

**The power of innovative engineering: The biggest LOESCHE mill type LM 70.4+4 CS in successful operation with the new COPE drive**



*The LOESCHE mill type LM 70.4+4 CS in operation with the new COPE drive at the cement plant Mfamosing*

**PRESS-  
RELEASE**

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Düsseldorf

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**The United Cement Company of Nigeria (Ltd), UNICEM, commissioned their new cement plant 2 at Mfamosing, in Cross River State, Nigeria successfully in September 2016.**

**LOESCHE received the order for two vertical roller mills: one type LM 60.4 for grinding cement raw material and one LM 70.4+4 CS, the biggest LOESCHE VRM built for grinding cement clinker.**

**Mfamosing** – The cement plant at Mfamosing, located thirty kilometers north-east of Calabar, capital of Cross River State, Nigeria, is fully operational since February 2009 and equipped with the latest technology. With a capacity of 2.5 million tons cement per year the UNICEM plant now should be extended by LOESCHE technology.

The customer ordered two vertical roller mills. One of the type LM 60.4 for the grinding of cement raw material with a product rate of 500 t/h.

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Cement clinker will be ground with the brand-new highlight, the LOESCHE mill type LM 70.4+4 CS. This mill is designed for a capacity of more than 370 t/h to a fineness of 4700 Blaine. In combination with this enormous capacity a new drive system for an operation power up to 8,800 kW is necessary. In a close cooperation between RENK AG Augsburg and LOESCHE GmbH Düsseldorf this development was established. Input from the enduser LafargeHolcim was taken into consideration.

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The innovative result is the COPE (**C**ompact **P**lanetary **E**lectrical) drive. The new concept is designed for mill drive powers ranging from 4,000 kW to 15,000 kW. The fast-running and error-prone first stage gear of conventional gearboxes becomes obsolete. The new concept is equipped with an active redundancy.

The innovative COPE gearbox is equipped with 8 individual drive units which are designed for a capacity of 8.800 kW. The decisive customer benefit lies in the fact that in case of the unlikely event of a drive unit failure, the guaranteed mill capacity can be 100 % achieved and a loss in production will not occur.

Some more advantages:

- equal size as standard drive units for vertical roller mills and thus exchange of existing, conventional gearboxes eminently suitable.
- first use of a 8 drive units for a VRM gearbox
- first time multiple drive in VRM to operate with or without VFD (Variable Frequency Drive)
- easy removal of individual drive units to minimize down times (approx. 2 h)
- extremely compact design with motors directly attached to gearbox housing

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The utmost important aspect of this development is the fact that long stand stills of a mill (for several months) due to the repair of any of the conventional gearboxes will be a matter of the past. Implementing the COPE drive requires the standard foundation only. The replacement of one of the 8 small drive units will be easily conducted as they are easily accessible and easy to install.

The delivery started in October 2015. First production of cement was in September 2016. The guaranteed values could be achieved after only 40 operational hours.

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**Notes for Editors:**

UNICEM commissioned in September 2016 successfully its new cement plant 2 at Mfamosing, in Cross River State, Nigeria.

Located thirty kilometers north-east of Calabar, capital of Cross River State, the plant will increase UNICEM's production capacity from 2.5 to over 5.5 million tons of cement. It has been built by CBMI Construction Co. Ltd, Tang Shan, China on behalf of Unicem.

Operational since February 2009, it is equipped with the latest technology and meets the environmental standards applied by LafargeHolcim.

Intended to supply the south-east of Nigeria, from Calabar to Port Harcourt, this cement plant is one of the largest which supplies one of the country's most dynamic regions. It directly employs about 800 people and makes UNICEM the leading cement company in Nigeria's South-South and South-East regions.

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