

BVG: Innovative starch processing technology

Corrugated board base papers such as fluting and testliner cannot be produced competitively on the basis of waste paper without the use of surface starch. The purpose of the starch in this context is to increase the strength of the paper to such an extent that a high-quality product is manufactured. Since starch is more expensive than fibre, the requirement is: "as much strength as possible with as little starch as necessary". Considerable increases in strength can be achieved with a starch input of 2.2 to 5%.

It is vital for cost reasons to use the most inexpensive starch raw material that is available. This is generally native corn or wheat starch.

The starch processing technology is of crucial importance in order to be able to meet these requirements. Papier- und Kartonfabrik Varel decided to use the BVG technology "Super-EEC" in the PM 5 project.

What this involves is a continuous process, in which native starch is processed enzymatically in situ in the paper mill on a fully automatic basis.

Delivery of the new starch processing system was the first commission BVG has received from PK Varel. The decision does not, however, represent a risk of any kind for Varel, because BVG is considered within the industry to be the market leader with first-rate references. All the systems that are being implemented in Central Europe at the present time are BVG systems – which means that Bauer-Verfahrenstechnik GmbH has a market share of 100% with new systems. The order for the new PM 5 starch processing system consists of the following:

- Two silos for starch in powder form, with a volume of 200 m³ each (illustration 1);
- Continuous slurry production underneath each silo, with special regulation of the slurry concentration (illustration 2);
- BVG Super-EEC enzymatic starch degradation system with online viscosity measurement in the degradation converter (illustration 3);
- Storage container for starch paste;
- Pipeline circuit to the work stations;
- Work stations for supplying the SpeedSizer film press: Dilution station for the size, machine circuits, pressure filters and vibration screens for product cleaning;
- Warm water production;
- Decentralised ABB AC 800 S peripheral equipment;
- Complete ABB AC 800 S control and visualisation program.

BVG has focussed on the enzymatic degradation of starch for more than 25 years. During this time, more than 50 systems have been produced for many different paper grades and are in operation all over the world. The systems are optimised on an ongoing basis and can be described as state-of-the-art. The customers are very satisfied.

We wish the project team all the best and great success in operating the new PM 5 in Varel and hope that the expectations associated with the project are fulfilled. BVG thanks PK Varel for the commission, the confidence placed in the company and the excellent co-operation. DB



Ill. 1: Starch silos



Ill. 2: Continuous slurry station

Ill. 3: BVG Super-ECC



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