

## Estonia Art Museum (Kumu)

### Tallinn, Estonia



Kumu Art Museum

### The Project

Faced with a high water table and over 30,000 penetrations, the project team at the new £40 million Estonia National Museum turned to Preprufe® waterproofing membrane to provide basement protection for over a million artefacts which celebrate the history, traditions and culture of Estonia.

Designed by architects Dorell Ghotmeh Tane and built by Fund Ehitus OU, the 34,000m<sup>2</sup> building will play a key role in the regeneration of Tartu – Estonia's second largest city. 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 penetration points from reinforcement bars and pipes.

### Selection of Waterproofing

To ensure the basement remains dry and keeps the historical artefacts at a consistent temperature and relative humidity – a proven waterproofing system was a prerequisite. With long term waterproofing performance, reliability and success at challenging projects worldwide – Preprufe® offered the ideal waterproofing protection for the museum's 6 metre deep basement.

Preprufe® is an advanced membrane system which offered the safest and most reliable waterproofing option. Designed with synthetic adhesive layers, Grace's patented Advanced Bond Technology™ enables concrete to aggressively adhere to Preprufe®, forming a unique intimate seal which prevents any water migration between the waterproofing and the structure, substantially reducing the risk of leaks.

No other system on the market protects a substructure from the harmful effects of water, vapour and gas better than Preprufe®. It can also be applied on wet concrete and is immediately trafficable after installation, which makes for fast and easy installation.

Utilising an advanced acrylic surface coating developed by Grace, 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, whilst the number of materials to be sourced are minimised, all accelerating the critical path of the project programme and ensuring the project was delivered on time.

Grace supplied a range of complementary products and systems 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.

Set for completion in 2016, the Estonian National Museum signals a new era in construction for the country – combining contemporary design elements with cultural significance. With the specification of Preprufe® from Grace, the stylish and modern museum – as well as its priceless, historical contents – will be protected from water ingress and damage for generations to come.

#### PRODUCTS USED

**Preprufe® 300R**  
**Bituthene® 4000S**  
**Bituthene® LM**  
**Bitustik™ 4000**  
**Bituthene® Mastic**  
**Adcor® 500S**

#### CREDITS

**Investor:** Riigi Kinnisvara AS  
**Architect:** Dan Dorell, Lina Ghotmeh,  
Tsuyoshi Tane  
**Engineer:** Novarc Group AS  
**Contractor:** Fund Ehitus AS  
**Applicator (Waterproofing Products):**  
Langeproon Hüdrosolatsioonitööd OÜ

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