

# REFERENCE CASE AMUSEMENT PARK



Image: iStockphoto.com

## Roller Coaster Inspection at Sunway Lagoon Water Park in Malaysia

To achieve maximum safety levels for customers and show compliance to regional and international standards, amusement park ride owners and operators at the Sunway Lagoon Water Park required reliable inspection services and professional assistance. That is why they approached TÜV Rheinland.

Basic Facts	
Client	Sunway Lagoon Water Park Sdn Bhd.
Time frame	2016
Project location	Selangor Darul Ehsan, Malaysia
Main services	<ul style="list-style-type: none"><li>▪ Functional tests</li><li>▪ Independent system examination</li><li>▪ Test rides and trial runs</li></ul>
Involved regulations/standards	<ul style="list-style-type: none"><li>▪ EN 13814</li><li>▪ VdTÜV Code of Practice 1507:2013</li><li>▪ DOSH guidelines</li></ul>

### Initial situation and requirements

Sunway Lagoon is a theme park comprised of 6 zones including a water park, amusement park, wildlife park, extreme park, scream park, and Nickelodeon Lost Lagoon. There are 90 attractions over 88 acres. The theme park has won awards in recent years and attendance is high. Ensuring visitor safety is the park's top priority. That is why park owners turned to the TÜV Rheinland experts to provide necessary inspections and assessments for all park rides.

## Solutions & results

In order to prove general safety, thorough examinations were conducted on structures and rides. An appropriately large clearance envelope able to accommodate passengers and any moving parts to other objects was confirmed. Sequential, forced and interlocked control systems, as well as specified speeds incorporating accelerations and safety relevant weights were checked. Brakes were tested for acceptable deceleration and efficiency levels. Inspectors examined operational performance of the rides under normal working conditions, checking secondary backup systems and in cases of emergency. Finally, our experts examined all safety devices and electrical safety functions.

The scope of the safety inspections satisfied the following local and international requirements: codes of practice, principles for the testing of temporary structures, safety standard for fairground and amusement park machinery and structures, and Department of Health and Safety (DOSH) Malaysia guidance, Guidelines on the Safety Management of Amusement Park Devices 2008.

The independent examination helped demonstrate that at the time and place of the tests, the rides performed safely. It was decided that functional tests concerning ride movements (unloaded) would be performed only as far as applicable. Furthermore, as a part of rides inspections, we provided non-destructive testing (NDT) services for critical parts where necessary.

### Did you know?

Sunway Lagoon boast Asia's first Nickelodeon Themed Land. The theme park has won several "best attraction for kids" and people's choice awards since 2007.

### Benefits for the client

Our independent inspection and testing services helped the Sunway Lagoon Water Park to:

- [Assure quality and ensure safety of their passengers and visitors](#)
- [Reduce liability risks for the ride owner](#)
- [Demonstrate compliance to relevant local and international standards](#)

### About TÜV Rheinland:

Founded in 1872, TÜV Rheinland is a global leader in independent inspection services, ensuring quality and safety for people, the environment, and technology in nearly all aspects of life.

We inspect technical equipment, products and services, oversee projects and help to shape processes for companies around the world. Since 2006, we have been a member of the United Nations Global Compact to promote sustainability and combat corruption.

From non-destructive testing and inspection to proving compliance with international standards, we provide an extensive scope of services for temporary structures such as amusement park rides.