

Project:

Hong Kong-Zhuhai-Macau
Bridge

Location:

Hong Kong-Zhuhai-Macau,
China

Project completed:

2018-10-13

Contractor:

Shanghai Construction Group

Applicator:

Shanghai Lingyun Architectural
Decoration CO., LTD.,

上海灵匀建筑装饰工程公司

Products used & amounts:

Flooring System: 30,000m²

MasterTop P 1602

MasterTop 1228

MasterTop TC 405

MasterEmaco T 2900

MasterBrace 1438

MasterSeal 678

Hong Kong-Zhuhai-Macau Bridge

The world's longest crossing sea bridge



Our reference in China: Hong Kong-Zhuhai-Macau Bridge

The background

The world's longest sea crossing, linking Hong Kong, Macau and Zhuhai, in the Guangdong Province, China opened on October 24 2018 to much fanfare. The 55-kilometer bridge and tunnel took almost 10 years to complete.

The structure has attracted attention from all over the world for its size, design and aesthetic beauty. It was designed to look like three Chinese dragons – both to appeal to users and to keep drivers awake and alert during the journey. Almost 30km of roadway crosses the Pearl River Delta. A 6.7km dip in the middle, for an undersea tunnel, allows ships to pass by unfettered. The trip between Hong Kong and Zhuhai, which normally takes up to four hours, is targeted to eventually be 30 minutes.

The challenge

Design and construction had to overcome a myriad of challenges, ranging from frequent typhoons and airport height restrictions to dolphin habitats. To achieve a designed structural life of at least 120 years, the designers needed a suite of innovations – several of which came from Master Builders Solutions:

- Protection for the bridge piers that are constantly subjected to harsh and corrosive environments in the marine area.
- Construction materials and applications ability to withstand the tropical cyclones and typhoons which regularly strike this area.
- Durable and wear-resistant coatings for the highly trafficked parking garage at the immigration and customs formalities area.

Contact:

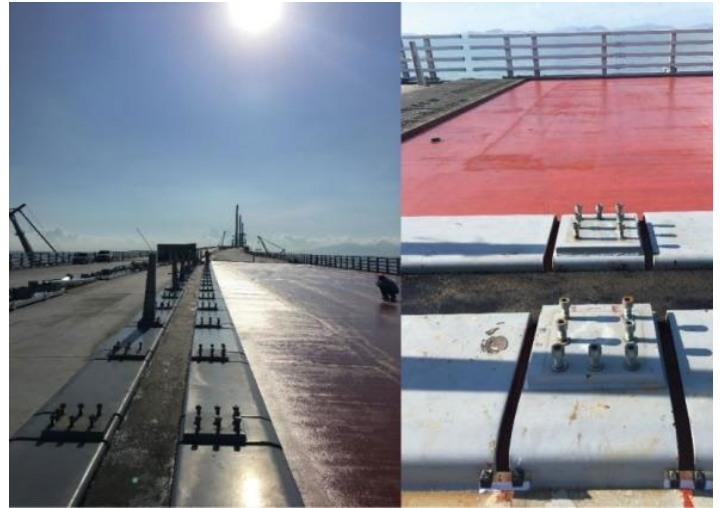
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Hong Kong-Zhuhai-Macau Bridge

The world's longest crossing sea bridge



MasterEmaco 1438 application for bridge piers



MasterEmaco T 2900 application for bonding of expansion joints

Our solution

The solutions from Master Builders Solutions supported the design objective for a structural life of 120 years for the bridge. **MasterBrace 1438** protects bridge piers from corrosion, while **MasterSeal 678** provides waterproofing and wear resistance.

MasterTop polyurethane flooring system provides chemical resistance, mechanical wear, and impact resistance to the parking garage.

MasterEmaco T 2900 provides excellent bond at the expansion joints which enables the road pavement to safely absorb traffic loads at main parts of bridge.

The customer's benefit

Sustainability was an intrinsic goal from the start. The architects selected a cable-stayed design to minimize material use and time required for construction. Master Builders Solutions' products promote fast and easy construction, helping to extend the structure's durability to meet the design life of 120 years.

Projects facts at a glance

- Extend the service life of the bridge piers designed to last 120 years.
- A trip between Hong Kong and Zhuhai which normally takes up to four hours now takes 30 minutes.

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of MBCC construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com/en-asiapacific