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## 400t of HASLE castables for one of Asia's most efficient cement plants

HASLE Refractories A/S describes a recent castable refractory installation in Asia.

One of Asia's largest and most efficient cement plants is once again in mint condition, following re-lining of its critical high temperature areas with a range of castable refractory products from HASLE Refractories A/S. In total, more than 400t of HASLE materials were chosen to cover a total area of 1100m<sup>2</sup>.

The plant produces 8500t/day of cement and has an impressive run factor of >95%. The company that runs it plans to increase the use of fly ash from power plants and RDF (30%) in the future, which will affect the lifetime of refractory linings. In future, lining will potentially be subject to increased chemical attack and abrasion. It is therefore vital that all critical areas are lined with reliable alkali- and abrasion-resistant materials.

In cooperation with a team of HASLE supervisors, the cement plant installed HASLE D39A-ht in the vertical bullnose of cyclone stages 1-3, HASLE D59A-ht in the inlet chamber, the inlet arch and in the kiln tray, as well as in the riser duct and calciner. It chose HASLE D52A-ht for the burner and the kiln hood, HASLE D59A-ht for the cooler take off and tertiary air duct, and, finally, HASLE D52A-ht for cooler gate No 2. All HASLE's castables were mixed in the presence of a supervisor from HASLE, who documented and advised the installation company during installation

to ensure the best possible installation of the castables.

For the castables used in the inlet chamber, a mixer with a 200kg capacity was used to mix six bags of castables, weighing 25kg each. The dry castables were mixed for one to two minutes and 5.0% water was subsequently added. Once the water was added, the castable was mixed for another three minutes before it was ready for use. Each mould contained around 150-200kg. The inlet chamber alone required 45 moulds to be completed. On average, it took 19 minutes



**Right:** HASLE D52A-ht was used for the burner.

**Right:** A HASLE supervisor oversaw all of the mixing and casting.

**Below:** HASLE D59A-ht was used for the tertiary air duct.



to cast a mould, which then was left to dry out for 24hr. After drying out, the mould was removed, and the overall condition of the castable after casting was inspected by a HASLE supervisor and found to be in satisfactory condition.

All installed castables were manufactured in HASLE's highly-automated plant in Denmark, a plant which ensures consistent, high quality castable products. All HASLE castables are manufactured from fresh raw materials with excellent chemical properties and based on HASLE's unique recipes. HASLE's internal quality assurance procedure specifies the highest standards for particle-size distribution and flowability.

With all the critical high temperature areas of the cement plant re-lined with HASLE's castables, the cement plant is once again ready to produce an impressive 8500t/day of cement.

