

## Press Release

BEHN + BATES will deliver ROTOSEAL packers

### **Innovation: Flour producers in Egypt and Tanzania will fill flour into PP valve bags**

**In 2010 the German packaging specialist BEHN + BATES focussing with its entire know-how exclusively on the food and pet food industry intensified its contacts to the African flour industry being already considered as large success by Managing Director Ralf Hövelmann. On top of it the company sold the first ROTOSEAL packers for the filling of flour into woven PP valve bags.**

The optimum interaction of low-air filling, tight filling spout and efficient product de-aeration is of essential significance for the packing of flour, as one of the basic challenges is the reduction of dust emissions during bag filling. This goal is simply attained by using a valve bag. Due to the use of a valve the filling opening is reduced in size. Thus, the bag only absorbs a minimum of air during the packing process. This small quantity is sucked off fast during and after filling. In addition, the filled valve bag has a very stable and compact shape. The end-user gets appealing and clean full bag pallets that can be processed comfortably.

Due to historic developments flour was always filled into open-mouth woven PP bags in the past. The reason is obvious: This bag type can be delivered at much more favourable prices by many bag suppliers. After filling the bags are normally closed by a sewing machine. The end-user re-opens the seam to take the needed product out of the bags that are normally recycled afterwards or even used as building material or for the manufacture of handbags. But it may also happen that bags with impeccable first opening are re-filled by others a second or third time without any knowledge of the original producer who thus cannot even prevent this misuse. The result may be that the printed bags contain products of minor quality or completely different products that do not at all correspond to the bag imprint.

In order to avoid the possible misuse and to assure the quality of the original products the valve bag presents an excellent alternative in comparison to the open-mouth bag.

After filling the bag valve is sealed hermetically. Opening the sealed bag valve means to destroy the bag. Its reuse is out of question.

In addition, hermetically tight bags are of immense importance to flour producers for reasons of quality. After all, the filled flour must not absorb humidity in order to reach an optimum suitability for storage and long storage times. At this point the valve bag made of polypropylene gets attractive: It is as tight as a woven PP open-mouth bag thus ensuring the optimum product protection together with improved compact bag shapes. The raw material needs are low as thinnest foils are already extraordinarily tear-resistant. Under consideration of the globally requested sustainability of packages the PP valve bag does not only score with regard to material cost savings but also as to its recyclability. The PP-woven bag can be completely transformed into PP granules thus being reusable.

### **The machine technology – solution-oriented if adapted to product and bag**

Based on the bag alone the flour producer does not get the requested results. He also needs the adequate machine equipment that can be delivered by BEHN + BATES.

The African flour producers requested hourly outputs of 1,200 up to 1,700 bags with bag weights of 25 and 50 kg. Early project studies revealed that only the valve bag would come into consideration due to its easy handling. The customers were even so enthusiastic about the new PP valve bag that they decided to produce the required bag quantities in their own bag manufacturing facility affiliated to the flour production. The existing production lines for PP woven flat bags are being extended for the manufacture of valve bags with weldable valves.

Taking into account the inquired high hourly outputs BEHN + BATES offered the rotating ROTOSEAL system equipped with 3 to 10 filling spouts depending on the output. In comparison to conventional inline packing plants the filling spouts are mounted on a rotating machine frame. Therefore less space is required to reach higher packing outputs with more filling spouts. In comparison only: The output of a conventional inline or open-mouth bag filling installation in the same place would be half as high.

The two customers ordered different machine versions: The ROTOSEAL system delivered to Tanzania will be equipped for manual operation i. e. the operating personnel manually places the empty bag onto the filling spout while the further filling and closing process is carried out automatically. The filled and closed bags are discharged on a conveyor belt and transported to the loading or storage area. The Egyptian flour mill decided in favour of the fully automatic variant with RADIMAT bag applicator for the fully automatic application of the valve bags onto the filling spouts. It is specifically equipped for the combination with rotating high-output filling plants.

As both mills only fill wheat flour BEHN + BATES will implement the impeller filling system that is especially suitable for the filling of hermetically tight and difficult-to-deaerate bags due to the special impeller geometry and the low air consumption during the filling process. A special inflatable sleeve ensures that the bags are filled in an absolutely clean way. It completely seals the bag valve during the filling process thus preventing the product from dropping out of the filling opening. The contamination of the filling area caused by product dusts is minimized. This also leads to a reduction of health hazards the operating personnel are normally exposed to during the filling process because of product dusts.

Due to the cleanliness – not only required by the end-users for the comfortable full bag processing – ambitious customers demand the dust-tight closure of the filled valve bags that is also integral part of the BEHN + BATES ROTOSEAL system: The bag is closed directly after filling by the closing unit arranged above the filling spout. The valve is sealed hermetically tight with the help of ultrasound energy. Even smallest product particles cannot drop out of the bag valve anymore. Thus, one of the customers' most essential requests is fulfilled: The packing environment is clean and free from dust. Plant components as conveyor belts and palletizers are not contaminated by product deposits. Wear and tear as well as costly and time-intensive maintenance works are reduced to a minimum. At the same time high packing outputs as well as closing rates of more than 99 % are reached.

## **The conclusion**

The product packaging is an essential part of the value added chain in the food and thus also in the flour industry. The new packaging concept presented by BEHN + BATES is aiming at the use of valve bags as replacement for the famous open-mouth

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bags, keeping the proven PP cloth as bag material. It results in new prospects: The original products are better protected, as the reuse of the bag is almost impossible. The box type valve bags have an optimum shape thus being easy to palletize and reaching a good advertising impact. High bagging outputs are attained with just one filling machine operated manually or automatically. If customers decide in favour of an expandable ROTOSEAL packer, additional filling spouts can be retrofitted for higher tonnages that might be required in future. At the same time, the cost savings might be considerable, as the upstream and downstream components, such as the product and the bag feed or the full bag discharge line, do not need any alteration.

Only a packaging material that has been carefully chosen on behalf of the user's needs and the marketing targets – combined with the adequate filling technology – can reach the wished results in the daily stronger competition in the global world.

In order to meet all the modern market requirements going along with high machine outputs BEHN + BATES presented the ROTOSEAL system, succeeding in convincing the first flour producers in the emerging African countries of its technology. They accept that their ambitious marketing targets can only be reached by a new packaging solution as well as by a proven, solid and modern filling technology – a technology that, of course, has its price but at the same time offers the requested reliable product processing to the customers.

**BEHN + BATES at interpack 2011, Düsseldorf/Germany, 12 – 18 May 2011,  
hall 12, stand 12 D08/E07.**

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