

# Lime competence

The production of high-grade lime demands very complex knowhow. For the latest shaft preheater generation, **Maerz** and **Polysius** therefore combined their experience:

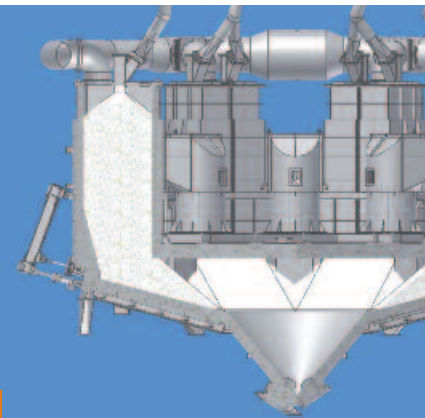
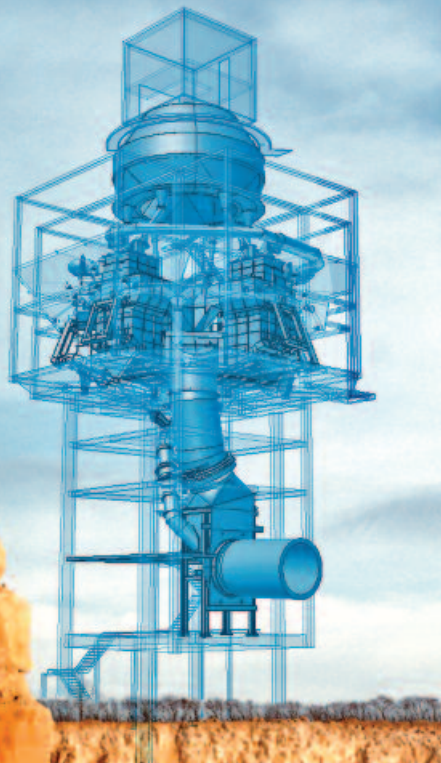
## New-generation lime shaft preheater for Rheinkalk

### Menden-Hönnetal/Germany

Having decided to optimise its Hönnetal plant, Rheinkalk GmbH – a member of the Belgian Lhoist Group, the world's largest lime producer – contracted Polysius in May 2007 to upgrade the rotary lime kiln.

The innovative Polysius conversion concept, due for completion by April 2008, aims for ● a reduced heat consumption ● an increased production capacity ● the production of high-quality steelworks lime and ● a substantial reduction of the dust emissions.

The existing long rotary kiln will be shortened from 145 m to 86 m and equipped with a new-type shaft preheater which was specially designed for this kind of application.



**Large photo** The compact and modular preheater is preassembled while the rotary kiln is still in operation, thus minimising the plant stoppage.

**Fig. 1** Lime experts after the contract signing.

**Fig.2** A 6-chamber shaft preheater will be installed at Rheinkalk.

**Fig. 3** The oil burner of an annular shaft kiln.

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## Advantages of the new shaft preheater at a glance

- Highly effective counterflow heat transfer between gas and material
- Vertically adjustable material feed chute allows variations in material bed height, permitting changes in the material feed size range and optimisation between the required material column length for the gas-material heat transfer and limitation of the associated pressure drop
- Good accessibility for maintenance work, whereby possible dust deposits can be easily eliminated at any time
- Unhindered flow of material
- Optimised gas flow: the geometric dimensioning ensures a uniform gas penetration of the material column and therefore optimum heat transfer and consistent product quality
- Compact construction
- Reliable discharge device
- Modular design allows independent operation of the individual shaft modules
- Separation of the gas and material streams between the kiln and the preheater, a fundamental prerequisite for bypass operation (optional equipment)
- Sulphur bypass (optional equipment) for effective and controlled removal of sulphurous dusts from the system so that top-quality lime qualities can be produced.

## Lime systems for the Ukraine

Alchevsk/Ukraine

**Polysius is providing the entire required knowhow from a single source for both the annular shaft kiln and the desulphurisation system.**

Two gas-fired annular shaft kilns, whose height of 59 m and capacity of 550 tonnes per day places them among the largest in the world, are to be installed at the Alchevsk steel plant of OJSC Alchevsk Iron & Steel Works. Independently of each other, the two kilns will be able to process different material size ranges into high-grade lime. Due to the high quality of the produced lime, with a very low LOI and low sulphur content, even the grain fraction smaller than 10 mm is suitable for the desulphurisation of hot metal and steel.

**It is now a good year since Polysius AG and Maerz Ofenbau AG were merged to represent concentrated lime competence worldwide. Latest developments by Polysius/Maerz add future-oriented systems to the joint product portfolio, so that almost all requirements of the lime industry can be met with custom-tailored solutions.**



## Polysius news

Latest Polysius orders from the cement industry:

- 3,500 tpd clinker production line for Senegal
- 1,600 tpd clinker production line for Bolivia
- Two 3,500 tpd cement production lines for Iran
- 5,000 tpd clinker production line for Egypt
- Two 7,000 tpd clinker production lines for India
- 3,000 tpd cement production line for Mombasa
- 1,200 tpd cement production line for India
- 3,450 tpd cement production line for Hungary.

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