

"Tropical Islands" ETFE-Foil cushion structure

(former CargoLifter Airship Hangar in Brand near Berlin)

Originally built for the production of large airships, the former CargoLifter hangar, the world's largest self-supporting hall will house an artificial tropical paradise of superlative dimensions to be marvelled at in the future:

A 5,000 m² large tropical sea with a 200 meter long white sand beach, a rain forest with 1,000 different plants and trees, a 1,500 m² large tropical lagoon and numerous catering facilities and exotic show programmes shall help to attract thousand of visitors daily as of 2005.

In order to supply the tropical plant life in Tropical Island with the required lighting using natural daylight / UV light, a new transparent roof was built. A roof surface of 20,000 m² will be provided with a structure of three-layered, air-supported pneumatic cushions on the existing main supporting structure made of steel. The crystal-clear Teflon foil (ETFE) makes it possible for natural daylight to penetrate to a rate of up to 97 %. and the air cushions provide for sufficient heat protection. A total of 60,000 m² of the special foil and approx. 16 kilometres of aluminium-sheathed special wire cable will be processed.



project data

Architect	CL Map
Construction	CENO TEC GmbH
Statics	Form TL
<u>Hall data:</u>	
Base surface	66.000 m ²
Length	360 m
Width	210 m
Height	107 m
<u>ETFE foil roof data:</u>	
Roof surface	20.000 m ²
Quantity of pneumatic cushions	56
Cushion dimensions	approx. 20.6 x 15.8 metres
Foil thickness	200 µm external layers, 100 µm intermediate layers
Fire protection	fire-retardant according to DIN 4102B1

