



Avery Dennison Materials Europe In Touch with Adhesion



An application report by Bachofen AG, Swiss sales partner of Schubert & Salzer Control Systems GmbH.

There are only a few technical accomplishments that have their origin in the Stone Age and are just as indispensable now as they will be in the future. One of these is adhesives. It is in this segment that Avery Dennison is writing innovation history in the 21st Century.

The adhesive is as old as man. The Neanderthals are said to have used pitch that they extracted from birch bark to glue stones and wood together in order to produce tools. The inventive force of our predecessors has developed into a cutting-edge technology of the centuries, resulting in products that we can no longer do without.

Adhesive from Switzerland for Europe

The US-American company Avery Dennison is the global market leader in the adhesive products segment such as labels, foils, textiles, packaging and much more, it also being one of the most important suppliers in this segment in Europe. The acrylate adhesives that are required for the production in the European plants are Made in Switzerland: they are manufactured using reactors for the polymerization in the Kreuzlingen plant.

Not all adhesives are the same

The output comprises a wide range of adhesives with various properties for numerous specific applications: the focuses here are on permanent and removable. A specialty are crystal clear adhesives for Clear-on-Clear applications with which transparent labels can be applied to transparent glass or plastic containers.

Adhesives also have to meet special requirements in cases where labelled products are subjected to extreme environmental conditions. One example is blood units that are in some cases stored at temperatures of up to 196 degrees below zero.

Expanding the production capacity

The increasing diversity of the possibilities offered by acrylic adhesives goes hand in hand with an increase in demand. Plant Engineer René Kremer: «We are increasingly experiencing bottlenecks with our production capacities. This was the reason why we filed an application with the corporate group for the creation



«The service competence of our partners clearly takes precedence. Bachofen provides us with the certainty that a solution shall be searched for immediately should a problem occur. We can simply not afford installation downtimes.» René Kremer, Plant Engineer at Avery Dennison.

of an additional reactor line and this was also approved. The preparatory work is at an advanced stage in the meantime and the construction of the reactor is in full swing.»

New approaches in valve technology with Bachofen

The precision of the valve technology is of primary importance during polymerization as the end product has to be exactly compliant with the required specifications. The decision has to be substantiated as a new procurement of valve technology for projects of this size trigger a high need for investments. Bachofen, Schubert & Salzer's representative in Switzerland intensively engaged with the process and made a recommendation to the engineers from Avery Dennison that is superior compared to the valves in the existing reactors. The customer lent a sympathetic ear to watertight arguments and permitted himself to be convinced by the technical benefits provided by the ATEX certified Schubert & Salzer ball sector and sliding gate valves.



Schubert & Salzer sliding gate control valve from Bachofen.



Two reactors for the adhesive polymerization under construction, the control fittings (ball sector valves) have already been mounted on the supply lines.

With its special design based on two slotted discs sliding against each other and forming a seal, sliding gate valves are the only valves that combine high control accuracy with the lowest leakage rate. Also the throttling element - the slotted discs that slide against each other - suffers scarcely any wear so that long service lives can also be achieved under extreme conditions, an inherent feature of the system design.

The special cut-out ball sectors with double shaft bearing provides ball sector valves with an extraordinarily wide control range with a rotation angle of 90° and an extremely high position ratio. The elliptic flow surface and a generous overlapping to the sealing zone of the ball sector ensure an enormous degree of resistance to contaminated process utilities and a high degree of tightness during a long service life.

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Avery Dennison Materials Europe GmbH, Kreuzlingen plant

The manufacturing of acrylate adhesives for paper, foils and other carrier materials. The plant in Kreuzlingen is one of two production sites for adhesives around the world that belong to Avery Dennison, the global market leader for adhesion technology. The Swiss company supplies to the Avery-Dennison plants in Europe in addition to other European label manufacturers.

Established

1990 (take-over of A.V. Chemie)

Corporate domicile

Kreuzlingen

Number of employees

Around 100

Plant leader

Dr. Claudius Goße

Corporate division

Avery Dennison Label and Packaging Materials

Bachofen customer

Since 1990 (Bachofen previously supplied to A.V. Chemie)

Website

label.averydennison.de