

Best practice

Precise weighing of molten metal



Minebea Intec India prevailed against competitors to design and build a high-capacity mobile weighing system for Indian leading steel producer BSP.

Key facts

In the Bhilai Steel Plant (BSP), thousands of tonnes of molten metal are weighed every day, before being transferred from the blast furnace to different process areas on open ladle cars. When BSP decided to increase production, it looked for an additional fast and reliable weighing solution to keep production flow efficient.

Application

Minebea Intec built two weighing platforms for the torpedo ladle cars, with 24 load cells and a weighing capacity of up to 400 tonnes for each platform.

Products

- Precision compression load cell PR 6201/15N
- Mounting kits, designed for load cell PR 6201

Customer benefits

Load cells

- Overload capacity up to 200 %
- Operation environment of up to 95 °C
- IP69 rating for the harshest environmental conditions

Mounting kits

- EN 1090 compliant for maximum structural integrity
- 100 % maintenance-free

Customer

The Bhilai Steel Plant (BSP) is one of India's largest producer of steel rails and plates and the largest producer of construction steel. Located in the Indian state of Chhattisgarh, the plant has a steel production capacity of more than three million tonnes per year.



सेल SAIL

BHILAI

Project goal and implementation

Traditionally, BSP has used open ladle cars to transfer molten iron from the iron-making section of the plant to the steel-making section. Under normal conditions, the residence time of the molten iron in the ladle is short and the distance traveled is usually less than half a mile.

When the customer expanded the production capacity of the plant, it decided to use an additional torpedo ladle car to transport the molten metal. That in turn would require a new track, parallel to the old one, and the appropriate weighing platform for the increased capacity of the ladle car.

When Minebea Intec India was involved in the project, one of the main requirements of the customer was to keep the

old track undamaged during the excavation and building works for the new one. That proved challenging, especially because the two tracks were very close together. Additionally, Minebea Intec India was allowed a strict shut down time in which to complete works.

Along with their partners for civil works, Minebea Intec India's design team built a safety wall to preserve the integrity of the live track and complete the project within the given timeframe.

"The installation and commissioning of the torpedo ladle car weigh bridges was a really challenging job. The project has been completed successfully and within the scheduled time frame."

R. K. Bakshi
Manager (PROJECTS-IATRS)

The construction of two weighing sections and platforms of 400 tonnes each was a challenge in itself, as it required many adjustments to align both mechanics and electronics and achieve the required accuracy.

Contact the expert
contact.india@minebea-intec.com



Torpedo ladle car on weighbridge



The Minebea Intec mounting kits have been customised to the special application requirements



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