

Roll Force Measurement – RFS-4

Determining Roll Force in Rail Manufacturing

Application: Force Measurement

Industry Sector(s): Steel and Other Metals

The Customer

The customer is a German company producing rails.

Customer Inquiry

The load-cell based force measuring system of the factory's Roll Stand 3, which had been in service for many years, was having accuracy problems. But the existing load cells were installed in an area that was very difficult to access and which would require major structural alterations for replacement, resulting in a long downtime. The manufacturer was thus looking for a simple, accurate, and easily accessible alternative.

Solutions and Equipment

As part of a project of a customer's Research and Development Department, an RFS-4 rolling force measuring system was installed as a test application. The idea was to compare the measurements obtained from the RFS-4 system while leaving the previous system in place, so their accuracy can be compared. Thanks to the excellent measuring results, the RFS-4 system was adopted during the trial period to replace the existing rolling force measuring system. Detailed results are shown in the graph below.

Since the new RFS-4 rolling force measuring system is using extensometers that are easily installed on the rolling mill posts, it is easy to add on to existing rolling mills. This minimizes the installation down-time and offers an excellent cost-benefit ratio. The G4 high sample rate provides high accuracy measurement in highly dynamic applications. The combination of state-of-the-art hardware and powerful software offers the user a number of advantages.

Key Features:

- Increased productivity
- Longer roller service life
- Overload protection
- Improved product quality
- Reduced downtimes

BLH / Nobel Weighing Systems
Brands of VPG Process Weighing

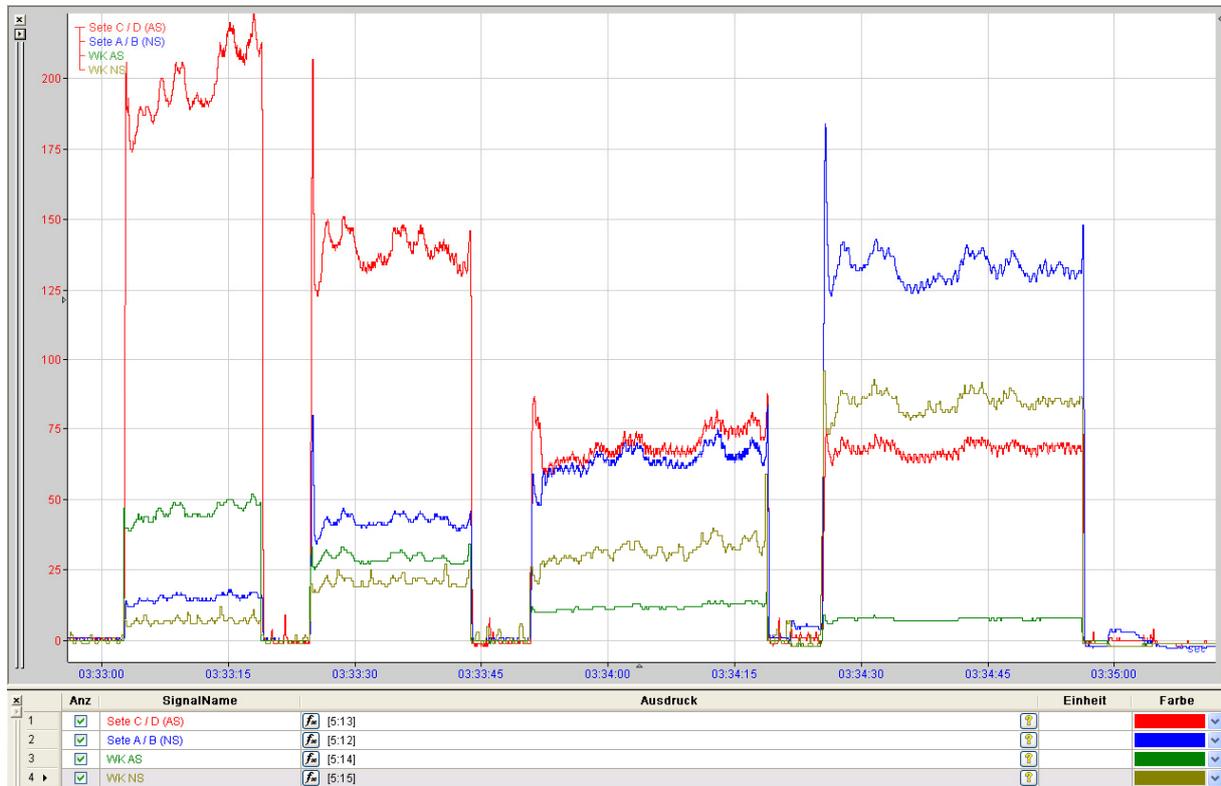


Figure 1: Rolling Mill with extensometers

Customer Comments

“The results of the RFS-4 were so impressive that we immediately decided to use the RFS-4 also for other rolling mills. With its easy installation and commissioning, and without any need for reconstruction, maintaining or changing a sensor will be much easier than with our old system.”

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- Comparison:
- █ - Curve of RFS-4 system, driving side (DS)
 - █ - Curve of RFS-4 system, non-driving side (NS)
 - █ - Curve of existing load cell, driving side (DS)
 - █ - Curve of existing load cell, non-driving side (NS)

Figure 2: Force Measurement Curves

“The RFS-4 from Nobel delivered such great quality, we decided at once to use it to replace our existing system”

Click here to open the Web version: <http://www.vishaypg.com/process-weighing/case-study/41009/>

(The Web version offers further hyperlinks to up-to-date product datasheets and other related documents like manuals, brochures, videos, and many more)

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