



Photo of eLCC Pilot unit in Rheinberg (Credit: AUMUND Group)

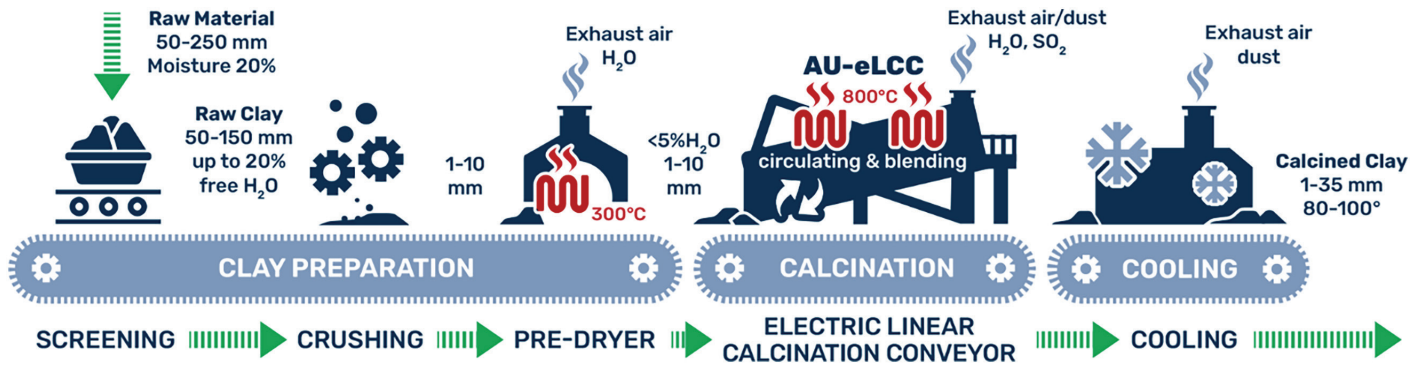
AUMUND Group

Electrical clay calcination by the AUMUND Group is a prospective alternative technology

The AUMUND Group hosted an exclusive Open House event in Rheinberg in Germany, to mark the launch of the electrified Linear Calcination Conveyor (eLCC) and a new push-chain bucket elevator. The eLCC technology addresses the critical challenge of clay calcination, which requires precise temperature control at 750–800°C—significantly lower than traditional clinker production temperatures. The temperature reduction, combined with the eLCC's energy-efficient design, contributes substantially to the overall carbon footprint reduction, when producing LC³ cements. LC³ is a cement blend of about 50% clinker (compared to 95% in ordinary Portland cement), 30% calcined clay, 15% limestone and 5% gypsum, which reduces carbon emissions in the cement production process by up to 40% compared to ordinary Portland cement.

The eLCC technology has been developed in cooperation with the HOLCIM Group, based on Aumund's robust pan conveyor technology and more than two decades of expertise in conveying hot materials (Photo: eLCC pilot unit in Rheinberg). The modular design architecture allows production capacities to be expanded seamlessly by adding additional modules, providing exceptional flexibility for system expansion and long-term scalability as market demand for LC³ cement grows. The system offers simplicity in operation while enabling fine-tuning through precise control of temperature and speed. While the eLCC can accommodate various heating systems including ceramic gas burners, its electric heating elements can be powered entirely by renewable energy sources such as wind or solar power. This capability enables completely

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1 Illustration of eLCC technology (Credit AUMUND Group)

carbon-neutral calcination processes with zero direct CO₂ emissions. The technology comes in 4 different capacity ranges from 20 to 100 t/h calcined clay.

The thermal efficiency of the eLCC technology shall be higher than in alternative clay calcination systems, due to its completely enclosed and insulated design. The compact heating chamber volume reduces heat losses substantially and enables rapid system startup, providing unprecedented operational flexibility for plant operators. The modular system allows production capacity to be increased at any time simply by

adding further modules. Short start-up times enable flexible operation frequencies and easy, quick adaptation to operational requirements. Only a minimal number of parts such as chains, rollers and sprockets require maintenance, which, based on AUMUND technology and experience, ensures long service life. Accordingly, the design philosophy aligns with the industry's needs for responsive, efficient production systems.

<https://aumund.com/de/produkte-und-systeme/elcc/>

Production Capacity Clay t/h	Conveyor Length	Conveyor Width	Conveyor Speed	Heat Capacity
20	3 x 45 m	800 mm	0,1 m/s	8 MW
40	3 x 70 m	1,000 mm	0,1 m/s	16 MW
80	4 x 70 m	1,400 mm	0,1 m/s	32 MW
100	4 x 70 m	1,600 mm	0,1 m/s	40 MW

2 Illustration of eLCC unit sizes (Credit AUMUND Group)

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