



Company News

## **BEUMER Group: Third Packaging Line for Ohorongo Cement, Namibia**

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*Beckum, Germany –*

Otavi, the nearest small town, is 20 kilometres away. Tsumeb is north of it. One single road runs through the wide open planes. Schwenk Zement built the in the Namibian region of Otjozondjupa which is rich in limestone. Ohorongo Cement, or simply Ohorongo, is a wholly owned subsidiary of **Schwenk Zement**. The plant produces five different cements, to which **Manfred Pirker**, plant manager, emphasises: "*Our building material is of particularly high quality.*"



**Picture 1:** The plant of Ohorongo Cement is located in the Namibian region of Otjozondjupa that is rich in limestone. The Schwenk subsidiary produces five cements of different quality at the location in Sargberg.

**Decision for the right partner** After the clinker is produced, it is milled into cement. It is then made available either as loose product delivered into a bulk tanker, or in 2,000 kilogram big bags, or filled into paper bags. *"We use 50 kilogram bags in this plant,"* explains Mr. **Pirker**. *"After the filling, they are stacked on pallets and covered with a stretch film."* For this process, the plant has used two packaging lines, for which **BEUMER Group** supplied and installed one **BEUMER paletpac** high performance layer palletiser per line and packaging systems of the **BEUMER stretch hood** product lines. *"But we could not cover the growing demand for cement anymore,"* says Mr. **Pirker**. *"We urgently needed to*



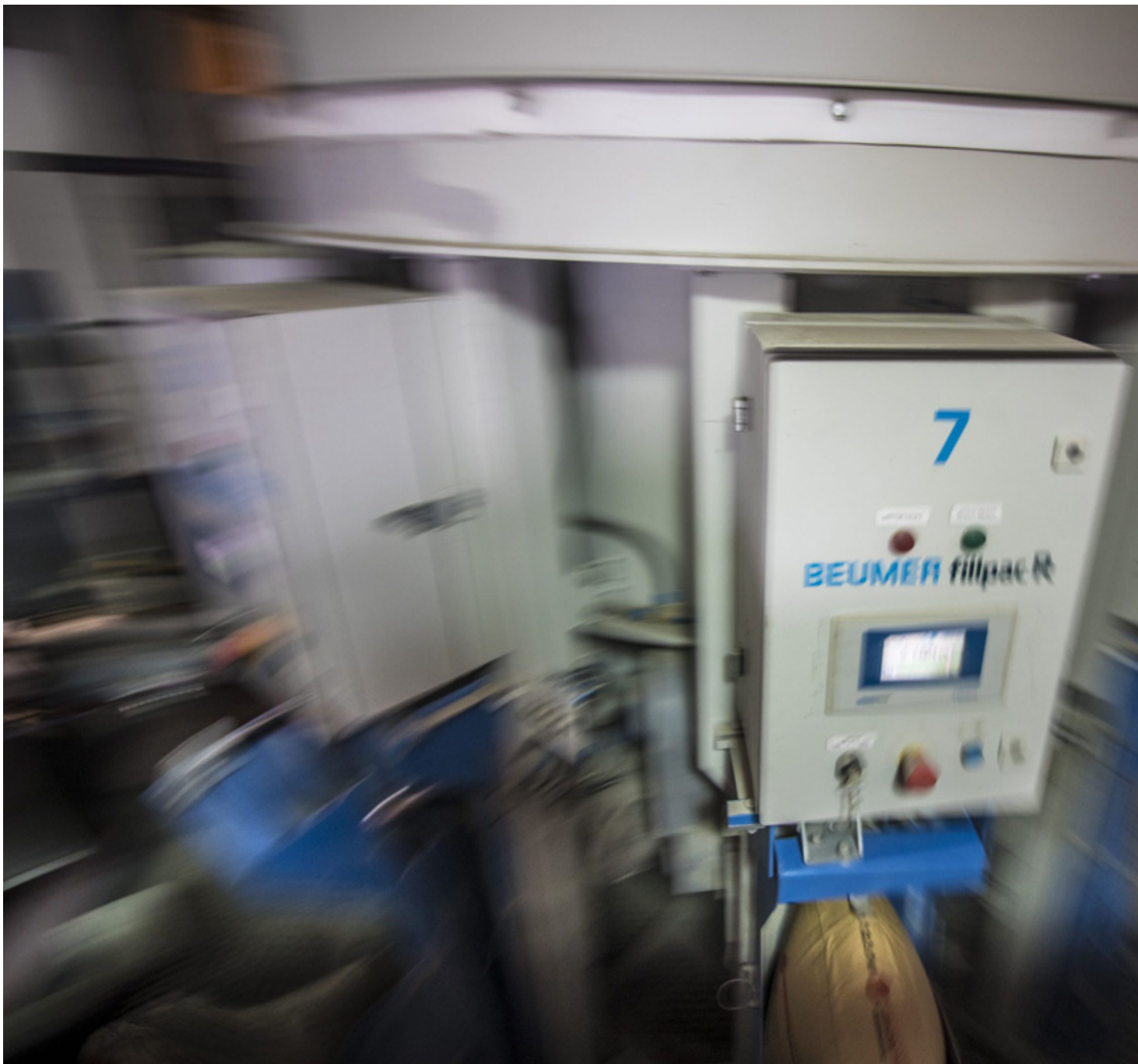
increase our throughput." **Ohorongo** has had very good experience with the two existing packaging lines. The responsible management therefore knew from the start that only **BEUMER Group**, the single-source provider for filling, palletising and packaging technologies, was to become its partner for supplying and installing the third packaging line. Mr. **Pirker** says: "We were convinced by the very good service and support on site over the years."



**Picture 2:** The third packaging line was installed in an extension to the existing building built specifically for the third packing line.

**A hot issue**Beckum, the headquarters of **BEUMER Group** in Germany, received the inquiry from **Ohorongo** at the end of 2014. Both companies quickly agreed on the scope and scheduling, and signed the contract without delay. Unlike the first two packaging lines, this contract also contained a **BEUMER fillpac** Bag filling system. **Hermann Krumkamp**, Senior Project Manager at **BEUMER Group**

, remembers: *"We immediately started with the project execution at the beginning of 2015. We had to consider the local climatic conditions, among other things."* In the desert regions, day temperatures can reach 40 degrees Celsius and more. *"This may influence the flow characteristics of the cement as well as the elasticity of the stretch film,"* explains Mr. **Krumkamp**. The machines were designed accordingly. The engineers also had to adapt the system to the newly built extension to the existing building. The containers with the new machines arrived at **Ohorongo Cement** in August. *"We had to wait with installation, however, for the new building for the third packaging line to be completed"*, says Mr. **Krumkamp**. The specialists started with installing the machines in November 2015.



**Picture 3:** Ohorongo decided for the filling system of the type BEUMER fillpac R rotary packer with eight filling spouts that operates according to the impeller filling principle.

**Filling process: not too much, not too little** As the produced cement is particularly fine, **BEUMER Group** installed a **BEUMER fillpac R** rotary packing machine with eight filling spouts that operates according to the impeller filling principle. **Krumkamp** explains: *"The weighing electronics are unique. This is because the product is filled according to the gross weight principle, i.e. the bags are weighed during the filling process. The **BEUMER fillpac R** is therefore equipped with a calibration facility integral with the weighing equipment."* The weighing electronics of the machine ensure exact filling of the bags. A special software enables each filling spout to constantly, with every rotation of the packer, compare the weight and make necessary adjustments to maintain consistent and accurate bag weight of the packed product.





**Picture 4:** The BEUMER bag placer with Bundle magazine increases the efficiency of the filling system.

The impeller filling system is characterised by its speed and maximum material throughput. **BEUMER Group** also included a **BEUMER bag placer** with bundle magazine of the latest technology to further increase the efficiency of the filling system. Servomotors drive the application unit and the suction gripper automatically, precisely and with high levels of energy efficiency. The gripping system and the application unit apply the bag from the bag bundle safely onto the filling spout. 2,400 bags per hour can be applied like this with high precision.





**Picture 5:** Palletising and packaging process: BEUMER Group supplied a BEUMER paletpac 3000 and a BEUMER stretch hood A.

**Gentle palletising is ensured**BEUMER Group installed a **BEUMER paletpac 3000** layer palletiser for fully automatic, reliable and most of all fast palletizing. This system precisely stacks 50 kilogram bags layer by layer in a 5-bag pattern onto the pallets. **Krumkamp** explains: *"The system includes a twin-belt turning device, so the bags can be turned to the required position quickly, gently and without affecting their dimensions. Regarding the positioning accuracy, this device offers an immense advantage when compared with conventional turning*



*processes.*" The system component moves the bags without deforming them from a mechanical viewpoint. Two parallel belt conveyors are used instead. They turn the bags by moving at different speed. They also move the bags into the required position very gently . The intelligent control of the twin-belt turning device takes into account the dimensions and weights of the bags in order to achieve an exact positioning preset by the respective packing pattern.



**Picture 6:** The BEUMER palettepac stacks the 50 kilogram bags in 5-bag-patterns onto the pallets in an exact and gentle manner.



**Packed fast and safely** Roller conveyors transfer the completed bag stacks to the packaging system **BEUMER stretch hood A. Krumkamp** explains: *"We have completely redesigned this machine from the ground up. It is even more easy and safe for the user to operate than the existing systems. In order to facilitate the work for the maintenance personnel and to ensure high system availability, the system no longer needs a service platform. Maintenance work, such as changing the blades or the sealing bars, is handled at floor level. Additional benefits include the compact design, resulting in low machine height and a small footprint."* Mr. **Pirker** says: *"This means that the BEUMER stretch hood A fits perfectly into the new hall."* A film transport system, which is particularly gentle on the material, delivers the previously cut and sealed film hood into the system. On its way to the stretching unit, the sealing seam on the film hood cools down so that it can be stretched without losing time. This allows for the elimination of energy-consuming cooling units and efficiency-reducing cooling times. This means that the pallets can be packed in a shorter cycle time. **Hermann Krumkamp** is delighted: *"We handle 60 pallets per hour. This number can be increased if required."*



**Picture 7:** Roller conveyors transfer the palletised bags to the BEUMER stretch hood A.

But there was something to consider regarding the packaging: *"Unlike transportation in Germany, in Africa the material may need to travel by truck not only a few hundred kilometres, but often up to a thousand kilometres,"* Mr. **Pirker** says. In addition, high temperatures soften the material of the film. **Pirker** explains: *"We use film of 80 and 100 micrometers in thickness in order to obtain the required transportation safety."*





**Picture 8:** High requirements for packaging: The finished pallets are loaded onto the truck beds. A long journey awaits them. The client can be up to thousand kilometres away. (Picture credits: BEUMER Group GmbH & Co. KG)

**Ohorongo** put the systems into operation in May 2016. **Manfred Pirker**, plant manager, is happy: *"A packaging line that is customised to our specific requirements has been built."* The tight timeframe could only be held because all people involved in the project collaborated intensively. The cement manufacturer was convinced of BEUMER Group's sophisticated technical planning, the fast

development as well as optimal adaptation of the systems. The **BEUMER Group** is an international leader in the manufacture of intralogistics systems for conveying, loading, palletising, packaging, sortation, and distribution. With 4,000 employees worldwide, the BEUMER Group has annual sales of about EUR 750 million. The BEUMER Group and its subsidiaries and sales agencies provide their customers with high-quality system solutions and an extensive customer support network around the globe and across a wide range of industries, including bulk materials and piece goods, food/non-food, construction, mail order, post, and airport baggage handling.