

Production Processes

Take a look at our production possibilities

CUTTING

ROTARY DIE CUTTER

Modern cutting technology such as a rotary die cutter which transforms your product into rolled goods is a feature of our machinery park. The available width is up to 550 mm. The product length is a maximum of 635 mm. Here it is possible to rewind your products as on a roll semi-finished goods or dispense the finished product stacked on a delivery belt.

The cutter is equipped with a pattern repeat control so even printed roll goods can be processed accurately.

PUNCHING STRIP PLANT

Through the use of integrated unwinding stations, we can produce products made up of several layers with a width of 840 mm and a length of 2,700 mm with our punching strip plant equipped with hydraulics and clamping bars (punching force 250 tons). The tools used on this punch are manufactured according to the steel rule die method and therefore offer the possibility of obtaining large-scale tools inexpensively.

FLAD BED DIE CUTTER

Several flatbed die cutters - with or without retractable bridges - as bridge or crosshead die cutting machines, with different punching surfaces and forces and with different unwinders and feeds, enable us even to manufacture small-scale products

Tools are used here which operate according to the steel rule die method just like with the punching strip system and thus offer the opportunity to also produce delicate products with inexpensive tools.



SLITTING

On many machines, we have the ability to cut strip-like materials longitudinally and thus to feed the roll goods multi-track into the machine. In most cases, this optimises both the raw material utilisation and also the efficiency of the machines.

Applied slitting methods include both pressure cuts and scissor cuts.

CNC-CUTTER

Through an integrated unwinding, lay-up and cutting system, we can produce products of several layers up to a width of 1,600 mm and a maximum length of 2,800 mm on our CNC cutting machine. Small holes with a diameter of up to 3 mm can also be drilled into the product using the integrated drilling station. The programming allows us to create even the most complex contours without tooling costs. Radii in the product are therefore only limited by the minimum possible cornering of the vertical knife.

VARIOUS CUTTING PROCESSES

In almost every production machine at our company, there are cutting processes. These are, at the simplest level, the cutting of towels and increase in complexity to processes in which several layers of material are fused together at the same time by means of ultrasound and the products are then cut out.

The available cutting processes are varied and dependant on the product.

FOLDING / CREASING

LONGITUDINAL FOLDS

We primarily produce from raw material rolls so that longitudinal fold processes are our daily business. This process runs like a common thread through our product range. Whether it is the production of all-purpose wipes, rescue blankets, OP surgical drapes, wipe rolls, washing gloves or in the subsequent packaging, with the flat film where the flat film is slung around the product in a longitudinal folding process.

CROSS FOLDS

With various high-performance cylinder folding machines, we can effectively unwind strip-like raw material from the roll, fold longitudinally and transversely (cross folding) - as a dry or moistened product.

Cross folding can be carried out either by means of a folding cylinder, similar to the manufacturing of napkins or the products are pushed on transport belts by means of a process using cross folding blades.

WINDING

With winding processes, we manufacture products without a cardboard core. Large-scale rolls with a maximum diameter of 250 mm and widths up to one meter are possible as well as narrow rolls with at least 5 meters of material.

Inline slitting units in a shearing technique allow us to manufacture even narrow roll widths.

With our knowledge of longitudinal folding, we are also able to fold lengths of material longitudinally and then wind it up.

An integrated perforation unit enables us to perforate the material in sections of 120 mm to 610 mm before the winding process. Smaller section lengths are available on request.

PRINTING

ROTARY LETTERPRESS PRINTING

We can print rolled goods with, among other methods, a rotary letterpress printer as a type of high-pressure process in widths up to 900 mm. The inks used are letterpress inks.

The same machine is also equipped with a flexo-graphic printing unit and can process UV hardened flexographic inks in the same width.

Integrated slitters allow us to produce narrow printed products. Other production possibilities arise from the connection to the rotary die cutter (see Rotary die cutter).

PAD PRINTING

With the pad printing process, we can place very precise, individual custom prints or smaller logos and lettering on products.

This method belongs to the indirect gravure printing process where the ink is first applied to an intermediate substrate (in this case a silicone pad) and from there onto the product.

WELDING

Welding plastics together is part of our daily business - whether PE, PET, PP, or BOPP, in the form of films on one of our many packaging machines or as non-woven fabrics from many different fibre compositions which are processed into non-woven fabric products.

The welding procedures most frequently used in our company are:

THERMAL WELDING

Thermal welding with heating elements which are permanently heated or pulsed, and where the temperature of the heating elements is monitored with a temperature sensor or thermocouple, is primarily used in our company with applications on the different packaging machines.

In this method, the heating elements are heated to the melting temperature of the materials to be welded and then the material to be welded is placed between those elements.

The heat energy melts the material to be welded and connects them to each other. Factors that have a greater impact on packaging machines are pressure and exposure time. So that the melted materials do not adhere to the heating elements, a protective layer is used which is applied either on the heating element (such as PTFE) or is included as a protection layer of a material with a higher melting point. Here composite films can be mentioned as an example. (PP-PE, PET-PE, PET-Alu-PE and many others).

ULTRASONIC WELDING

In ultrasonic welding (EN ISO 4063: Process 41), high-frequency mechanical vibrations are used. These vibrations are transmitted with sonotrodes to the material to be welded and act as a high-frequency hammer producing friction between the materials to be welded at a molecular level. The materials are welded together with this friction. This method is mainly used directly in the product processes and not in the packaging processes at our company.

SEWING

Different products require different sewing methods. Here at our company, the double chain stitch and the double lock stitch seam are mainly used. The double chain stitch seam has the advantage that the upper thread and the bobbin thread come directly from the yarn bobbin. Thus, the rewinding is omitted which has the disadvantage of additional handling and a limited amount of yarn on the lower bobbin.

WETTING / FILLING

Moistened wipes or wipe rolls also belong to our portfolio. To manufacture these, we make use of different filling processes. Our machines allow us to spray, dip or fill non-wovens with liquids - packaged in a box, in a bucket, in a stand-up pouch or hose bag with product label and/or with resealable tabs or in a printed bag whether as box-cover combinations or additionally sealed with film. All these manufacturing options are available at our company.

PACKAGING

HOSE BAG

Hose bags are manufactured directly from a film. The film runs over a folding box and forms a hose. The products are usually inserted in this hose with a tappet chain. The distance between the products defines the length of the finished bag package. Feed rollers transport the film hose. Longitudinal sealing wheels located at the end of the line close the hose lengthwise. A sealing station positioned transverse to the hose welds the bag's top and bottom sealing seam and cuts through the hose to separate the individual bags. Depending on the speed of production and requirements for the air-tightness of the products, we can use rotary or „box motion“ cross welding.

FILM PACKAGING

In addition to the hose bag packaging, we also offer additional film packaging usually made of polyolefin films. Blank or printed PE centre-folded film, packaging which is made from upper and lower film and can be printed on one of the two films or packaging made from shrink wrap film. The most varied types of machines allow us to pack the finished products customised in film.

THERMOFORMED PACKAGING

In order to package products which are then to be sterilised, we offer so-called thermoformed packaging. The method consists of deep drawing composite film into pre-established cavities (format parts), inserting the product into these cavities and then sealing with paper or Tyvek®. The resulting product strand is separated using longitudinal and traverse knives. There is the possibility of product information with the integrated flexo printer on the paper/Tyvek® bring on.

SHRINK WRAP FILM

We have the option of using mobile shrink wrap tunnels on our film packaging machines. The shrink wrap packaging is not completely air-tight because one or more holes are made in the film for the escape of air on the packaging machine. Printed shrink wrap films are also possible.

LABELLING / MARKING

At any of our manufacturing and packaging machines, auxiliary units can be attached – for labelling or simple batch tagging.

BOX PACKAGING

Box packaging is used for a wide variety of products. The diversity of options is correspondingly large. We have the possibility in-house of automatically inserting the product into boxes with adhesive tabs and sealing them. Or manually inserting and sealing with devices when using tuck-in flap boxes.

BANDS / SLEEVES

We offer to band your products whether for campaigns or generally in order to keep several products together. These bands/sleeves consist of a paper/film laminate in the simplest design or elaborately printed composite film using random printing.

ANGULAR WELDING / SEALING

Angular welders work with film rolls which have been pre-folded longitudinally. The product is inserted in this centre-folded film and welded with a separating weld seam by means of a sealing bar over two corners. In angle welding processes, PE films or shrink films are often used.

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