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Insights _ Polysius



Let's talk:

#TheServiceTeam - Technical

Manager Michelle Rollié: „The kiln
is the heart of a cement plant!”

Our #TheServiceTeam special kicks off with Michelle Rollié, Technical Manager in service in the field of pyroprocessing. She is an expert for rotary kilns and a true organizational talent. Michelle knows how to handle

a total of five different ERP systems – even those used in the 50s/60s, which makes her a real-life time traveler. For our INSIGHTS magazine, we talked to her to uncover typical challenges in running a rotary kiln.

What pyroprocessing challenges have you encountered during your career?

Michelle Rollié: "Due to the high demand for cement worldwide as a result of the ongoing 'construction boom', many plants are subject to high capacity utilization. Accordingly, the load and wear on the plants are also increasing. For plant operators, it is essential to avoid shutdowns and the associated production downtimes in order to continuously serve the market. Preventive maintenance can prevent problems or damage. The kiln in particular, with its large components such as kiln shells, tyres or girth gear, is associated with long delivery and assembly times. That's why, especially in this time-critical industry, the earlier problems are detected, the sooner we can intervene and assist in ordering spare parts.

However, probably the greatest current challenge is the reduction of fossil fuels. In the field of pyroprocessing, there is an increasing focus on the use of fluff/RFD , i.e. alternative fuels. The introduction of chopped waste, for example, has an effect on the chemical composition of the atmosphere, which can, under certain circumstances, greatly change the corrosion or combustion behavior of a kiln and its wearing parts."

What are typical errors that occur during the operation of rotary kilns? How can they be prevented?

Michelle Rollié: "A classic example of errors in the operation of a kiln concerns the setting of the air pressure of the pneumatic kiln seal. Excessive air pressure can cause the seal to act like a brake on the kiln drive, resulting in an increase in kiln drive power and greater stress on the drive unit gearing.

Many errors also occur when starting up the kiln. If it is heated up too quickly, this is often counterproductive for the tyre station. For example, there is a risk of necking and thus reduced service life for the kiln. This can also result in burnout of the refractory lining. Therefore, the motto is: Maximized power should not come at expense of equipment! In case of equipment failure, the revenue gap could be significantly larger.

In the past, faults in the plant could be detected quickly during regular inspections rounds and rectified promptly. However, due to natural staff turnover, this is no longer possible to such an extent, and the number of undetected problems is increasing. Our digital solutions provide a remedy here: With the help of smart and predictive monitoring, machines can be monitored smartly in the control room instead of on site, and measurement results can be analyzed."

Do you have any tips that customers can use to reduce wear and tear on their kiln?

Michelle Rollié: "One tip that can be implemented quickly is to lubricate sliding surfaces (for example supporting rollers to tyre) with graphite instead of grease. Compared to grease, the graphite does not press into the surfaces, which can quickly and effectively prevent material chipping.

Outside the rotary kiln, a clean and dust-free environment has a wear-preventing effect. Wherever grease or oil is used for lubrication, the dust forms a grinding paste in combination with grease. This occurs especially in leaking roller axle seals, girth gear drives without protective hoods or kiln inlet and outlet seals. The dust also has an abrasive effect on the tyre and supporting roller if it gets between the sliding surfaces.

Preventive maintenance is usually the key to decimating downtime. Our service team supports with numerous services. One example is our polscan® service: Here, a preventive check of the kiln cylinder is carried out to detect for example deformations/eccentricity or wobbling of tyres at an early stage.”



polysius® rotary kiln

The bottom line: As part of #TheServiceTeam, Michelle Rollié supports customers in bringing their rotary kilns up to the latest state-of-the-art. To avoid unplanned downtime, it is especially recommended to perform regular preventive maintenance. In the future, green technologies and digital solutions offer potential for cost savings, CO2 emissions and increases in kiln performance.
