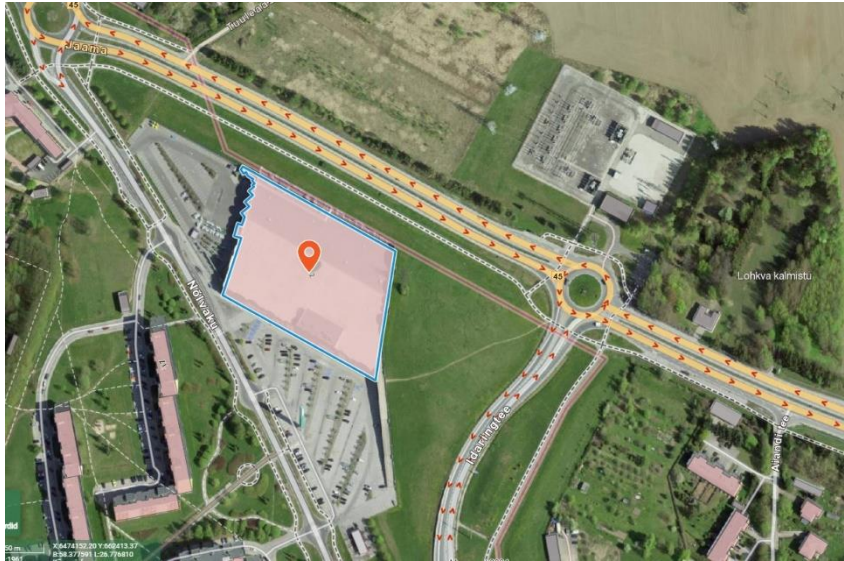


Case study: Annelinna PRISMA parking deck and bitumen roof renovation (perimeter).



Our reference in (Estonia, Tartu):
Annelinna PRISMA



Teknos Teknopur polyurea system
for the concrete slab and bitumen
membrane (flat roof).

Project:

Annelinna Prisma shopping mall

Project had 2 stages:

Location:

Tartu, Estonia

2023 were done bitumen roof edges.

Project start time:

2022

Project completed:

2023

Owner/ User:

Orchis Ou/ Prisma

Project leader/ applicator

Polimaris OÜ

Designer/ Architect

Ramboll OY / Jari Tuominen

Market sector:

Business premises

Product used:

Teknofloor 306F-01-TK

(epoxy primer)

Teknopur Sealer 100-00

(pu-primer)

Teknopur 300-800

(pure polyurea)

Teknopur 340FR

(pure polyurea Broof t2)

Teknodur 0190

(pu paint)

The background:

The project is in city of Tartu

2022 were renovated inverted concrete parking deck edges and connection point between parking deck and bitumen roof.

Time window for the object completion were total 3 months.

1-month 2022, 2 months 2023.

The challenge:

The entire work included project management and the organization of various constructions works in such a way that the leakage problems will be eliminated and the roof could be used as a parking deck and the businesses would not have to worry about roof leaks on commercial areas.

Technical data TEKNOPUR 300-800:

- Reaction time (sprayed): abt 5 s
- Tack free abt 12 sec
- May be walked after abt 40 sec
- Fully cured abt 1 d
- Shore A hardness: 94
- Elongation + 23c: 380% (ISO 527-2)
- Bond strength to support : > 3,3 N/mm² (SFS-EN 13596)

Technical data TEKNOPUR 340FR:

- Reaction time (sprayed): abt 5 s
- Tack free abt 15 sec
- May be walked after abt 40 sec
- Fully cured abt 1 d
- Shore A hardness: 92
- Elongation + 23c: 450% (ISO 527-2)
- Adhesion strength by pull- off test : Requirement: Rigid system with trafficking > 1,5 N/mm² (EN 1504-2:2004)
- Fire classification- Broof t2

Our reference in (Estonia, Tartu): Annelinna PRISMA



Before



sandblasted



polyurea and pu paint



Bitumen roof



overlapping area



polyurea on bitumen

Our solution:

Object had two stages and first one was done in 2022 and second in 2023.

Main problem for the owner was big movements in 4 dimensions which tore the bitumen membrane and caused lot of leakages in commercial areas. At the first stage we sandblasted concrete boards and power washed the bitumen membrane on vertical area. Build new concrete edges with epoxy putty and on vertical area applied 2 components polyurethane primer Teknopur sealer 100-00 and on concrete board we used 2 component epoxy primer Teknofloor 306F-01-TK. Joints and corners filled with Sikaflex pu hermetic. After priming works we sprayed Teknopur 300-800 which we painted with uv stable polyurethane paint Teknodur 0190 (RAL 7047). At second stage we moved from concrete inverted roof to the bituminous roof, which had the same problems in perimeter due to the big movements of the roof board.

As we had the bitumen membrane, we power washed (with hot water) and cleaned whole perimeter. Priming we did with a polyurethane based Teknopur 100-00 and all joints and holes filled with Sikaflex pu hermetic. Bitumen membrane we sprayed with Teknopur 340FR black coloured (which had fire classification Broof t2). Polyurea, we did not painted with UV stable pu paints, because it suited for the client and discoloration is not visible on black colours as it is on white (yellowing).

Project facts at a glance:

- Total area covered: approx. 2500 m² (1500 rm).
- Total sprayed membrane: approx. 6000 kg.
- 2 stages on different surfaces and different time

The customer's benefit:

- Various materials like bitumen and concrete waterproofing possibilities
- Overlapping from one surface type to another (bitumen, concrete)
- Inverted roof has a big movement especially in corners and working joint areas, it is only system which can provide waterproofing without cracking in corners (sandwich, concrete) and overlapping areas.
- Joints covering
- Crack bridging capabilities.
- With long hoses can reach all working zones
- Seamless layer on columns and corners
- Material properties and flexibility
- Can provide waterproofing on every detail (ventilators, drainage wells)