New Shaw Foundation Symphony Stage

VISITORS to Singapore Botanic Gardens will now be able to enjoy a wider variety of performances at the newly rebuilt Shaw Foundation Symphony Stage.

A popular and iconic venue in the Botanic Gardens, since the 1990s, the Shaw Foundation Symphony Stage has been rebuilt to extend its range of uses. Developed at a cost of S$ 2 million, it features a bigger stage area, and improved sound system, stage lighting and back-of-house facilities, making it a more user-friendly performance venue. The rebuilding of the stage was made possible through a contribution of S$ 1.5 million from the Shaw Foundation.

The design of the Shaw Foundation Symphony Stage is inspired by its beautiful setting in the Palm Valley. Echoing the organic forms of flowers and leaves, the structure consists of two overlapping but balanced out, petal-like forms, growing out of a corolla-like tube. The floral stem is held together, at the base, by a concrete ring beam that provides stability to the whole ensemble.

The bigger petal shelters the stage while the smaller one at the rear, houses the changing area and support services.

The petal-like form of the roof is constructed from free-standing steel ribs that are expressed on the underside of the petals, and together with the ribbed form of the titanium zinc roof above, evoke the complex venation of flowers and leaves.

The forms of flowers and leaves have inherent structural logic that gives them strength and rigidity, despite their apparently fragility. This is what the design seeks to emulate.

As the forms have to project sound outwards to the audience, the shapes of the petals have been modified to resemble an acoustic shell with good sound propagation qualities. This is achieved through the use of a hardboard for the ceiling, as well as through the creation of two curvilinear backdrops at each side of the stage. These backdrops further help the propagation of sound, besides functioning as a visual screen, backstage.

To address the effect of the western sun, which can be very uncomfortable to performers rehearsing in the late afternoons, the edges of the petal-like roof are pulled down as low as possible, to shield the stage from the setting sun. This is further aided by the landscaping. The planting, on the western flank, of several Bismarkia palms which have fronds and a colour similar to that of titanium zinc, helps to shield the stage further.

According to CPG Consultants, the Main Consultant for the project, in addition to its ability to take the complex curvature of the roof, titanium zinc is also a beautiful material with a powdery blue-grey surface colour that keeps its look well, given its inherent chemical inertness which also means that the rainwater run-off from the roof is non-pollutive. In the context of the stage's location in the middle of a lake of rich biodiversity, this is an environmentally sound feature. The most visually attractive quality of the titanium roof, are the seams or the joints between the orange peel segments from which the roof is constructed. These joints or seams are formed on-site and can cater to a range of heights to provide the degree of texture needed. The handcrafted feel is particularly appropriate for this sculptural project. The titanium zinc was supplied by Umicore France, from its VM ZINC range of products. RnF

PROJECT CREDITS

Client
National Parks Board

Main Consultant
CPG Consultants

Sound Consultant
VIPAC

Main Contractor
CKT Thomas

Roofing Contractor
Sheet Metal International Systems

Titanium Zinc Supplier
Umicore France

Enquiry No: 05/202

▲ *The petal like form of the roof is constructed from free standing steel ribs that are expressed on the underside of the petals, and together with the ribbed form of the titanium zinc roof above, evoke the complex venation of flowers and leaves.*

▼

The Shaw Foundation Symphony Stage features a bigger stage area, and improved sound system, stage lighting and back of house facilities.

Installing the roof

ACCORDING Sheet Metal International Systems, roofing contractor for the new Shaw Foundation Symphony Stage, the project was very challenging, due to the extraordinary, organic shape of the roof. It was also one of the rare occasions where very old traditional European methods, as well as craftsmanship, could be demonstrated. Only master craftsmen and highly skilled 'journeymen' were engaged for this installation. Also, special tools had to be developed for this 'one of a kind' roof.

One of the main difficulties was to apply the required seam layout to the actual shape of the roof. To accommodate the changes in the flow of water, in relation to the roof shape and seam layout, was difficult, because it meant that the edges of the panels were not only tapered, they were curved, twisted and also changed directions. So, all the panels had to be made from a template, and all bends and folds had to be cut and formed by hand. Even the gutters had to be completely hand-made, since it was also curved in three dimensions. R&F

Enquiry No: 05/203