

Case Study

Westerscheldetunnel Cafco FENDOLITE® MII

The Westerscheldetunnel is a twin bored link between Ternauzen and Flushing in Holland. The 6.6km tunnel carries 4 lanes of highway beneath the Schelde Estuary to the North West of Antwerp providing an alternative route between Holland and Belgium.



Each tube was formed with a tunnel boring machine and lined with a ring of 7 high strength pre-cast concrete segments. Cross passages connect each bore every 250m to facilitate evacuation in the event of emergency.

In the event of an incident involving fire occurring inside the tunnel, adequate measures have been taken to protect 245,000m² of

concrete linings from spalling and losing strength by the application of a passive fire protective coating.

Cafco FENDOLITE® MII was applied at a thickness of 45mm to protect the linings from any damage after 3 hours of hydrocarbon fire exposure

where flame temperatures can reach 1350°C within a few minutes.

The system has been fully and independently tested at TNO in Holland in accordance with Rijkswaterstaat requirements and was proven to prevent the high

strength pre-cast concrete segments from spalling during 3 hours RWS fire exposure.

Cafco FENDOLITE® MII is a spray applied lightweight coating based on exfoliated vermiculite and Portland cement which is supplied as a factory controlled pre-mix.

Application will be carried out for the first time ever by automated robotic spray equipment allowing the

full thickness of 45mm to be applied in one continuous coat.

The system incorporates a profiled stainless steel mesh retention system which is now a mandatory requirement for all spray applied fire protective coatings in Holland.

The system has a design life in excess of 100 years, is inorganic, noncombustible and will not deteriorate with time.

Cafco FENDOLITE® MII is manufactured by Promat UK Limited in the UK and UAE. Fendolite is also manufactured under licence in Australia, Taiwan, India, Korea, Thailand, Singapore, Indonesia, South Africa and Spain.

Cafco FENDOLITE® MII has an unrivalled track record spanning 20 years in the construction, petrochemical and tunnelling industries throughout the world. Application commenced in September 2001 and will continue for 18 months.

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