1. Terminal 3 roof design and construction at Shenzhen Baoan international airport, China

Wells, Matthew (1)

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Author affiliation: (1) London, United Kingdom

Abstract: A combination of Italian design flair, German engineering and Chinese fabrication skill has delivered one of the world’s most dramatic-looking airport terminals in just 6 years. The £600 million Shenzhen Bao'an airport Terminal 3 near Hong Kong went from a design competition in 2008 to a 45-million-passengers-a-year terminal in 2013. Looking like a cross between a manta ray and a plane, the entire 450 000 m² building is skinned in a curving honeycombed space-frame roof. This paper focuses on the design and construction of the 1.2 km long roof structure, which includes conical disc springs to control thermal and seismic movements. Extensive use was made of digital engineering tools to define, analyse and fabricate the frame and cladding. This, together with development of practical and economic construction methods, helped achieve the bold architectural vision in a relatively short time. © ICE Publishing: All rights reserved. (3 refs)

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