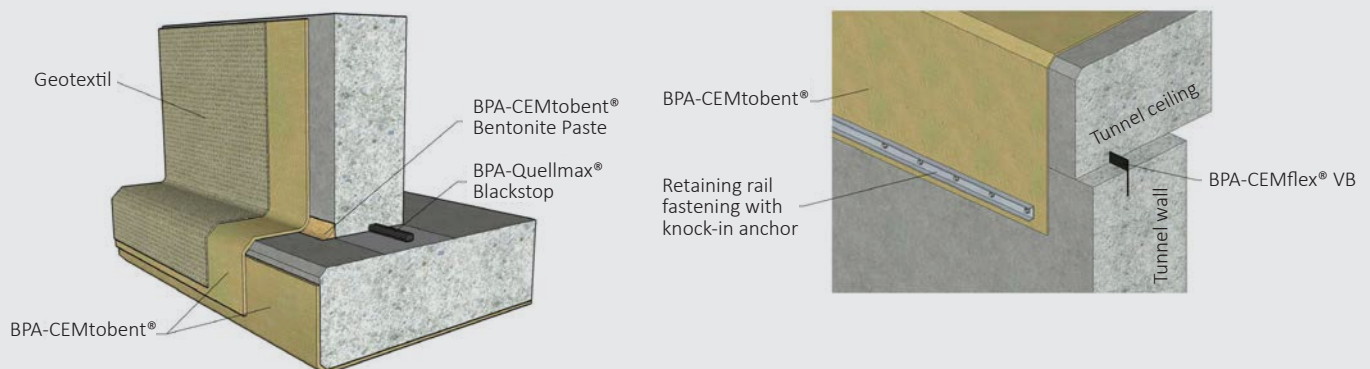
# FUNCTION OF OUR BENTONITE WATERPROOFING TECHNOLOGY



**BPA-CEMtobent® DS** comprises of a primary and a secondary sealing function. Even if the primary sealing, the 3D-PE-Sheet, is damaged through external influences, the exposed bentonite will react with the incoming water and swell thus creating an extremely tight and strong, gel-like film, which seals the concrete structure (secondary sealing) and avoids any water circulation between the membrane and the concrete. The swelling can self-seal small cracks caused by ground-settlement, concrete shrinkage or seismic action.

**BPA-CEMtobent® CS-Plus** is additionally equipped with a PE-coated geotextile that is radon and root resistant and watertight.

## APPLICATION EXAMPLES OF THE BENTONITE WATERPROOFING LINER



Our BPA-CEMtobent® Bentonite Waterproofing Liners are extremely durable and easy to apply. They can be installed independently of temperature and weather conditions. Due to optimized roll sizes BPA-CEMtobent®

provides a drastically reduced overlapping percentage. The over-laps can be easily detailed with BPA-CEM805. A detailed installation manual is available on request.

# ACTIVE SURFACE PROTECTION



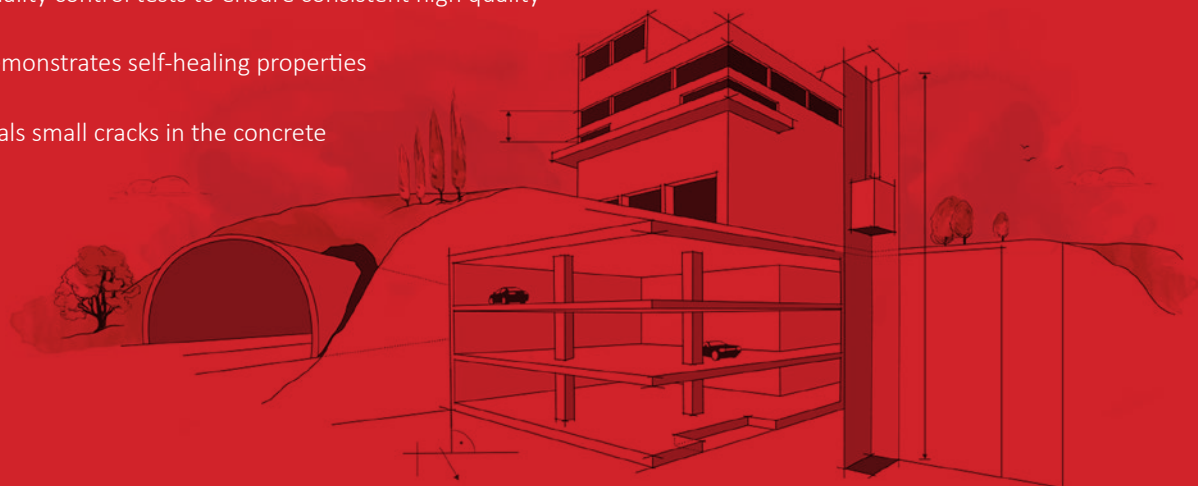
**BPA-CEMto bent® is a high-tech sodium-bentonite based waterproofing composite specially designed for use in vertical and horizontal applications in below ground reinforced concrete structures and tunnels.**

The high swelling low permeable sodium bentonite is encapsulated between a geo-composite clay liner (GCL) and a watertight 3D-PE honeycomb liner. A patented stitch-bonding process interlock these two liners together with a carrier woven and a top layer woven, forming an extremely strong composite that maintains the equal coverage of bentonite as well as protects it from inclement weather and construction related damage.

If the 3D-PE honeycomb liner is damaged and water penetrates the composite layer the bentonite swells forming a low permeability membrane.

## ADVANTAGES OF BPA-CEMTOBENT® WATERPROOFING MEMBRANE

- High durability, fast and easy installation, environmentally friendly
- Effective rain protection
- May be installed in any weather
- No need for complicated welding equipment
- Quality control tests to ensure consistent high quality
- Demonstrates self-healing properties
- Seals small cracks in the concrete
- Reduced overlapping percentage due to optimized roll sizes
- The 3D-PE-Composite protects the encapsulated bentonite from being washed out, making BPA-CEMto bent® even suitable for use in flowing groundwater conditions.
- BPA-CEMto bent® CS, with a strong polyethylene coated geotextile liner, is radon and root resistant





# PRODUCT VARIATIONS



## **BPA-CEMtobent® DS** BENTONITE WATERPROOFING LINER

BPA-CEMtobent® DS consists of two complementary components:

- the primary sealing component is a watertight 3D-PE honeycomb liner
- the secondary sealing component is a full-featured geo-composite clay liner (GCL)



## **BPA-CEMtobent® CS-Plus** BENTONITE WATERPROOFING LINER

BPA-CEMtobent® CS Plus consists of three complementary components:

- the primary sealing component is a watertight 3D-PE honeycomb liner
- the secondary sealing component is a full-featured geo-composite clay liner (GCL)
- For additional protection, BPA-CEMtobent® CS Plus is equipped with a watertight PE-coated geotextile liner which is both radon and root resistant

# ACCESSORIES



## **BPA-CEM805**

One-component adhesive BPA-CEM805 can be used for detailing the overlaps.



- **BPA-CEMtopaste**
- **Bentonite Paste**
- **BPA-Bentonite Powder**
- **BPA-Sealtape**
- **BPA-Quellmax®  
Bentonite Waterstop Tape**

# FORM OF DELIVERY AND STORAGE

## **Weight**

Approx. 5.500 g / m<sup>2</sup>

## **Dimensions**

1,80 x 30 m  
3,60 x 30 m

## **Storage**

BPA-CEMtobent® Bentonite Waterproofing Liners should be stored off the ground in dry and cool conditions. Unlimited shelf life.

# INNOVATIVE, TESTED AND APPROVED

Our products are independently tested and approved by bodies such as the British Board of Agrément (BBA), MPA Braunschweig, MPA Stuttgart, MPA Leipzig, DIBT (Germany), and Vattenfall Sweden. BPA-CEMto bent Bentonite Waterproofing Liners are tested, certified and regularly audited in accordance with the CE-Marking. Relevant test reports and accreditations are available on request. Our quality management is certified in accordance with the worldwide accepted Standard DIN EN ISO 9001:2015. This certification guarantees the consistent, high quality of all BPA-products.

Our global success is based on our continuous strive for excellence and our long lasting focus on improving construction techniques and performance by developing products that are easy to use and meet the performance criteria required to satisfy the most stringent construction standards worldwide. Due to this strong focus on developing high-quality systems and products we have been awarded a place in the TOP 100 Innovative Companies in Germany two years in a row.



## IN USE WORLDWIDE

For many years we've been active in the production and international sales of our innovative Bentonite Waterproofing Liner BPA-CEMto bent. Due to the simple and efficient application options products made by BPA are first choice

for the durable and fail-safe protection of below ground reinforced concrete constructions and tunnels worldwide.

Please find a small excerpt of our references below:



**Aviva Stadium**  
Dublin | Ireland



**Bjørvik tunnel**  
Oslo | Norway



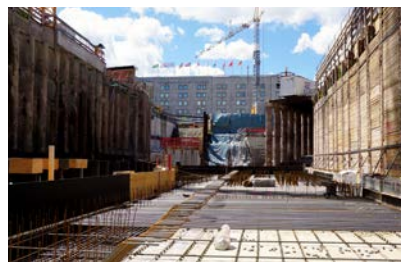
**Wankdorf-Stadium**  
Bern | Switzerland



**Tunnel**  
Küblis | Switzerland

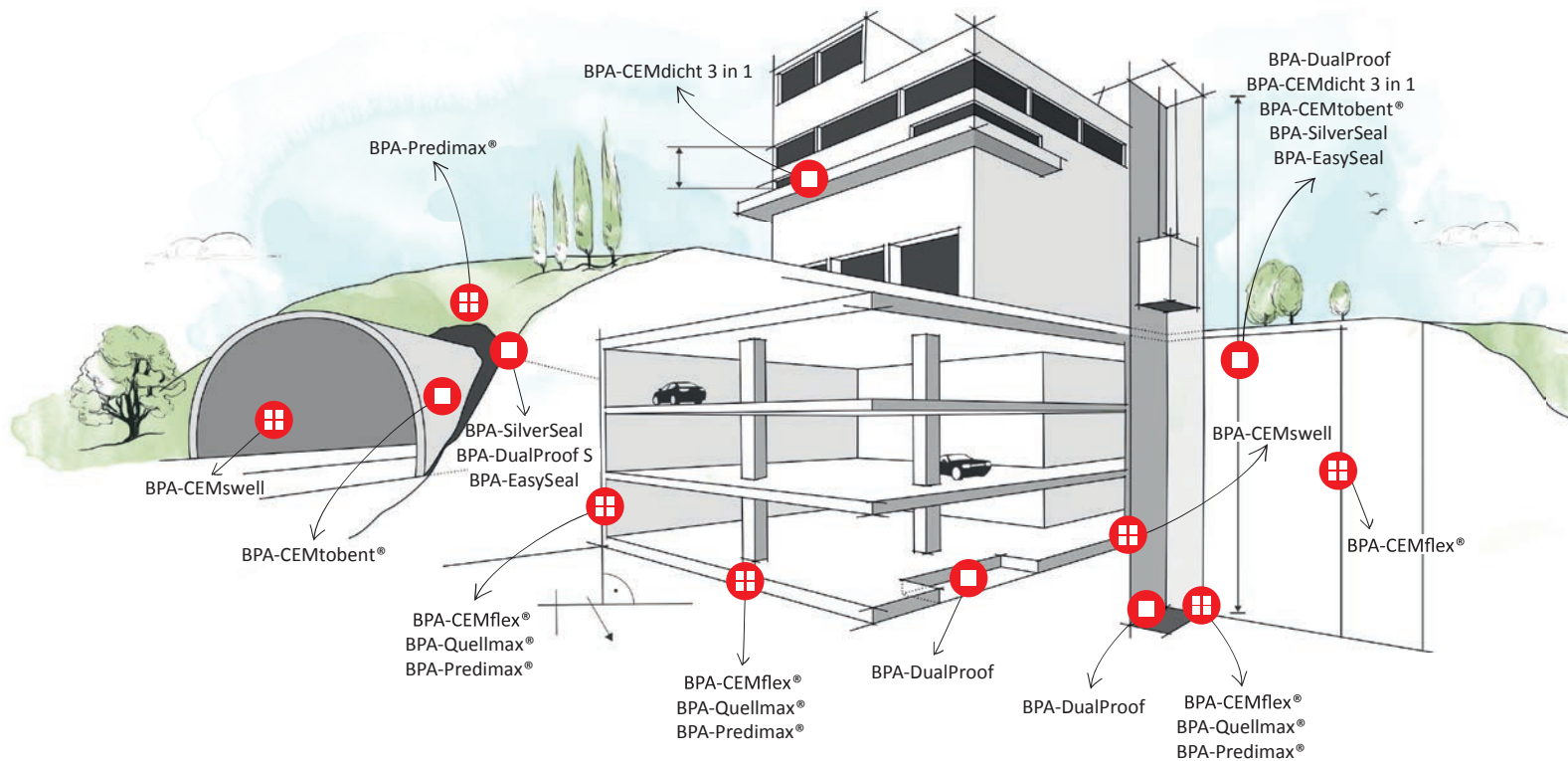


**Train Station**  
Zürich | Switzerland



**Train Station S21**  
Stuttgart | Germany

# FURTHER PRODUCTS AND THEIR FIELDS OF APPLICATION MADE BY BPA



 Joint Sealing

 External Surface Waterproofing



**BPA**  
WATERPROOFING SYSTEMS

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