

## The Oceanarium, Resorts World Sentosa, Singapore

### Cementaid® Caltite® System

#### Hydrophobic & Poreblocking Ingredient® (HPI®)

The final phase of the Resorts World Sentosa development in Singapore was a marine life discovery centre. We supplied Caltite to all of the water retaining structures in this phase with the total quantity of Caltite supplied at about 120,000m<sup>3</sup>. Among all the tanks there is a huge RC oceanarium which is the central attraction and according to the Guinness Book of Records, this is the largest aquarium in the World. Its capacity is approximately 20 million gallons or 91,000 cubic metres of seawater with a depth up to 12 metres.



#### Design constraints

With such a huge seawater tank, leakage anywhere in the structure could not be tolerated. However, crucial to the design was that if a leak was identified it could and would be repaired immediately and importantly, the leak should not persist by spreading to other places causing constant inconvenience to the client and possible durability issues with the concrete.



#### Solutions

The Caltite System was chosen for a number of reasons including that the entire concrete would be hydrophobic and have consistent ultra-low water absorption (constantly <1.0% under BS1881:Pt122:1983).

#### Long Term Durability

Caltite System is a proven integral waterproofing system for concrete with a track record of over 50 years in providing corrosion resistance against chloride induced corrosion. In terms of waterproofing, the whole aquarium has performed well ever since it was filled with seawater in June, 2012.

<b>Project:</b>	RWS MC06 project
<b>Owner:</b>	Resorts World Sentosa
<b>Architect:</b>	DP Arch
<b>Engineer:</b>	Aecom
<b>Main Contractor/Project Manager:</b>	DP Engineer
<b>Concrete Supply:</b>	YTL / Pan United
<b>Contractor:</b>	Sembawang

#### Areas of Use:

Caltite System was used in all of the water retaining structures in the entire project.

