

Best practice

A truck weighbridge solid as rock – thanks to load cells by Minebea Intec



One of the most demanding applications for weighing is the measurement of loaded and unloaded trucks, particularly in extreme environments exposed to a high range of temperatures, as is the case in United Arab Emirate.

Key facts

Stevin Rock is the leading quarrying operator in the Middle East, focusing on limestone, gabbro rock, concrete and asphalt aggregates from three quarries, supporting mainly the construction and real-estate sector in the region. At Stevin Rock's quarry in Fujairah, trucks are loaded with 110 tonnes of rocks in 400 single weighing operations per day.

Application

To meet Stevin Rock's requirements, Danway Emirates installed a truck scale with Minebea Intec's load cells PR 6221 and the weight indicator Midrics® MIS 1 at the plant in 2015.

Products

- Truck scale load cell PR 6221
- Cable junction box PR 6021
- Indicator Midrics® MIS 1

Customer benefits

- The analogue load cell PR 6221 guarantees precise measurement results from 12.5 to 75 t, a long product lifetime and exceptional reliability, also in the emirate of Fujairah's extreme environment
- The simple operability and high accuracy that the Midrics® indicator offers save time and money in the long run

Customer

Stevin Rock was founded in 1975 as a 100% owned subsidiary of the Dutch civil engineering company Volker Stevin. Over the years, it has focused more and more on producing large-sized rocks typically used in breakwater application. In 2007 it merged with Ras Al Khaimah Rock Company (RAK Rock), becoming one of the largest quarrying companies in the world.



Project goal and implementation

The conditions for the use of truck weighbridges depend on their individual place of installation. Temperature, materials, weight and length of the trucks and especially the frequency of use have an impact on the lifetime of the scale and weighing products.

The “Stevin Rock” quarry in the United Arab Emirate of Fujairah stands for an environment that is an acid test for a truck scale. Temperatures range from 15 to 55 °C during the year, with trucks loaded with up to 110 tonnes of rocks. The frequency of 400 single weighing operations per day, seven days a week, demands the utmost of the installed equipment involved in quarrying and weighing the limestone, gabbro rock, concrete and asphalt aggregates.

Under these conditions, Stevin Rock turned to Danway Emirates, which was able to draw on Minebea Intec as its partner and a manufacturer of premium truck scale components known to offer load cells with a durability above the average. Stevin Rock incorporated the analogue PR 6221 – with the product 15 years on the market now, it has made an

important contribution in truck weighing on a worldwide scale and was the tried-and-tested solution providing the relevant appeal for Stevin Rock.

Its easy installation and commissioning, the patented measuring element geometry, maximum IP protection, surge protection, high overload capacity, and of course its precise measurements were other arguments that won the case. In combination with the cable junction box PR 6021 that was installed, it provides excellent lightning protection. The Midrics® MIS 1 scale indicator from durable stainless steel was chosen for its simple installation and operation processes and the high-precision results it yields.

Minebea Intec partner Danway Emirates installed a truck scale at the crusher plant from 2015 to 2017, which runs approximately 140,000 single weighings per year. The scale consists of a platform of 18x3 metres equipped with 10 load cells of 30 t, amounting to a capacity of 300 t. The truck scale is calibrated by Danway Emirates every twelve months and its accuracy is just as spot-on as on day one. All results meet the OIML Class III requirements.

“We are highly satisfied with the precision and durability of the Minebea Intec load cells.”

Mohammad Atiullah Khan
Senior QA-QC Engineer
Stevin Rock



Highly durable truck scales are required for the extreme conditions at the United Arab Emirate of Fujairah



The truck scale load cell PR 6221 guarantees precise measurement results, a long product lifetime and exceptional reliability



Are you interested?
We'll make you an offer! Simply send an email to
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