

Platon DE 25

Universal Studios, Singapore



REPORT

Dry and healthy buildings



Green Roof for Shrek, Ice Age, and Friends

Platon DE 25 at Universal Studios Singapore

When the first Universal Studios theme park in Asia opens at Resorts World Sentosa on the island of Sentosa off mainland Singapore, in the spring of 2010, characters from Shrek, Ice Age, and other Dreamworks Animation movies will come alive.

Visitors to the Park will be able to enjoy adrenaline-charged rides, themed dining and souvenir shopping.

Amid the make-believe world of the movies, roller-coaster rides, themed dining and souvenir shops,



designs: a regular low-slope reinforced concrete flat roof and a sloped Corus Kalzip profiled metal roof.

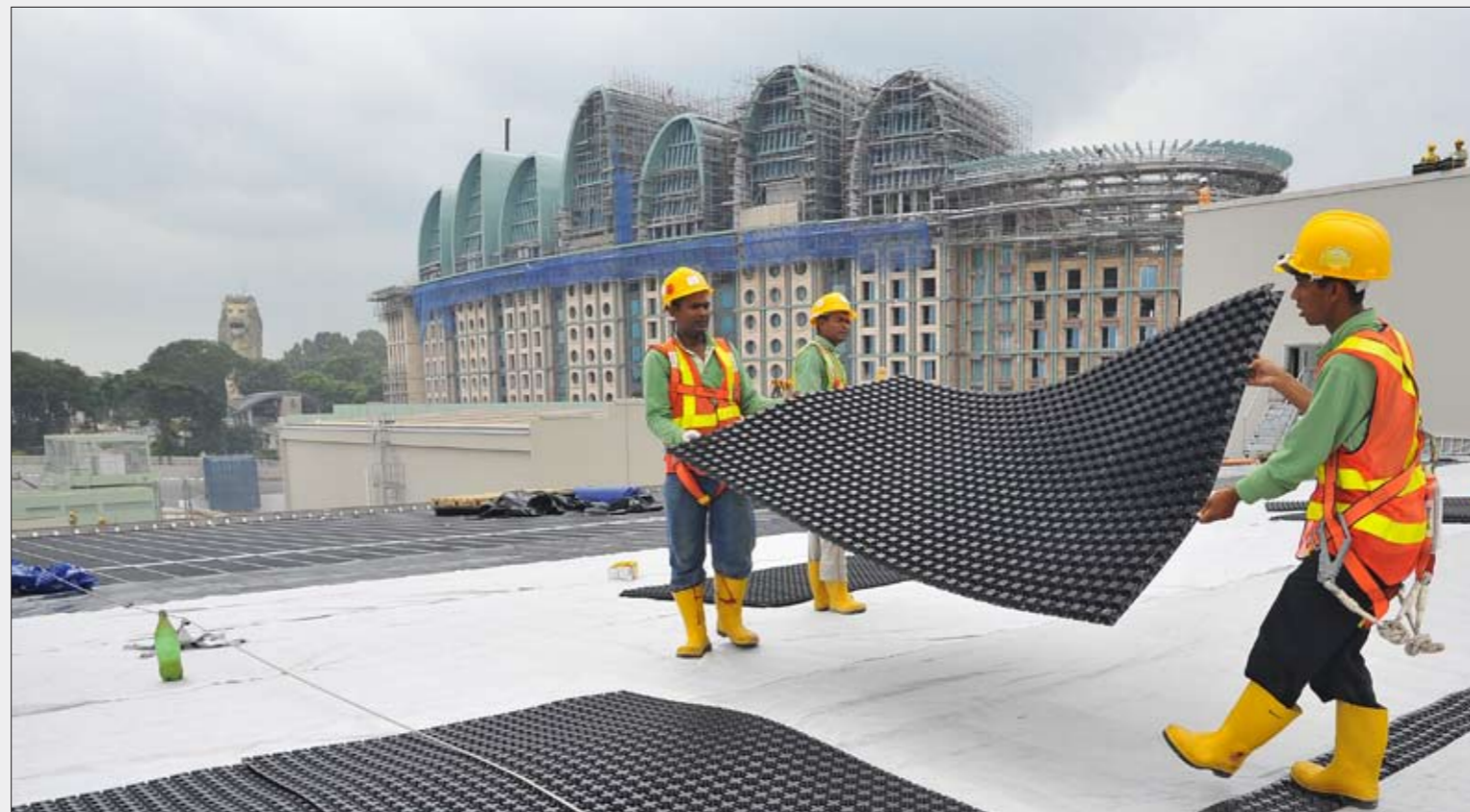


down-to-earth environmental issues were not forgotten. Integrated into the design and concept for the building of the theme park are environmentally conscious energy saving "green" features.

For example, numerous "green" roofs were incorporated in the park's construction concept as a sustainable natural solution to conserve energy. The excellent insulation properties of green roofs meant that they act as heat and sound shields, protecting building interiors from the tropical heat and reducing sound transmission. This not only reduces energy consumption, but also extends the lifespan of the waterproofing on the roofs. Additionally, the extensive green roofs contribute aesthetically to the natural ambience of the park and are a testimony to the commitment of the Park to energy conservation and responsible environmental stewardship.

The green roofs in the Park involve planting on 2 types of roof

For the metal roofs, 2 layers of VersiCell, a structural drainage module, were used to fill the space between the metal ridges to create a flat surface.



Platon DE 25 can be processed quickly thanks to the large size of the individual mats.

Where required, waterproofing was provided by a fully adhered layer of Evalon PVC-EVA terpolymer waterproofing membrane.

Platon DE 25 was chosen as the drainage-cum-water retention mat as the wide structural spans of the immense roofs and fast track construction of the Park demanded that the mats be light and easy to install.

The waterproofing and green roof system including Platon DE-25 was supplied by Elmich (Far East) Pte Ltd, Isola's partner in Asia and the Middle East.

The other components of the green roof build up comprise a layer of non-woven filter fabric laid over the Platon DE 25 mat followed by a primarily inorganic substrate and selected drought-tolerant plant species, mostly succulents, which require little or no maintenance. An automated irrigation system is installed for use during the initial plant establishment and to maintain healthy plant growth during prolonged dry periods.



Occupying about 35,000 m², the green roof at Universal Studios Singapore will be one of Asia's largest. The colossal green roofs at Universal Studios Singapore are testimony that even large commercial and industrial projects and their surroundings can benefit from well-designed green roofs effective in the mitigation of urban heat island effect, enhancing aesthetic ambience and helping buildings to blend into natural surroundings.

Facts

Location:

Universal Studios Singapore

Awarding Authority:

Resorts World Sentosa Pte Ltd

Size:

ca. 35,000 m²

Drainage System:

Isola Platon DE 25

Manufacturer:

Isola as, Nottodden

Landscape Contractor:

Nature Landscape Pte Ltd

Green Roof Specialist:

Elmich (Far East) Pte Ltd



Platon DE 25

Technical Data

	DE 25
Material	PE
Stud height	23 mm
Material thickness	1 mm nominal
Dimensions	1.33 m x 2.22 m
Weight 950	950 g/m ²
Max. compression strength	75 kN / m ²
Drainage capacity	up to 6.1 l/m ²
Water flow capacity (EN ISO 12958)	9 l/sm

CE marked to EN 13252 as drainage layer



Functions

- Water storage and flat water distribution in excess roofing
- Horizontal drainage capacity
- Positive for the environment by re-using the rain water

Benefits

- 6.1 l/m² water storage
- Suitable for extensive or semi-intensive greening
- Wide choice of vegetation layers
- Can be integrated with various systems
- Drinking-water friendly
- Environmentally neutral
- High stability and compressive strength
- Fast and easy to install



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