



Press release



A Comprehensive Product Portfolio for the Automotive Industry: ENGEL at K 2007

Schwertberg / Austria: September 2007 – ENGEL opens injection moulding plastics applications to the automobile and automotive supplies industries with numerous new processes and combinations of processes. At the world' leading plastics fair, K 2007, from 24th to 31st October in Düsseldorf, Germany, ENGEL will be demonstrating the production of armrests using the Dolphin technology approach on an ENGEL duo large-scale machine, along with a combination of ENGEL fluidmelt and ENGEL combimelt technologies for manufacturing of multiple-branch media lines on a tiebar-less ENGEL victory machine.

For many components in the vehicle shell, glazing, interior, power train, safety and control technology plastics are the only feasible materials, and injection moulding is the only possible approach. As a long-term development partner to the automobile industry ENGEL has a comprehensive program of injection moulding machines of all sizes, turnkey solutions comprising machine, moulds and automation, an experienced process technology development team, a tightly-meshed network of competent system integrators, many years of experience of the industry and a comprehensive service portfolio for maximum machine uptime.



New Applications for the Dolphin technology

The patented Dolphin process for the manufacturing of interior components with soft-touch surface through combined injection moulding and foaming has taken a further step towards serial deployment in the automobile industry: at K 2007 ENGEL will be demonstrating the Dolphin process as an alternative method of producing an armrest for a vehicle interior. ENGEL developed this project in cooperation with mould makers Georg Kaufmann AG, Busslingen/Switzerland, automotive supplier Johnson Controls GmbH, Burscheid/Germany plastics manufacturers BASF, Ludwigshafen/Germany and P-Group, Filderstadt/Germany.

The first step in the Dolphin process involves injection moulding the PBT-GF raw component with soft-touch surface. The soft-touch surface is completed by foaming with TPE-E using ENGEL's foammelt technique. Thanks to extremely granular process controls, the surface of the moulded part is completely closed, and of a perfect visual quality, although the physically gasified TPE mass foams in the mould creating a low density foam core with appealing usage properties.

The Dolphin technology will be demonstrated at K 2007 on a two-component ENGEL duo 5550H/1800M/900 WP combi M injection moulding machine (9,000 kN clamping force) with two horizontally juxtaposed injection units, a stack mould with rotating central platen, and platen parallelism controls integrated into the machine control unit. An ENGEL ERC 125/0-F will handle parts removal.

Combination of ENGEL fluidmelt and ENGEL combimelt for Multiple-Branch Media Lines

The combination of the ENGEL combimelt two-component injection moulding process with the ENGEL watermelt water injection technology creates two-layer, multiple-branch media lines, removing the danger of fibre stripping, and guaranteeing an excellent chemical resilience of the interior layer against cooling media.



In cooperation with Phoenix Automotive, a ContiTech AG company, ENGEL has developed a mould and a process to create a multiple-branch connecting line for use in the immediate vicinity of the engine. At K 2007 the project will be demonstrated on a tiebar-less, multiple component ENGEL victory 1050H/500W/150 combi injection moulding machine with two injection units for co-injection of the two plastic masses, and a third, integrated barrel-type injection system for water injection.

The exterior component with a weight of about 200 g comprises a fibreglass-reinforced polyamide by DuPont and an interior lining made of non-reinforced, modified polypropylene with a weight of approximately 100 g. Water injection technology is supplied by Maximator GmbH, Zorge/Germany. Parts removal is handled by a six-arm KR 16T robot by KUKA, Gersthofen/Germany.

Versatile Machines, Processes and Applications

Besides the dual-platen ENGEL duo machine series and the ENGEL victory tiebar-less machines, other ENGEL machines are used in the automotive industry, such as the fully electric ENGEL e-motion precision machine, the compact, fully electric ENGEL e-max and the ENGEL elast machines which specialise in elastomer processing.

ENGEL at K 2007 in Düsseldorf:
Hall 15 Booth 15 C 58 (main booth)
Hall 10 Booth 10 D 42 (automation technology)



Dual-component ENGEL duo 5550H/1800M/900 WP combi M injection moulding machine with a clamping force of 9,000 kN, two horizontally juxtaposed injection units and a stack mould with rotating central platen for the Dolphin technology



Armrest for automobile interior, manufactured using Dolphin technology on an ENGEL duo 5550H/1800M/900 WP combi M



Tiebar-less multiple-component ENGEL victory 1050H/500W/150 combi injection moulding machine with two injection units and integrated barrel injection system for water injection for manufacturing a multiple-branch connecting line



Multiple-branch connecting line for Phoenix Automotive, manufactured by a combination of ENGEL combimelt and ENGEL fluidmelt on a tiebar-less multiple component ENGEL victory 1050H/500W/150 combi injection moulding machine, made of fibreglass-reinforced polyamide (outer layer) and polypropylene (inner layer)

Photos by: ENGEL



Engel Austria GmbH

The Engel brand denotes the world's biggest manufacturer of injection moulding machines and, at the same time, one of the world's leading plastics processing machine manufacturers. Today, the Engel Group offers its customers a single-source for a full range of plastics processing technology modules for: injection moulding machines for thermoplastics and elastomers, moulds and automation, with the assurance that individual components are competitive and successful on world markets. With eight production plants in Europe, North America and Asia (China, Korea), subsidiaries in 17 countries, and representatives in over 70 countries, Engel offers its customers the best-of-breed, global support they need to compete and succeed with new technologies, and leading-edge production systems.



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