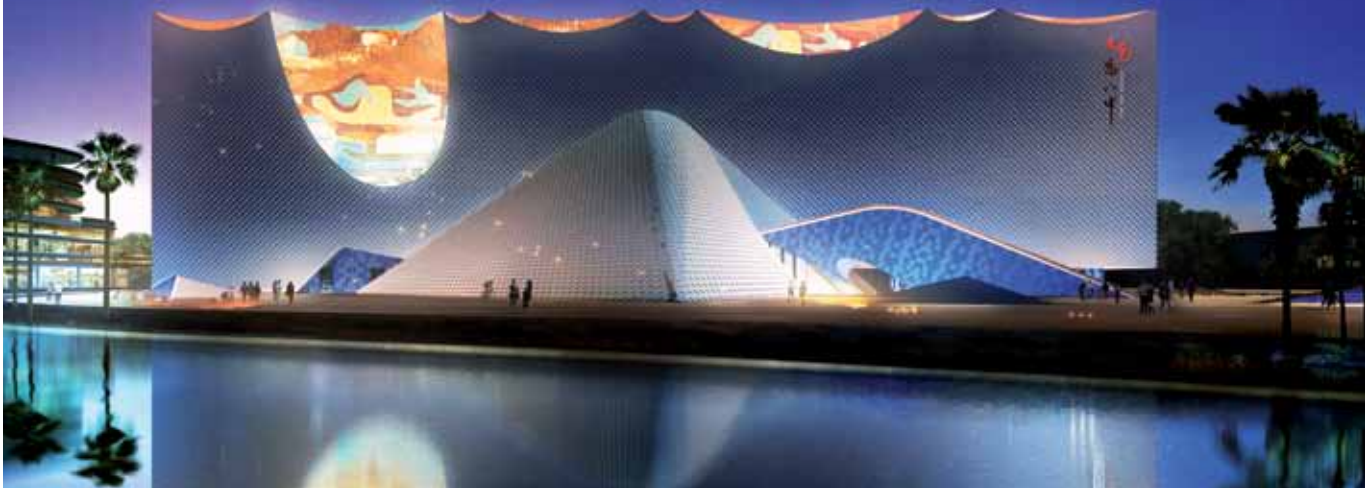




# Malacca (Malaysia)

## ENCORE MELAKA THEATRE



### WATERPROOFING WORK IN THE MAIN THEATRE OF MALACCA CITY

#### IN THE SPOTLIGHT MAPELASTIC

Two-component cementitious mortar, flexible down to  $-20^{\circ}\text{C}$ , for waterproofing balconies, terraces, bathrooms and swimming pools. It offers the following advantages: it remains flexible at very low temperatures ( $-20^{\circ}\text{C}$ ) and protects the surface of concrete from  $\text{CO}_2$  penetration (carbonation) for more than 50 years; it is resistant to UV rays and CE-certified in compliance with EN 1504-2 and EN 14891; it may also be applied on existing coverings; it is compatible with ceramic, mosaic and natural stone coverings and certified EC1 R Plus by GEV.



**ABOVE.** An external view of the theatre.

**LEFT.** The columns of water that fall from the ceiling are collected in a storage tank on the stage waterproofed with MAPELASTIC.

Overlooking the Straits of Malacca and situated along the promenade of the city of the same name, the Encore Melaka Theatre has a form which is both contemporary and avant-garde. The building is just a part of a more comprehensive development programme known as Impression City Melaka which, in the coming years, will see the construction of hotels, residences, shopping and business centres, schools and wellness facilities.

#### A CUTTING-EDGE THEATRE

The entire complex extends over an area of more than 60,000  $\text{m}^2$  and, with a capacity of more than 20,000, it is the largest theatre ever built in Asia.

In his design, the architect Wang Ge from the Beijing Institute of Architectural Design was aiming to promote the multi-ethnicity and cultural wealth which has been a feature of Malacca for many centuries by creating a structure that, on the surface, may appear to be quite simple, with facades covered entirely with white porcelain tiles, but one that is sophisticated in terms of construction technology.

The uniformity of the covering material is broken by inserting LED panels that illuminate the structure at night. The internal spaces, as well as the foyer where spectators are welcomed, are characterised by the colours blue and white, a symbol of purity and eternity.

The theatre is full of cutting-edge technology, included a complex hydraulics system to raise and lower platforms built into the stage, a high-tech audio system, 3D mapping projection



**LEFT.** The floors in the corridors and on the stage were waterproofed with PLASTIMUL PU membrane.  
**RIGHT.** PLANISEAL 288 mortar was applied to waterproof the substrates in the bathrooms and showers.

equipment and a spectacular platform that is able to rotate 360 degrees. The platform – the first of its kind in south-east Asia – allows the entire auditorium to rotate automatically during a show, thereby giving a different perspective of the stage. The theatre puts on performances of Impression & Encore Series, an avant-garde production that recounts the history of the city over the centuries, with stories of the first travellers, indigenous settlements and inter-cultural encounters through the medium of song and dance.

**WATERPROOFING DIFFERENT AREAS WITH DIFFERENT PRODUCTS**

The contractor that built the theatre needed to waterproof a large part of the internal areas of the structure (flat surfaces, lift shafts, bearing walls, pump room, storage tanks, balconies, corridors, bathrooms and kitchens) and certain areas of the stage. In fact, during the Impression & Encore shows, water is always present on the stage, either falling from above or collected in a storage tank on the stage itself. The waterproofing products proposed by Mapei Technical Services met the requirements of the client, designer and contractor. Waterproofing of the bearing walls and lift shafts (a total of 600 m<sup>2</sup>) was carried out with MAPELASTIC

FOUNDATION, a two-component cementitious mortar specifically developed for concrete retaining walls applied in two coats with a roller to form a layer at least 2 mm thick.

To waterproof the rainwater collection tank, the pump room, the storage tank for the spray-mist and the storage tank located on the stage (total surface area 620 m<sup>2</sup>), Mapei Technical Services recommended using MAPELASTIC two-component cementitious mortar.

For the floor surfaces on the stage and the corridors inside the theatre (8,820 m<sup>2</sup>), the product applied was PLASTIMUL PU waterproofing membrane, which is distributed on the Malaysian market by Mapei Malaysia.

In the bathrooms, showers, kitchens and areas housing the air-conditioning system, the surfaces were treated with PLANISEAL 288 two-component cementitious mortar which can be used for waterproofing underground structures, storage tanks and concrete structures in general.

The concrete road surfaces in the carpark and in the loading bays (12,000 m<sup>2</sup>) were treated with MAPETOP SP (natural color), which is distributed in Malaysia by Mapei Malaysia. This surface hardener is used to make both internal and external concrete surfaces more abrasion-resistant when they are subjected, as in this case, to a high level of traffic.

**TECHNICAL DATA**  
**Encore Melaka Theatre,**  
 Malacca (Malaysia)

**Period of construction:**  
 2016-2018

**Period of the intervention:**  
 2016-2018

**Intervention by Mapei:**  
 supplying products for  
 waterproofing substrates on

lift shafts, bearing walls, tanks,  
 corridors, bathrooms, showers,  
 and kitchens

**Design:** Asima Architects Sdn  
 Bhd

**Client:** Yong Tai Berhad  
**Main contractor:** CCC  
 Construction Sdn Bhd

**Waterproofing contractor:**  
 Monarch CC Sdn Bhd

**Mapei coordinators:** Simon  
 Yap, Mapei Malaysia

**MAPEI PRODUCTS**

Waterproofing substrates:  
 Mapelastic, Mapelastic  
 Foundation, Mapetop SP\*,  
 Planiseal 288, Plastimul PU\*  
Treating concrete road  
surfaces: Mapetop SP\*

\*These products are distributed  
 on the Malaysian market by  
 Mapei Malaysia

For further information see  
[mapei.com](http://mapei.com) and [mapei.com.my](http://mapei.com.my)