



Asia's most mesmerising family resort



Project Name:
Resorts World at Sentosa
(also known as Sentosa
Integrated Resort)

Location:
Sentosa, Singapore

Owner:
Genting International

Architects:
DP Architects Pte Ltd
Michael Graves &
Associates

Civil & Structural Engineer:
Maunsell Consultants
Singapore Pte Ltd

Contractors:
Sembawang Engineers &
Constructors, McConnell
Dowell South East Asia
and Gammon Pte Ltd

Sub-Structure Contractor:
Sembawang Engineers
and Constructors Pte Ltd

**Ready-mixed Concrete
Supplier:**
YTL Concrete (S) Pte Ltd

Scope of Application
Superstructures,
substructures, Jetty and
Infrastructure

Year of completion:
Due completion 2010

Admixture:
Glenium® 105

 **BASF**

The Chemical Company

Project Description:

Slated to be one of the world's most exciting family destinations, Resorts World at Sentosa (RWS) is a collection of resorts and attractions with a myriad of fun-filled offerings for the entire family, developed by Genting International. Spanning 49-hectares on Singapore's resort island of Sentosa, and requiring some 1,200,000m³ of concrete, this S\$5.2-billion mega-resort will change the face of family holiday destinations in the region, forever.

Amongst its offerings are a total of six exceptional and uniquely designed hotels of about 152,000m², housing world-class accommodation totaling to more than 1,800 rooms; Marine Life Park, the world's largest Oceanarium housing 700,000 marine creatures; the 13,000 m² Equarius Water Park, an exciting water theme park set into the lush verdant greenery of Sentosa; and FestiveWalk, an unparalleled array of dining and retail options that forms one of the world's largest collections of flagship concept stores including some of the biggest international brands.

Resorts World at Sentosa will also be home to Universal Studios Singapore - Southeast Asia's only and the second largest in the world, with a 245,000 m² gross floor area. This internationally renowned theme park will feature 22 attractions, including at least 16 rides designed especially for Singapore. There will also be three massive amphitheatres (an open-aired one boasting some 2,150 seats; while two others comprising 3,600 seats and 1,714 seats respectively); a 1,600-seat showroom; a 7,300-seat ballroom - Asia's largest, 22 meeting rooms with a total of 3,390 seats.

Advantages at a Glance:

- Outstanding slump retention
- High early and ultimate concrete strength
- Increased durability
- Overall cost benefit

Challenges:

- Application of manufactured sand (Vertical Shaft Impactor - VSI sand) as preferred substitution of high cost natural sand.
- 2 hours slump retention
- High dispersion of cement



Customer Satisfaction:

- Control of workability of concrete when arriving on site.
- Consistent high quality concrete achieved

Typical Mix-design for 45 MPa concrete:

Strength N/mm ²	W/CM (%)	Fresh Concrete Properties		Mix Design (kg/m ³)				
		Slump (mm)	Air (%)	Water	Portland Blast Furnace Cement	Manufactured Sand	Stone (20 mm)	Glenium 105
45	45	125	1.6	186	413	770	960	3.17

BASF Construction Chemicals Asia Pacific

Pacific **Australia** +61288114200 **New Zealand** +6494147233 | **ASEAN Singapore** +6568616766 **Malaysia** +60333443388
Indonesia +62218934339 **Thailand** +6622049427 **Vietnam** +84650743100 | **South Asia India** (Pakistan, Sri Lanka, Bangladesh)
 +912227619992 | **Greater China China** +862123203000 **Hong Kong** +85224074291 **Taiwan** +886492255138 | **Korea** +82237073141 |
 Japan +81335828811