

FOOTBRIDGES IN MEYDAN ONE MALL IN DUBAI, UAE

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Summary

A big commercial and entertainment complex called Meydan One, designed by the American architectural firm AE7, is currently under construction in Dubai, UAE. The complex consists of a big shopping mall surrounded by different towers for offices and hotels, a ski slope, gardens with lagoons, etc.

The shopping mall building is oriented in a very clear north-south direction materialized with a corridor called “*the canyon*” that is 400m long and a width that is variable between 66m (typ) and 90m. This canyon is covered with glass roof that will be one of the biggest in the world.

The scope of the design task of SBP includes not only the structural design of the glass roof but the design of seven footbridges crossing the canyon area.

The footbridges are having 3 different lengths (42m, 60m and 92m) and are grouped in 2 families that are following the same structural typology as the roof structure, beams reinforced with a prestress stress ribbon plate.

To give a sense of unity to the canyon space, both families of bridges are speaking the same language and they reach a high level of transparency with ambitious span to depth ratios. This way, they are inducing a minimal interference with the sight lines and retail.

Type 1a (span 40.6 m) and span 1b (span 58.6m) bridges have a similar typology of steel decks supported by tapered compression props that support on extradosed stress ribbons plate.

The largest span of 91.15m is a double-deck bridge type 2 but following also the extradosed stress ribbon typology.



Fig. 1. Images of the extradosed steel footbridges. Type 1 at the right and Type 2 at the left. Renderings courtesy of AE7

Keywords: extradosed; steel structures; stress ribbon; dynamics; construction sequence; aesthetics.