

An **Invention** makes **History...**



In 1943, the Danish chemist Lauritz Jensen patented a new concrete waterproofing method. In 1946 he founded his first company in Denmark and called it VANDEX ("water out").

The novel waterproofing method is based on cement and quartz sands combined with capillary active chemicals which offers distinct advantages over conventional waterproofing systems:



- Durable waterproofing against water pressure
- Compatible with concrete
- Economical
- Versatility of use in construction and civil engineering applications
- Quick and easy application

Vandex Success around the World. Owing to its many advantages and distinct benefits, the Vandex method succeeds in the Scandinavian market and subsequently gains ground in its European counterpart.

In the 50's and 60's, Vandex penetrates the world market through subsidiaries, licensing and distributorships.

In 1979, the Vandex Group is acquired by Swiss interests. Vandex International Ltd. is founded as the new parent company.

Vandex expands in the world market and establishes itself in major markets as the market leader in the field of cementitious waterproofing of concrete. Vandex's product assortment expanded continuously by introducing new product lines in concrete protection, concrete refurbishment, concrete repair and injection technology.

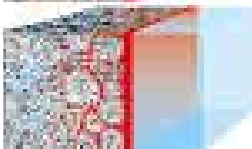
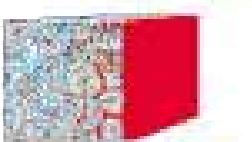
In the 90's, new markets were opened in Eastern Europe, Asia and South America. Innovation, know-how and strong motivation amongst their staff are the hallmarks of Vandex's corporate culture.

Professional Planning and Application. Modern products with outstanding properties do not suffice by themselves. Vandex engineers provide qualified consultation to engineers, architects and applicators, ensuring correct application.

Training is conducted regularly at the Vandex Demonstration Center or on construction sites. Vandex Customer Service is available worldwide with quick support and consultation.

Scientifically tested. Vandex system products are regularly subjected to scientific and international test standards. These are conducted on materials and test specimens at accredited testing institutes in all major markets. The tests serve as independent proof of perfor-

The Vandex working mechanism is shown briefly in three illustrations:



1. Concrete wall exposed to water. The water has forced its way into the capillaries. Long-term effect: leaky, damaged concrete.

2. After Vandex treatment: The reaction between the free lime, moisture and the Vandex chemicals has set in. Vandex penetrates the concrete forming chemical complexes which substantially constrict the capillaries.

3. The concrete is now watertight but still allows water vapor to pass. The Vandex chemical complexes remain in the concrete, ready to reactivate upon water impact.

Cover picture:

La Grande Arche, Paris
Fire-fighting water container,
internal waterproofing
2000 m² with VANDEX SUPER.

...and **gains** worldwide Recognition



The first Vandex logo «The house in the galosh» was designed in 1947.



Vandex Research and Development.

Then and now, continuous research and development are the foundation for Vandex's worldwide success. The corporate R&D center with its multidisciplinary team spearheads the further development of the modern Vandex system dynamically, interacting also with independent research institutes. New products with unique properties in the fields of drinking water and sewage are currently being tested for durability.

50 years' experience and accumulated knowledge form the basis of our extensive expertise in the fields of concrete waterproofing and building protection.



One of the first major projects for the newly established Vandex company in Denmark was a new dry dock in Copenhagen harbour. Treated areas: slabs and walls; 15,000 m²; product used: VANDEX SUPER.

mance and specific individual product properties.

Vandex Quality Management System.

In 1994, the Vandex Group was audited according to ISO 9001 by the Swiss Association for Quality Management Certificates (SQS) and by the German Society for Certification of Quality Management Systems Ltd (DQS), for compliance with internationally recognised standards.

50 years of Vandex represent more than 100,000 successful projects worldwide



Vandex Tradition as Future Potential. The Vandex' corporate philosophy embraces long-term objectives and strategies that will continue into the future.



Our goal is to provide high value solutions in close co-operation with customers. Efforts at all stages, willingness to adapt our knowledge and innovations to the needs of various markets will also enable us to master future tasks.

The Vandex system has been successfully applied on many buildings throughout the world. Among these are a large number of spectacular and prominent major buildings such as:

«La Grande Arche», Paris
 «The Channel Tunnel», U.K./France
 «The Tower» Canary Wharf, London
 «Raffles City», Singapore
 «World Bank», Washington D.C., USA
 «Ministry of Finance», Paris
 «Windsor Castle», London
 «Pacific Place», Hong Kong
 «Toyota Factory», Aichi, Japan
 «Metro Caracas», Venezuela
 «Assemblée Nationale», Paris
 «Dulles Intl. Airport», Wash. D.C., USA
 «Hessischer Landtag», Germany
 «Metro Antwerp», Belgium
 «City Place Center», Dallas, USA
 «Oil Rig Statfjord B», Norway
 «Simon Fraser University», B.C., CDN
 «Monterey Sea Aquarium», CA, USA
 «El Aquario Barcelona», Spain
 «Al Taameer Complex», Kuwait
 «Manila Diamond Hotel», Philippines



Major picture:
 Keio Plaza Hotel, Shinjuku
 Tokyo, Japan.

Treated areas: foundation
 slab and walls; 2500 m²;
 products used: VANDEX
 SUPER, VANDEX PREMIX.

Upper left:
 Coal-fired power plant
 Studstrupvaerket, Aarhus/
 Denmark.

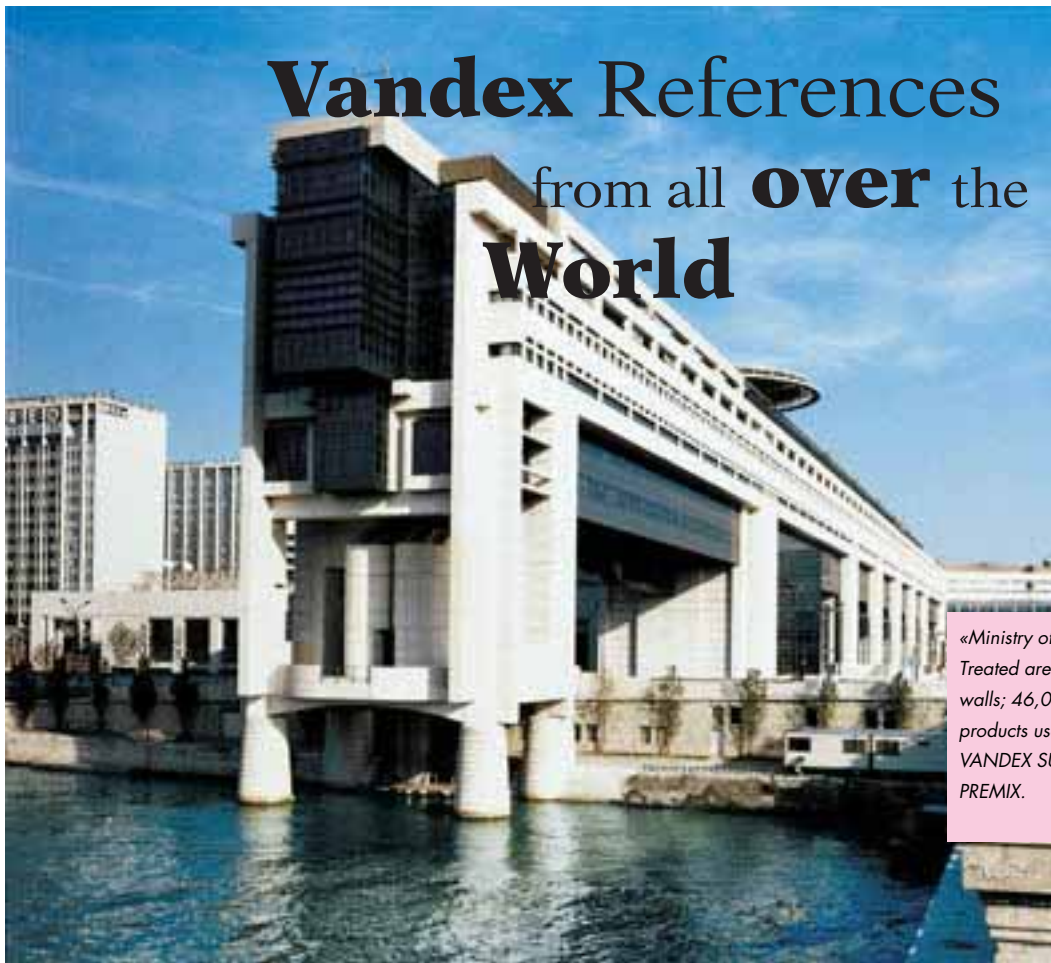
Treated areas: channels for
 cooling water and electrical
 cables; 60,000 m²; products
 used: VANDEX SUPER,
 VANDEX PREMIX, VANDEX
 CONCRETE GREY.

Lower left:
 World Bank Washington,
 USA. Treated areas: walls
 and slabs; 6000 m²; product
 used: VANDEX SUPER.



Vandex References

from all **over** the
World



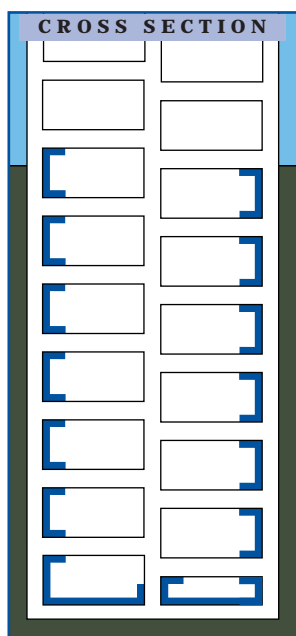
«Ministry of Finance», Paris.
Treated areas: slabs and
walls; 46,000 m²;
products used:
VANDEX SUPER, VANDEX
PREMIX.

Raffles City, Singapore.
Treated areas: slabs and walls, con-
struction joints, water tank;
11,000 m²; products used:
VANDEX SUPER, VANDEX PREMIX.



Peach Bottom Nuclear Power
Station, Delta, PA, USA.
Treated areas: cooling water tank,
discharge tunnel; 4200 m²;
product used: VANDEX SUPER.

Thames Barrier, U.K.
Treated areas: various applications
for concrete waterproofing and
protection; 2500 m²; products used:
VANDEX PREMIX, VANDEX SUPER.





Vandex protects drinking water tanks with mineral-based coatings. In order to achieve the required quality standard of drinking water, Vandex mineral products are used in many countries. They have been tested by independent institutes for drinking water compatibility and are recommended throughout the world.

Major picture:

*Drinking water tank
Magdeburg, Germany.
Treated areas: slab, walls
and ceiling; 6000 m²;
product used: VANDEX BB
WHITE.*

Middle left:

*Clean water tank Chemnitz,
Germany.
Treated areas: slab, walls
and ceilings; 4400 m²;
products used:
VANDEX BB 75,
VANDEX UNI MORTAR 1.*

Lower left:

*Drinking water tank
Kirchberg, Switzerland.
Treated areas: slab, walls,
ceiling; 3600 m²; product
used: VANDEX BB WHITE.*



**Waterproofing
and protection of
waste water plants:
Vandex special
products extend
the life of the
construction**



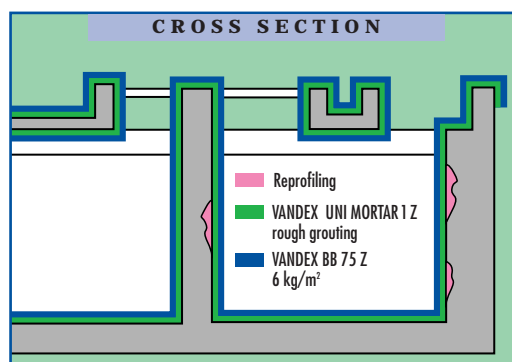
Gablenz Sewer Chemnitz,
Germany.
Treated areas: channel lining,
walkways, creek channel;
20,000 m²; products used:
VANDEX UNI MORTAR 1 Z,
VANDEX BB 75 Z, VANDEX
PLUG, VANDEX CRS CORROSION
PROTECTION AC.



Sewage treatment plant
Aarhus, Denmark.
Treated areas: external and
internal waterproofing;
22,000 m²; product used:
VANDEX SUPER.



Sewage treatment plant
Offenburg, Germany.
Treated areas: external and
internal waterproofing, base
waterproofing; 3000 m²;
products used: VANDEX BB 75,
VANDEX BB 75 Z, VANDEX
MINERALIT, VANDEX UNI
MORTAR 1 Z.



Vandex ensures the **Preservation** of valuable Buildings

Vandex's expertise in the restoration of old buildings is based on 30 years' experience. The range complies with the most up-to date technical regulations as well as the German legislation on environmental protection. The Vandex quality management system ensures high product quality and expert application.

Major picture:

*«Weinstadt» Nürnberg,
Germany.*

*Treated areas: external and
internal waterproofing,
horizontal barrier; 1500 m²;
products used:*

*VANDEX ANTI NITRATE,
VANDEX ANTI SULPHATE,
VANDEX BB 75, VANDEX
UNI MORTAR 1, VANDEX
INJECTION MORTAR.*

Lower left:

*Kronborg Castle, Elsinore,
Denmark.*

*Treated areas: vaulted
cellars; 500 m²; products
used: VANDEX SUPER,
VANDEX PREMIX.*



The **Shopping Center** “Arena” also sets **new Trends** in **Waterproofing**



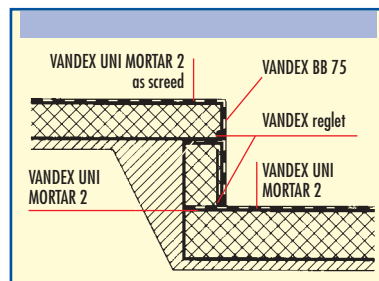
In the 2nd basement level, a central parking facility of 8100 m² was realised for customers and residents.



The need for a modern Migros Shopping Center in the town of Wohlen in Switzerland proved ever more urgent in the early 90's. From a concept, as an initial design, evolved the challenging "ARENA Shopping Center" project combining Migros store, restaurant, club school, apartments and parking. It was realized between 1993 and 1995. Motivated not only by commercial objectives, the Migros Co-op Aargau-Solothurn set a new architectural landmark with the ARENA Center.

A central parking facility with 8100 m² of floor space was provided for customers and residents on the second underground level.

Constructed in groundwater (up to 1 meter deep), the underground level required comprehensive waterproofing measures.



The engineers opted for the proven VANDEX UNI MORTAR 2 solution, which won out because it serves two important functions:

1. **Waterproofing**

impermeable to water, tested up to 7 bar water pressure, vapor permeable

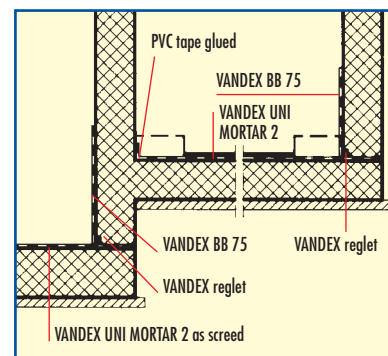
2. **Screed**

jointless, resistant to abrasion, resistant to road salt

The VANDEX UNI MORTAR 2 coating was applied as a jointless traffic-bearing screed, in sections in line with construction progress. The Vandex concept is an integrated waterproofing system that combines all of the details.



Waterproofing and screed in one product: VANDEX UNI MORTAR 2.



Owner: Migros Co-op
 Aargau/Solothurn, 5034 Suhr, Switzerland
 Engineers: Rothpletz, Lienhard + Cie AG,
 5000 Aarau, Switzerland
 Architects: Hauswirth & Partners,
 4600 Olten, Switzerland
 Vandex applicator: ARGE Stammbach/
 Recoba, 8046 Zürich, Switzerland

The new BP North Sea oil rig with Vandex waterproofing for highly stressed components: VANDEX SUPER and VANDEX BB 75 E were used on external walls in the transition zone from the slab to the rising walls of the crude tanks.



The gravity base tank of the ultramodern North Sea oil rig for the Harding Field is the largest concrete structure ever built by BP. The cellular oil storage tank with its immense 120 m x 115 m x 34 m dimensions (length x width x height) forms the base of the rig. Built using a specific ratio of lightweight aggregate

concrete and prestress techniques to anticipate various loads and achieve defined floating, the huge reinforced concrete structure comprises 80 oil tanks joined in cellular fashion and holds 500,000 barrels of crude overall.

Having wall thicknesses of 400 mm, the reinforced concrete tanks feature a common slab 850 mm thick and roof slabs of 900 mm thickness. The entire reinforced concrete structure comprises 35,000 m³ of concrete, 17,000 tons of rebars and 1,000 tons of prestress cable. Built in a dry dock in Hunterston on Scotland's west coast, the gigantic structure was floated to the North Sea Harding Field and will be positioned on the seabed, 110 m deep.

VANDEX for High-Stress Zones in the reinforced Concrete

The complex building procedure including the dry dock activities through floating to location and lowering to the ocean floor exposes the structure to extreme loads.

To meet the particular loads induced during building, transporting and installation, a flexible concrete coating was prescribed as additional waterproofing for high-stress zones.

Building materials intended for the crude tanks were field-tested by the test laboratories of Taywood Engineering, London.





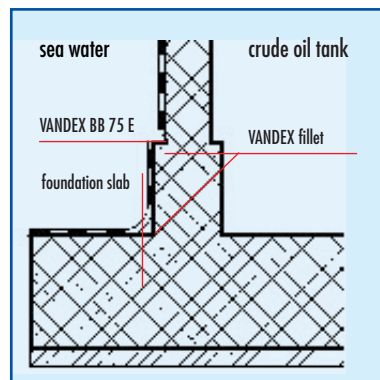
The oil rig base together with the crude oil tank weighing approximately 90,000 tonnes was towed using 4 tugs from its dry dock in Hunterston to the Harding Field in the North Sea.



New **BP-Oil Rig** with **Vandex Waterproofing** for High-Stress **Zones**

Vandex products also underwent rigorous testing including permeability tests on both the positive (at water pressures of 110 m) and negative sides. VANDEX BB 75 E was also subjected to crack-bridging tests at 110 m water pressure.

Taywood's engineers opted for VANDEX BB 75 E and VANDEX SUPER. VANDEX BB 75 E or VANDEX SUPER respectively were used on external walls in



the transition zone from the slab to the rising walls of the crude tanks. In areas where calculations indicated a

likelihood of cracks, Vandex coatings were also used.

Products used:

VANDEX BB 75 E area: 2100 m²

VANDEX SUPER area: 3000 m²

Owner:	Britoil Plc, Aberdeen, Scotland, U.K.
Engineers:	Taywood Engineering Ltd, London, U.K.
Contractor:	Costain-Taylor Woodrow Joint Venture, London, U.K.
Materials testing:	Taywood Engineering Ltd, London, U.K.
Vandex applicator:	PLS Construction Johnstone, Scotland, U.K.