



Dynamic rail weighing ensures efficient train deliveries for major cement supplier

In motion rail weighing technology from Railweight is ensuring efficient transport of cement on train deliveries between the Indonesian factory PT Semen Padang and the local port, from where it will be exported. More than 2000 tonnes of cement are delivered every week.

The company had identified that unloading cement at the port was uncontrolled and that they had no way of monitoring whether the returning wagons had cement left in them. This affected the ongoing efficiency of deliveries.

As part of its continuous improvement process, the company needed to accurately monitor its deliveries as well as identify and repair any faulty wagons as part of a planned process.

Railweight installed its in-motion weighing system Weighline so that trains and individual wagons are weighed as they leave and re-enter the site. They do not need to stop or be de-coupled, so there is no interruption or delay.

By recording the weight of each wagon and train when they leave the plant with a full load and then return from the port empty, the company can immediately see whether any cement has returned and then identify the cause. The system weighs moving trains to an accuracy better than +/- 0.25 percent and individual wagons to +/- 0.5 percent.

Says Fidel Bastri, head of bagging at PT Semen Padang: "By monitoring our rail transport effectively we can maximise our deliveries to the port. Our wagons have a capacity of between 20 and 30 tonnes and in a normal week we will deliver more than 80 wagons. It is vital that we know that the loads are emptied at the port."

Crucially for the plant, the Weighline system was fast to install and does not involve any major civils work, so disruption was minimal.

The specified system has four pairs of Weighline transducers, which were fitted to sections of rails that matched the existing rail type, a TSR4000 weight indicator and I-Line software.

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TECHNICAL

Weighline transducers

- Weighing accuracy of moving rolling stock to within 0.2% train accuracy
- Designed to minimise affect of lateral loading and temperature
- Can tolerate high dynamic loads of up to 15t per wheel
- Rated to IP67 and can be used in harsh environments

TSR400 digital weight indicator

- Weighing speeds up to 110km/h
- Simple user interface
- Printer and communication ports
- On-board diagnostic with simple maintenance
- Highly configurable

I-Line software

- Net, tare and gross weighing modes
- Automatically incorporate train identification codes via AVI or RFID
- Manual and/or automatic entry of data
- Archived train data can be searched via several fields
- Data can be printed or viewed on screen



RAILWEIGHT

advanced train weighing systems



Engineers replaced sections of the on-site rail with the Weighline system. Unlike rail weighbridge installations, the onsite rail installation only takes a few hours, rather than weeks.

The TSR4000 digital weigh indicator and I-Line software can record, display or print the weight data. Custom reports can be created about the train, including wheel loads, axle loads, wagon type, total train consist and individual wagon tare, gross and net weights.

Within weeks of the installation a number of cement wagons were identified for maintenance. Before the system was installed wagons could remain undetected for weeks, which had a serious affect on the amount of cement delivered and the number of extra wagons required.

Benefits:

- Improved cement deliveries with minimal wastage
- Immediate identification of faulty wagons for planned maintenance
- Wagons and trains weighed while in motion
- Fast installation ensured minimal disruption