

Scholten GmbH's Wear Protection relaxes maintenance engineers:

Trouble-free cement production at Lägerdorf

(wed) Eleven months a year, the Holcim (Deutschland) AG manufactures high-grade cement in their Lägerdorf plant which is located between Hamburg and Itzehoe in view of the A 23. The Holcim (Deutschland) AG, with their headquarters in Hamburg, is Northern Germany's leading manufacturer of building materials. Originally starting out as a cement manufacturer nearly 150 years ago, the core business of Holcim Group is today constituted of the strong and independent product divisions of binders, gravel and concrete. Further complete building material solutions and additional services are offered to the customer. Cement made in Schleswig-Holstein has a long tradition: the Portland cement factory "Portland-Zement-Fabrik Alsen" in Itzehoe dates back to 1863.

It is not the "classical" cement from limestone which is being burnt at Lägerdorf. Instead, the base material here is chalk, which is mined using bucket-wheel excavators. Every day, the shovels cut up to 10.000 tons of chalk out of the pit walls. Such a procedure is only used for soft, moist materials like the chalk mined in Lägerdorf. The high moisture contents of around 23 % requires a wet processing of the chalk. In the slurry treatment system, the chalk is suspended with water and then led to an agitator for homogenization. Sand and iron oxide carriers are added as further raw materials components, and white fine lime in order to ease the processing of the slurry. To reduce the heat consumption in the furnace, the slurry (45 % water contents) is dehydrated in chamber filter presses to a dry sludge with a residual moisture content of only around 20 %, which is then transported to the furnaces on conveyor belts.

Four weeks of revision for a trouble-free production

For 3 – 4 weeks a year on average, the production in Lägerdorf is shut down. "This does not mean that work stops. Once a year, the complete plant system undergoes a general revision. All aggregates and plant components are checked



Zementherstellung in Lägerdorf hat Tradition. Schon 1895 gab es die Portland-Zement-Fabrik in Alsen bei Itzehoe. (Foto: Holcim)

for damage and then repaired. Numerous subcontractor companies are doing their part for the maintenance of the Holcim plant" explains Jörg Köthke, maintenance manager in the Lägerdorf plant of Holcim (Deutschland) AG.

Of top priority during the annual revision is the review of the integral fan mill / riser dryer system and the separator cyclones. The fine-grain, moist, pressed dry slurry coming from the furnaces is firstly dried into raw meal in the integral fan mill and the riser dryer by means of hot furnace fumes and cooler air. It is then fed to the cyclone heat exchanger where it is

heated up to 900°C by counter rotating hot gases, and neutralized. Backup raw materials such as clay, fly-ash and aluminium oxide are added as carrier material.

Integral fan mill, riser dryer pipes and cyclones are subjected to high wear. The hot raw mill transported at high speed would wear out unprotected walls within a very short time. Therefore, Holcim Lägerdorf has been successfully relying on wear protection solutions by the Wülfrath based Th. Scholten GmbH in this sector for more than eight years now. The riser dryer with its two riser pipes is around 80 metres high and has an inner



The riser dryer in the Lägerdorf plant has a height of 60 metres.

(Foto: wed)

diameter of nearly three metres. The risers are completely lined with Scholten SC-WearStop material.

High efficiency and flexible processing

This is a chemically bound ceramic material, boasting the advantages of flexible application and high cost effectiveness. SC-WearStop is a compound of very hard, wear resistant particles and a special binder. It is mixed up with water into a cement-like substance and applied onto the surface which is to be protected. The protective effect against abrasion is around ten times higher than for normal steel.

For the installation or repair work, Scholten GmbH assign their own team of fitters. Project manager Uwe Trippe states: "Our team is most familiar with the local conditions and of course with the most select installation of the wear protection components."

Any new installation of SC-WearStop starts with the fixing of expanded metal, on which the pasty wear protection compound is applied as a 20 to 30 mm thick layer. For the recent revision in Lägerdorf, the riser dryer pipes and cyclones did not have to be replaced full-surface.

After nearly a year of production still in very good condition

Scholten installation supervisor Karl Tomczak reports: "After nearly a year of production, the leftover layer of SC-WearStop was still in very good condition in many places, so that we only had to check for actually damaged areas and repair these."

The specialist team of the Wülfrath-based company spent one week at the Holcim plant. Then, all the damaged areas shone in near mint condition and Holcim could take up the cement production again for the next 11 months. Jörg Köthke is delighted. The head of the maintenance department has again spent the most labour-intensive four weeks of the year and is pleased with Scholten's wear protection work. "Thanks to the professional and efficient work procedure with state-of-the-art and service-tested material, we have successfully been relying on Scholten SC-WearStop material since early 2000, and will continue to do so in future."



Individual and professional control and, if required, repair of the lining ensures a trouble-free production period for the operator (Foto: wed)



The riser dryer leading to the separator cyclones has a diameter of 2900 mm and is completely lined with SC-WearStop compound. (Foto: wed)



The SC-WearStop wear protection mortar is mixed up in a pan-pot mixer and manually applied by means of plastering trowel and finishing float. (Foto: wed)

WearStop is available in different compositions and is applied selectively, depending on requirement. WearStop is one of many products being used as wear protection material.

Impressum

Th. Scholten GmbH & Co.
Telefon +49 2058 9245 0
scholten@scholten-gmbh.de
www.scholten-gmbh.de