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PRESS INFORMATION

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Major expansion of process technology in the application development centre

The demands made on a material supplier's application development centre by customers include not only new polymers, but also innovative and economic processing methods. In order to maintain the latest state-of-the-art at the production site at Domat/Ems (Switzerland) in future as well, over the past two years, focussed investments have been made in new equipment for the manufacture of multi-layer components

Integration of function and design plays an increasingly important role in product development of polymer components today. This often requires use of several materials. In addition, increasing cost pressure demands a reduction in assembly and jointing processes. Special processes in injection-moulding, such as multi-component processes provide an inexpensive complete system solution.
The term "multi-component injection-moulding" includes laminate and sandwich moulding processes. Laminate moulding is the injection of a soft or hard polymer material onto or around an already cured base component. Sandwich moulding allows the manufacture of multi-layer shaped parts with surface and core components.

Wide range of suitable materials
EMS-GRIVORY offers a wide range of materials in all polyamide product families, which are suitable for laminating with polyamides, thermoplastic elastomers, such as e.g. TPE-S, TPE-V, TPE-U and also silicon. In order to economically test the suitability of these material combinations for the various methods, an injection-moulding machine with two injection units is required. Early in 2019, a new, fully electric two-component injection-moulding machine was taken into operation. The unit is technically equipped in such a way that customer moulds can also be sampled.

New multi-layer film machine
A multi-layer cast film line, installed at the end of 2017, makes it possible to test new material combinations for packaging films and in particular, to provide support to customers in the development and implementation of applications using technical films. The line is technically equipped so that it can be used for both the
chill roll method for packaging films as well as the calendar method for technical films.

Thanks to the two extruders and a special distributor block technology before a wide slit die, along with mono-films, multiple-layer films in the material combinations A/B or A/B/A with film thicknesses up to 1 mm can also be manufactured.

**Major savings possible**

Technical films are used in the back injection-moulding process for use in automotive interiors, telecom or sport and leisure time applications. This method, also known as film back injection-moulding or film insert moulding, makes individual process steps or post-treatment such as decoration or functionalisation of components, coating or painting, unnecessary. This allows significant savings in manufacturing costs, time and plant investments to be achieved as well as increasing flexibility of production. When required, films can also be additionally thermo-formed in a deep-draw film unit for back injection-moulding.

**New multi-layer pipe machine**

Automotive and truck manufacturers use EMS products worldwide for multi-layer media pipelines in their vehicles for transport of fuels such as petrol and diesel, AdBlue® for exhaust gas treatment in diesel engines, or compressed air. In electric vehicles, extruded multi-layer pipes are required as cooling and heating lines in the drive system.

For the development of new applications and materials, in 2018 the application development centre of EMS-GRIVORY therefore took a new 5-layer pipe extrusion unit into operation.

Thanks to a new multi-layer die head technology, cleaning of the unit has been made much simpler and the conversion times for the various layering as well as manufacture of mono pipes have been significantly reduced. Materials, which are challenging to process can be extruded without defects with this new technology for extruder and multi-layer heads.

**Leading position strengthened**

The ACD now has again a modern 5-layer pipe extrusion machine which can be used flexibly to provide a reliable and comprehensive customer service. As in particular, many new automotive customers are using extrusion machines from the same manufacturer, the development process for new applications is simpler and faster. Thanks to this investment, EMS-GRIVORY has further strengthened its leading position as development partner for multiple-layer pipes in the automotive and industry segments.

With these three new multi-component machines, the EMS-GRIVORY application development centre has expanded the range of advisory and other services it offers and can provide support for customers more quickly and competently in handling of projects from the idea right up to serial production.

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The new two-component injection-moulding equipment in the EMS-GRIVORY application development centre.

The new multi-layer film machine in the EMS-GRIVORY application development centre.

The new multi-layer pipe machine in the EMS-GRIVORY application development centre.
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