

New Estonia Museum Design Built to Protect Over 1 Million Cultural Artworks

PREPRUFE® protects cultural artifacts with high performance waterproofing.



Project	Estonia Art Museum
Investor	Riigi Kinnisvara AS
Engineer	Novarc Group AS
Architect	Dan Dorell, Lina Ghotmeh, Tsuyoshi Tane
Contractor	Fund Ehitus AS
Applicator	Langeproon Hüdrolatsioonitööd OÜ
GCP Solution	Preprufe®, Bitustik™, Bituthene®

The Overview

The Project

The new £40 million Estonia National Museum—completed in 2016—signals a new era in construction for the country—combining contemporary museum design elements and sustainability with cultural significance.

Designed by Dorell Ghotmeh Tane architects and built by Fund Ehitus OU, the 34,000m² building will play a key role in the regeneration of Tartu—Estonia's second largest city. The arts building will be home to over a million artifacts, which celebrate the history, traditions and culture of Estonia.

"With the specification of PREPRUFE® waterproofing from GCP, the stylish and modern Estonia National Museum—as well as its priceless, culturally historical contents—will be protected from water ingress and damage for generations to come."

The Challenge



Built on the site of a former Soviet military base, the new building's basement is subjected to 4-5 metres of hydrostatic water pressure and has extensive (30,000) penetration points from reinforcement bars and pipes.

To ensure the basement remains dry and keeps the historical artifacts and artworks at a consistent temperature and relative humidity – a proven waterproofing system was a prerequisite for the museum design.

The Solution

With long term waterproofing performance, reliability and success at challenging projects worldwide—PREPRUFE® waterproofing offered the ideal protection for the museum's 6-metre deep basement filled with artworks and culturally significant artifacts.

PREPRUFE® is an advanced membrane system, designed with synthetic adhesive layers and GCP's patented ADVANCED BOND TECHNOLOGY™.

It enables concrete to aggressively adhere to the PREPRUFE® membrane, forming a unique intimate seal which prevents any water migration between the waterproofing and the structure, reducing the risk of leaks and improving sustainability.

No other system on the market protects a substructure from the harmful effects of water, vapour and gas better than the PREPRUFE® system.

The Process

Utilising an advanced acrylic surface coating developed by GCP, the PREPRUFE® membrane also simplifies the installation process by removing multiple layers and complicated detailing. Protective layers of concrete or boards are eliminated, reducing the depth of excavation, and spoil, while the number of materials to be sourced are minimised, all accelerating the critical path of the project programme.

GCP supplied a range of complementary products and systems to improve the museum design including BITUTHENE® 4000S self-adhesive HDPE waterproofing membrane and BITUTHENE®LM asphalt modified liquid membrane. BITUSTIK™ 4000 double-sided tape was also supplied to complete the project's comprehensive waterproofing specification.

Blue360SM Product Performance Advantage.

Because every project, large or small, deserves the best level of protection.

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