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Mehramat Concretes starts concrete block production – a plant with vision

■ Sven Beel, Hess Group, Germany

By constructing a new plant and commissioning a fully automated production line, Mehramat Concretes has moved into a new business segment. The company, which previously operated exclusively in the raw materials sector, is now focussing on vertical integration and sustainable added value - supported by a strong network of experienced mechanical engineering partners. At the heart of the plant is the RH 2000-4 VA concrete block machine. This is supplemented by a comprehensive circulation system, incorporating conveyor technology, packaging and control systems. All of these are supplied by the Hess Group in Germany. Designed for maximum efficiency and product diversity, the plant forms the centrepiece of the new production facility.

A special feature of this project is the close cooperation with Topwerk India, achieved on this scale for the first time. While the main components come from Germany, simpler steel structures - such as maintenance platforms for elevators and lowerators and the cuber - were manufactured and supplied locally according to German drawings. This combination of

German engineering skills and local manufacturing expertise enabled an economically attractive solution with consistently high quality.

From raw material supplier to concrete block manufacturer and system supplier

Mehramat Concretes has been successfully active in the mining business for many years and operates several quarries in and around Guwahati, the capital of the north-east Indian state of Assam. Assam is known for its rich natural resources, especially granite, limestone and other mineral resources that are in high demand in the construction industry. The region is strategically located in the so-called Seven Sisters area and acts as an economic gateway to the north-eastern states of India as well as neighbouring countries such as Bhutan and Bangladesh.

With an impressive production capacity of approximately 1,100 tonnes of aggregates per hour, Mehramat Concretes is one of the most efficient suppliers in the region. The decision



Polystyrene
insertion unit

to start producing concrete blocks was made for strategic reasons: By utilising its own raw materials, the company can cover the entire value chain - from extraction and processing through to the finished product.

**The plant's technology centre:
RH 2000-4 VA from Hess Group**

The heart of the new production line is the RH 2000-4 VA - a high-performance machine for the production of concrete blocks, which is appreciated worldwide for its precision, durability and high production capacity. The machine was specially developed for demanding production environments and offers maximum flexibility thanks to its modular design.

The RH 2000-4 VA from Hess Group is a concrete block making machine of the latest generation, which was put into operation at Mehramat Concretes. The machine processes production boards made of sheet steel measuring 1,400 mm x 1,150 mm, resulting in a usable production area of 1,300 mm x 1,100 mm. These dimensions enable a high cycle output and contribute to the efficiency of overall production.

The machine is equipped with a variety of optional accessories to cover a wide range of products with heights from 25 mm to 500 mm. These include a polystyrene insertion unit for the production of thermally insulated hollow blocks, a facing concrete unit for the production of paving blocks with sophis-



RH2000-4 VA with open facing concrete section

ticated surfaces, a drawing plate unit for creating complex geometries and a colour-mix system for the multi-coloured design of concrete products. This equipment facilitates the production of a wide variety of products and allows for flexible adaptation to changing market requirements.



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The production cycle is fully automated and includes the wet side with elevator, the curing area with finger car, as well as the dry side with lowerator and a Servo 700-2 cuber with hydraulic clamp. The empty production boards are returned via a transverse transport with turning device. The finished products are conveyed out of the hall via a slat conveyor and then stored using a forklift truck.

In addition, the possibility of further upgrading the manufactured products with finishing technologies from SR Schindler was already taken into account during the planning phase. The Regensburg-based company is part of the Hess Group and is internationally recognised for its surface treatment solutions - including grinding, blasting and coating.

It is particularly noteworthy that Mehramat Concretes is the first and so far only manufacturer of concrete blocks with this product range in the state of Assam. In a rapidly growing economic environment, the company is thus positioning itself as a pioneer and technology leader.

Topwerk India - Local presence, global know-how

Close cooperation with Topwerk India, the Hess Group's local sales and service location, was a decisive factor in the success of the project. As the extended arm of the German machine manufacturer, Topwerk India not only offers technical advice, but also comprehensive after-sales support and training directly on site.

The work of the local team, including Sachin Shetty, who collaborated closely with the customer throughout the project, is particularly noteworthy. The recent opening of the new

Topwerk office in Delhi emphasises the Group's long-term commitment to the Indian market.

It is worth noting that Mehramat Concretes had no experience in concrete block production before this project. This made the trust placed by the company in the Hess Group and its partners all the more significant. The Hess Group and its partners provided full support - and continue to do so.

Mixing technology from Simem India

Mehramat Concretes relies on a mixing plant from Simem India for the concrete supply. The plant ensures a homogeneous and reproducible concrete quality - a decisive factor for processing in the RH 2000-4 VA.

Curing by Robert Thomas

Another component of the plant is the curing chamber from Rotho, a company in the immediate neighbourhood of the Hess Group. Rotho technology ensures controlled curing conditions and contributes to high product quality.

Sustainability through zero-waste mining

A special feature of Mehramat Concretes is its consistently implemented zero-waste mining concept, which was developed in response to a particular challenge. In the Assam region, there is hardly any demand for fine aggregates on the local market. These fractions were previously a by-product of rock processing and were discarded as 'waste mountains' with no economic value.



Curing with elevator and lowerator and finger car



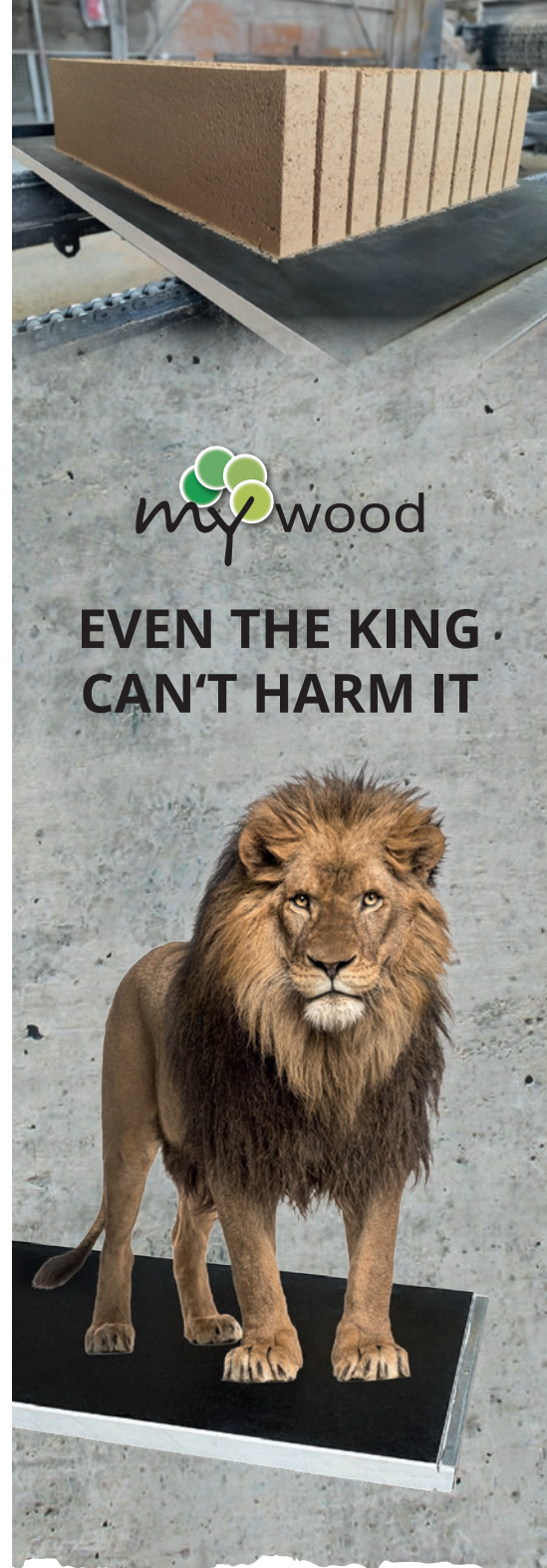
Servo 700-2 cuber



Servo 700-2 cuber with latch conveyor and slat conveyor

Mehramat Concretes approached the Hess Group with precisely this question: 'What should we do with these materials?' A solution was developed together that was technically sound and economically viable. In terms of throughput, flexibility and product quality, the RH 2000-4 VA proved to be the ideal machine for fully integrating fine aggregates into concrete block production.

This close collaboration resulted in the Zero-Waste-Mining project: a production concept that focuses on the complete utilisation of raw materials and thus offers both ecological and economic advantages.



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Slat conveyor for removing block packets



Charanjit Singh Gandhi, Managing Partner Singh Brothers and Mehramat Concretes LLP.

Economic environment and market potential

Assam is one of India's most economically promising regions. There are numerous infrastructure projects in the planning stage or already underway, including road and bridge construction, residential developments, and industrial parks. The region benefits from its strategic location in north-east India, as well as its role in connecting South-East Asia.

In this environment, Mehramat Concretes is in an excellent position as the first and currently the only supplier of industrially manufactured concrete block products in Assam. The company can benefit from growing demand in areas such as residential construction, public infrastructure and commercial development early on, and set new regional construction standards with its modern products.

Conclusions

With the new plant, Mehramat Concretes has entered the concrete block production market and realised a production concept that is both technologically and ecologically forward-looking. Its own raw material base, state-of-the-art machinery and strong partnerships with the Hess Group, Topwerk India and SR Schindler are the foundation of its successful market positioning, demonstrating how trust, technology and sustainability can transform the concrete block industry. ■



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