The production of packaging with IML technology is one of the fastest-growing areas in plastics processing. The Polish company VERTEX, based in Ozorków, is a good example for the use of this technology. At the end of 2012, VERTEX started to manufacture packaging with a technology which enables the achievement of a 3D effect. Previously, 3D effects were produced by printing corporate 3D labels with a special technique. VERTEX now uses an innovative technology to create stereoscopic pictures.

VERTEX has developed a process which makes it possible to realize a 3D effect with a one-dimensional standard label. In normal packaging, the label is affixed to the outside of the pack. In the IML process used by VERTEX, however, the label is placed on the inside of the package. The 3D effect is generated on the outside, which enables the use of standard labels. This means that the production costs of this type of packaging are comparable to those for commonly available, standard IML packages and thus significantly below those of packages with a 3D effect produced by traditional methods.

The technology for making packages with a 3D effect with standard labels is already used successfully and is being continuously further developed at VERTEX. Solutions for flat sheets are already available. But producing a 3D effect on oval surfaces still presents VERTEX with a major challenge.

The technology VERTEX is using is not limited to food packaging. The company is constantly looking for new fields of application. For example, packages for DVDs and CDs and children’s toys such as 3D puzzles, or costume jewelery, are now also manufactured with a 3D effect.

To manufacture its products with a 3D effect, VERTEX operates 12 injection molding machines from WITTMANN BATTENFELD with clamping forces ranging from 180 to 240 t, equipped with W737 single-axis side entry robots, material loaders as well as
machine and mold cooling devices from WITTMANN. The machines are toggle lever models from the TM series. The TM 180/750 UNILOG B6 machine models with 180 t clamping force are used to produce the lids, and the tubs are manufactured on TM 240/750 UNILOG B6 machines with 240 t clamping force. The IML systems include label magazines which can be exchanged between the machines. A manual mold height adjustment system also enables extremely fast and flexible changeovers to different products.

For WITTMANN BATTENFELD, the project with VERTEX is an outstanding example of realizing a delivery according to our motto “everything from a single source”. The customer built its new plant, completely equipped by our company, in 2012. The scope of delivery included injection molding machines, the automation system, all peripherals and the cooling equipment.
Figs. 1 + 2:
Examples of packaging elements from VERTEX with 3D effect, manufactured with IML technology

Fig. 3: VERTEX production plant in Konstantynów Łódzki
Fig. 4: Production line at VERTEX

About WITTMANN

The WITTMANN Group, based in Vienna, Austria, is a global player with 9 production sites, 30 subsidiaries and 26 agencies in 52 countries. WITTMANN BATTENFELD is the only manufacturer offering plastics processors worldwide a complete range of automation and injection molding machine technology, including peripheral appliances for material loading, blending, drying, granulating, heating and cooling from individual production cells to fully integrated system solutions.
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