

# Renewal of flat roofs – Zeiss Planetarium

From 2015 onwards, the “Renovation of flat roofs” measure was carried out on the Zeiss Planetarium, which was built in 1986/1987. The flat roofs on the individual segments of the buildings have differing eave heights and exhibited major problems in terms of leaks and thermal protection. The construction work included structural and energy-related renovation of all flat roofs, component structures and the canopy roof at the main entrance.

The aim was durable long-term sealing of the building fabric in the area of flat roofs and the achievement of major improvements to thermal protection in both winter and summer.

Going beyond the applicable legal regulations (EnEV) can be regarded as a contribution to climate protection and CO<sub>2</sub> reduction by the building owner. In this context, building materials with good thermal insulation properties and, in particular, the advantages of extensive roof greening came into play.

## Effects of roof greening

- Protection of roof sealing (sustainability thanks to long service life)
- Rainwater management by means of evaporation and delayed drainage into the combined sewer
- Reduction of rate charges for precipitation water
- Reduction in particulate dust
- Replacement habitats for flora and fauna
- Environmental education at a location with particular visitor awareness

## Project details

**Location:** Prenzlauer Allee 80, 10405 Berlin

**Client:** State of Berlin – BIM Berliner Immobilienmanagement GmbH

**Construction period:** June to November 2015

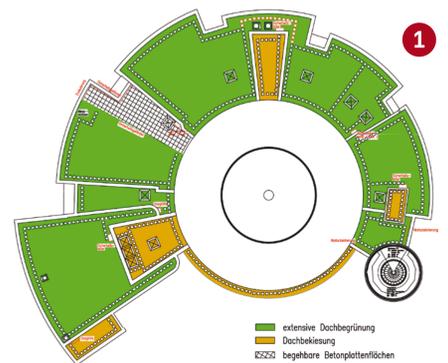
**Roof greening:** Early 2016

## Technical data:

Roof pitch up to around 7 %

Installation height of roof greening approx. 100 mm

Water storage capacity approx. 42 l/m<sup>2</sup>



Paths and paved areas

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Dachbegrünung mit Drainage – technischer Aufbau, Konstruktionshöhe 10 cm	
Aufbau der Konstruktion	Technische Daten
1. Begrünung Sonderanfertigung für extensive Dachbegrünung	Dachneigung 8% ca. 7%
2. Vegetationszweck Anwendung für extensive Begrünung, insbesondere als Regenwasser- und Regenwasser-Filter, zur Verbesserung des Regenwasser-Abflusses in Regenwasserkanäle	Aufbauhöhe ca. 100 mm Flächenneigung ca. 42 l/m <sup>2</sup>
3. Filtervlies Flächen-Flächengewicht ca. 120 g/m <sup>2</sup>	Flächenneigung (wasserseitig)
4. Weidenvlies und Drainagevlies Dünne- und Spaltenvlies aus druckelastischem Kunststoff aus PE, 100% druckelastisch Weidenvlies: 2,0 mm Drainagevlies: 120 g/m <sup>2</sup>	Drainagevlies 2,0 g/m <sup>2</sup> Dünne- und Spaltenvlies 4,0 g/m <sup>2</sup> Filtervlies 120 g/m <sup>2</sup> Vegetation 10 g/m <sup>2</sup>
5. Schutzvlies Anwendung: Schutzvlies aus PE mit Flächenneigung ca. 100 g/m <sup>2</sup>	Gesamtgewicht 122,0 g/m <sup>2</sup>
6. Trenn- und Schutzvlies Trennvlies aus PE, 100% druckelastisch Schutzvlies aus PE, 100% druckelastisch	
7. Dachplatte (außen mit der Konstruktion)	

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1 Diagram: Paths and paved areas

2 Planning details

3 Zeiss Planetarium



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**BIM**

Berliner Immobilienmanagement

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