Duoguard

FORMTEX®

Controlled Permeability Formwork (CPF) liner

Improves concrete quality and performance characteristics

- Bridges and tunnels
- Water treatment plants
- Drinking water tanks
- Dams and spillways
- Bridge edge beams
- Marine structures
- Pre-cast concrete elements

Fibertex
NONWOVENS

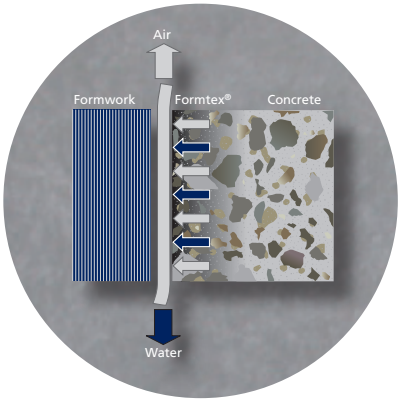
Sewage plant

Controlled Permeability Formwork Liners for Enhanced Concrete Durability

Formtex® Controlled permeability formwork liner is a nonwoven fabric made from fine polypropylene fibres needled together in a non-structured order.

The fabric has a two-sided structure – with one side creating a filter, while the other side functions as a drainage layer. The pore size of the filter is designed to retain cement particles but allows water to pass through.

The main function of Formtex® is to drain surplus water and air from the surface of freshly poured concrete during compaction. When water is drained, the water/cement (w/c) ratio in the concrete cover is reduced, providing for denser and stronger concrete. This improves durability of the concrete considerably, reduces CO_2 footprint and also enhances aesthetics of the structure.



Formtex® CPF liners consist of a drainage layer allowing water and air to escape and a filter layer with pore size designed to retain cement particles.

Benefits of Formtex® include:

- Curing
- Permeability
- Chloride diffusion
- Carbonation and freeze thaw resistance
- Surface compressive strength
- Minimises micro bacterial growth
- Minimises penetration of graffiti media

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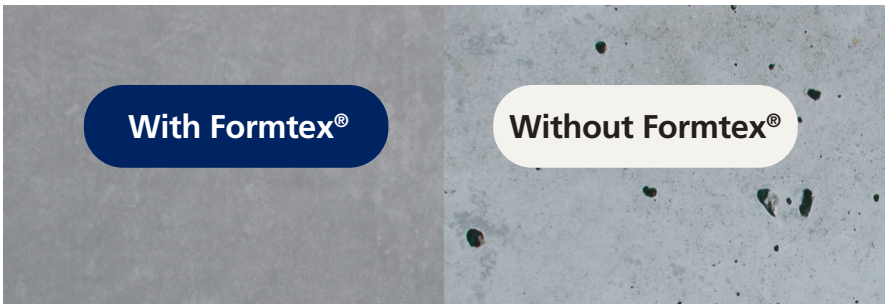
The Key to Durability and Sustainability

Design for durability in the construction of infrastructure requires life cycle assessment (LCA) of environmental exposure and component materials, as well as structural, maintenance and inspection requirements, to achieve long-term life of the structure.

The quality of surface concrete is a critical factor affecting the durability of reinforced concrete structures. The substrate is often exposed to aggressive environmental conditions and hence greater working loads than the core concrete.

Laboratory and arduous field testing show that the use of Formtex® liners significantly improves the durability of a concrete structure, also extending its service life and reducing maintenance costs.

While the CPF liner enhances aesthetics of the surface finish of concrete, other benefits are improved permeability, increased compressive strength and reduced surface abrasion. Formtex® reduces the formation of blowholes and other blemishes significantly on the concrete surface that normally require extensive treatment after the formwork is removed. The most important factors are extended service life and reduced long-term maintenance costs.



Formtex® drains surplus water and air, providing for a denser concrete cover layer without blowholes. The result is increased resistance to degradation from penetration of chloride, water, carbon dioxide and frost/thaw.

Fibertex Nonwovens Environmental Benefits

The growing concern over global warming and significant ecological changes requires sustainable development in all fields of science and technology. Formtex® has been developed to extend the service life of concrete structures and to reduce the need for maintenance. The use of Formtex® technology eliminates the need for form oils, chemical release agents, coatings or any other post treatments on the formwork.

Formtex® is also certified for use in concrete structures for drinking water. Formtex® reduces the risk of compromising the water quality with chemicals, such as slip agents; provides for reduced biological growth on concrete surfaces and eases cleaning of the structures.

Fibertex is certified according to ISO 14001 Environmental Management and ISO 50001 Energy Management. In 2022 Fibertex achieved the Ecovadis bronze medal.

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