

# A GOLDEN STRAW HAT IN THE RAINFOREST

Despite their different folk costumes, the thirteen minority groups who live in Xishuangbanna, Yunnan, in the southwest of China all wear straw hats. Resembling a giant golden straw hat, the Dai Show Theatre rises from the rainforest. The roof above the heads of the tourists enjoying the wonderful shows inside is protected with a Sika roofing waterproof system.

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PHOTO: TIM FRANCO

> Xishuangbanna is called “Mengbalanaxi” in the ancient Dai language, which means “an ideal and fantastic paradise”. With its primeval forests, this place is home to many wild animals. It is also a haven for the Dai people with bamboo houses among the trees, graceful figures of Dai girls, and the beautiful peacock dance. The world-class modern hi-tech Dai Show Theatre is located in Jinghong, the capital of Xishuangbanna prefecture.

Representing a vast investment, it was built by the Wanda Culture Industry Group. The theater, integrating Dai culture with modern technologies, was designed by Mark Fisher, one of the world’s foremost architects and artistic director of the opening and closing ceremonies of the Beijing and London Olympic Games.

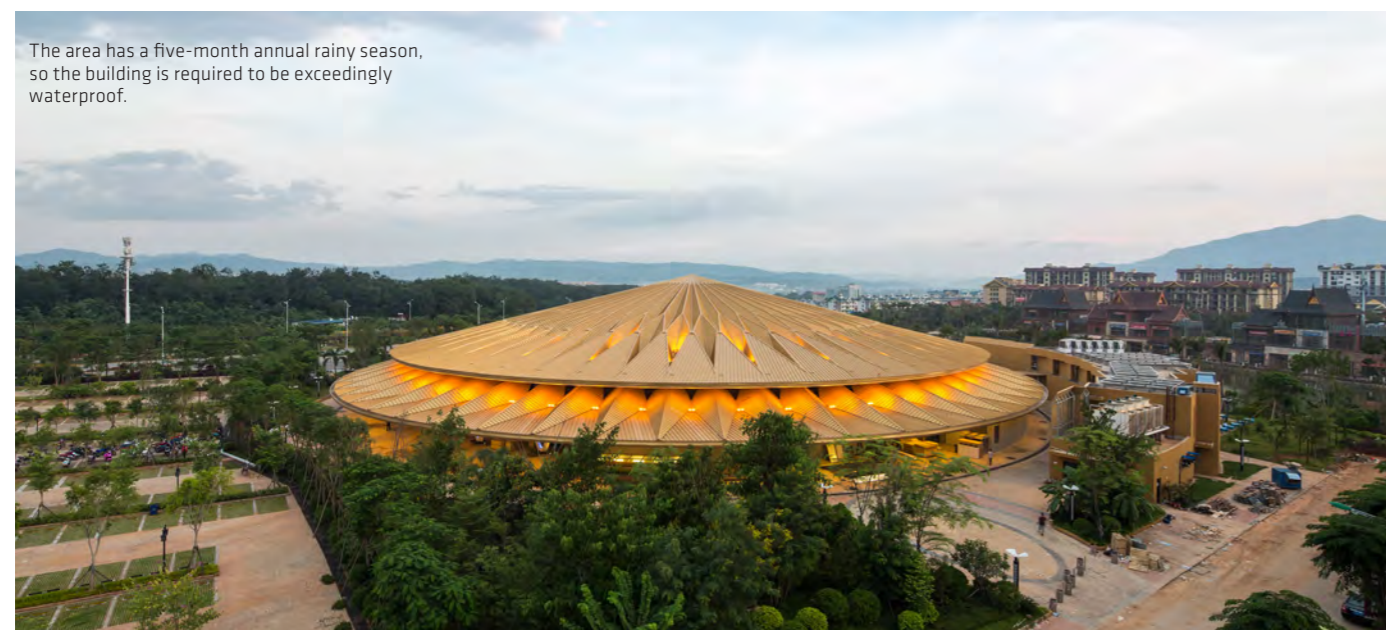
The architectural design of the theater has a strong tropical rainforest influence. Given the building’s resemblance to the straw hats often worn by Dai girls, the theater is nicknamed “golden straw hat”. Inspired by the geometrical form of palm leaves common in tropical areas, the de-



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## THE DESIGN OF THE FOLDED PITCHED ROOF IS INSPIRED BY THE GEOMETRICAL SHAPE OF PALM LEAVES COMMON IN TROPICAL AREAS AND BEARS COMPARISON WITH THE ROOFS OF LOCAL DAI BUILDINGS

> sign of the folded pitched roof calls to mind the similarly shaped roofs of local Dai buildings.

The two-layered roof structure of the hall is made up of tubular elements, embodying a modern interpretation of the traditional Dai bamboo houses. Under the crown is an outdoor theater surrounded by trunk-shaped pillars. The space between the two layers forms a natural ventilation system introducing a natural breeze into the theater to counter the hot climate of Xishuangbanna. The side openings also enable tourists to enjoy the scenery outside.

Since Xishuangbanna is located in a tropical area with a five-month annual rainy season, the building is required to be exceedingly waterproof. The waterproof system installed under the lower layer of the roof is a non-exposed mechanical fixed system with an extended waterproof area of 14,000 m<sup>2</sup>. On the lower layer of the roof, there are in excess of 24,000 structural pillars supporting the upper layer, i.e. more than 1.5 per m<sup>2</sup>. These protruding components and structures posed huge challenges in terms of the installation and material quality of the waterproof membrane.

After witnessing the excellent performance displayed during sample construction on site as well as the superior building techniques employed by the contractor, the customer selected Sika's PVC waterproof membrane for the project. Due to the presence of a welded right-angle junction plate on the structural pil-

lars of the upper layer of the roof, standard prefabricated PVC waterproof parts could not be used on the construction site. Instead, the waterproof parts of all the support details had to be handmade. Moreover, as the quality directly determines the efficiency of the entire waterproof system, the contractor fabricated semi-finished handmade prefab interiors based on the shape and specifications of the protruding parts to be covered.

Since the indoor construction environment was far better than that of the construction site, welding standards was drastically improved and had reduced the potential safety hazards caused by faked welded seams. What is more, the prefab-

ricated waterproof parts shortened the time required for membrane cutting, welding, and on-site checking, thus accelerating the overall construction process and guaranteeing the successful architectural effect of the whole roof system.

Today, the Dai Show narrates the ancient and mysterious love stories of the Dai people to tourists every day and represents the mysterious rainforest life and beautiful Dai myths through the medium of modern technologies and spectacular performances. While tourists come and go, the "golden straw hat" and the Sika roof waterproof system, the theater's silent protector, will remain permanent features of the rainforest. <



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Indoor view of the theatre.