

Flow Measurement CASE STUDY

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Tel: (+351) 21 843 64 00
Fax: (+351) 21 843 64 09
geral@bhb.pt www.bhb.pt

High-precision lubrication oil density measurement with the CoriolisMaster FCB300 mass flowmeter NOVELIS aluminum rolling mill in Lüdenscheid, Germany

Customer



Novelis is the world leader in aluminum rolling, producing nearly 20 percent of the world's flat-rolled aluminum products. When it comes to aluminum recycling of beverage cans, Novelis recycles approximately 40 billion cans each year — enough to circle the globe more than 100 times. This recycled aluminum is primarily utilized by the company's own rolling facilities to produce new can sheet. This recycling loop can be repeated endlessly because, unlike many other materials, aluminum does not degrade during the recycling process. The Lüdenscheid mill in Germany produces 13000 tons of aluminum foil each year.



The challenge

The rolls are the heart of the production process and require constant lubrication using high-quality oil. However, oil thinning also occurs time and time again during production, which reduces lubrication performance. Rolls can be damaged once the oil density drops below a certain level, resulting in extremely high repair costs and requiring production to come to a stop.



The solution

Oil thinning is accompanied by a minimum density change of around 0.8 g/l. With the CoriolisMaster FCB350 offering high-precision density measurement of up to 0.5 g/l in field adjustment, fluctuations in density can be detected at an early stage. Appropriate countermeasures must then be taken to prevent damage to the rolls.

In addition to high-precision density measurement, it is important to ensure the density signal is particularly smooth so that unique trends can be generated. The CoriolisMaster FCB350 delivers excellent performance in this area too and is not only easy to handle, but is also compact and features low levels of pressure loss. As well as this, the device's ability to measure flowrate is a welcome bonus.

Contactos/Contacts:

Comercial/Commercial:

Fernando Mena Costa
e-mail: fcosta@bhb.pt
Tel: (+351) 21 843 64 00
Fax: (+351) 21 843 64 09

Assistência/Service:

Patricia Costa
e-mail: ppcosta@bhb.pt
Tel: (+351) 21 843 64 00



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Tel: (+351) 21 843 64 00
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