

DUAL-COMPOUND CMS: AN EXCLUSIVITY BY REP!



PRODUCTIVITY TO THE FOURTH!

The dual-compound CMS machine is an injection press with 4 rotating stations and 2 injection units allowing for the synchronous curing, stripping, and injection of 2 compounds in the same mold: that's productivity, versatility and flexibility!

The dual-compound or dual-injection CMS machine has become nearly a standard over the years.

Equipping an injection molding machine with a second injection unit has become customary to REP on all types of machines in all configurations since the G7 generation: injection from the top or the bottom, the back or the side, etc. REP can respond to customers' most complex requirements.

The user's objective is to produce parts integrating several compounds of various characteristics. The goal consists in combining technical performances at optimized costs: elimination of assembly operations and integration of a low-cost compound into a part, thus limiting the quantity of noble compound to the functional part only.

The dual-compound injection principle can be adapted to all injection presses, regardless of the size of the closing units and of the injection units.

REMINDER

The production of this type of dual-compound part may be performed using:

- Two sequential injections into two complementary cavities,
- Simultaneous injection into two different cavities or into two separate cavities of the part,
- Simultaneous (or offset) injection into one single cavity.

It is either possible to directly inject into the mold or through a special cold runner block (CRB) integrating several compound circuits.



Productivity and flexibility

By equipping the CMS for the first time with a second injection unit REP grants their customers optimized productivity and maximum flexibility.

First of all we want to emphasize that a CMS press - thanks to its four molds - allows for a much higher hourly production, which means a gain in productivity of 50 to 100%, than a single-station press of 400 tons.

Regarding flexibility the CMS is characterized by the quick mold change (10 minutes for the 4 molds), the possible deselection of one mold, the programming of different injection volumes and the adaptation of the stripping station to various kinematics.

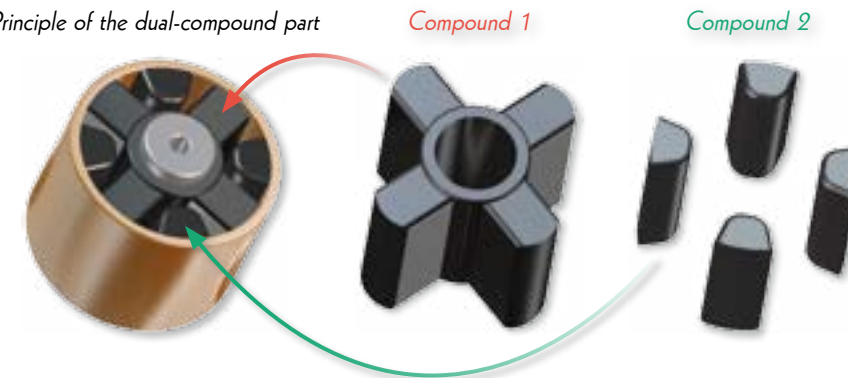
The dual-compound CMS press is not only dedicated to dual-compound injection: users can switch from simultaneous injection to sequential injection, or only use an injection unit if required!

Let's discover a more and more widespread application example: bi-compound bushing

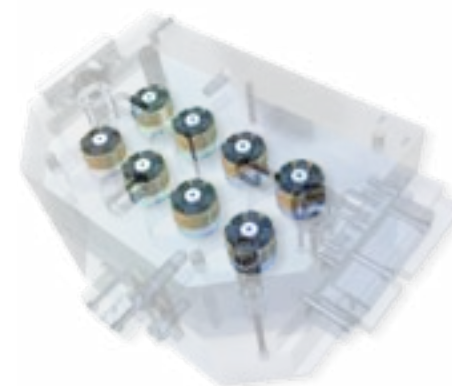
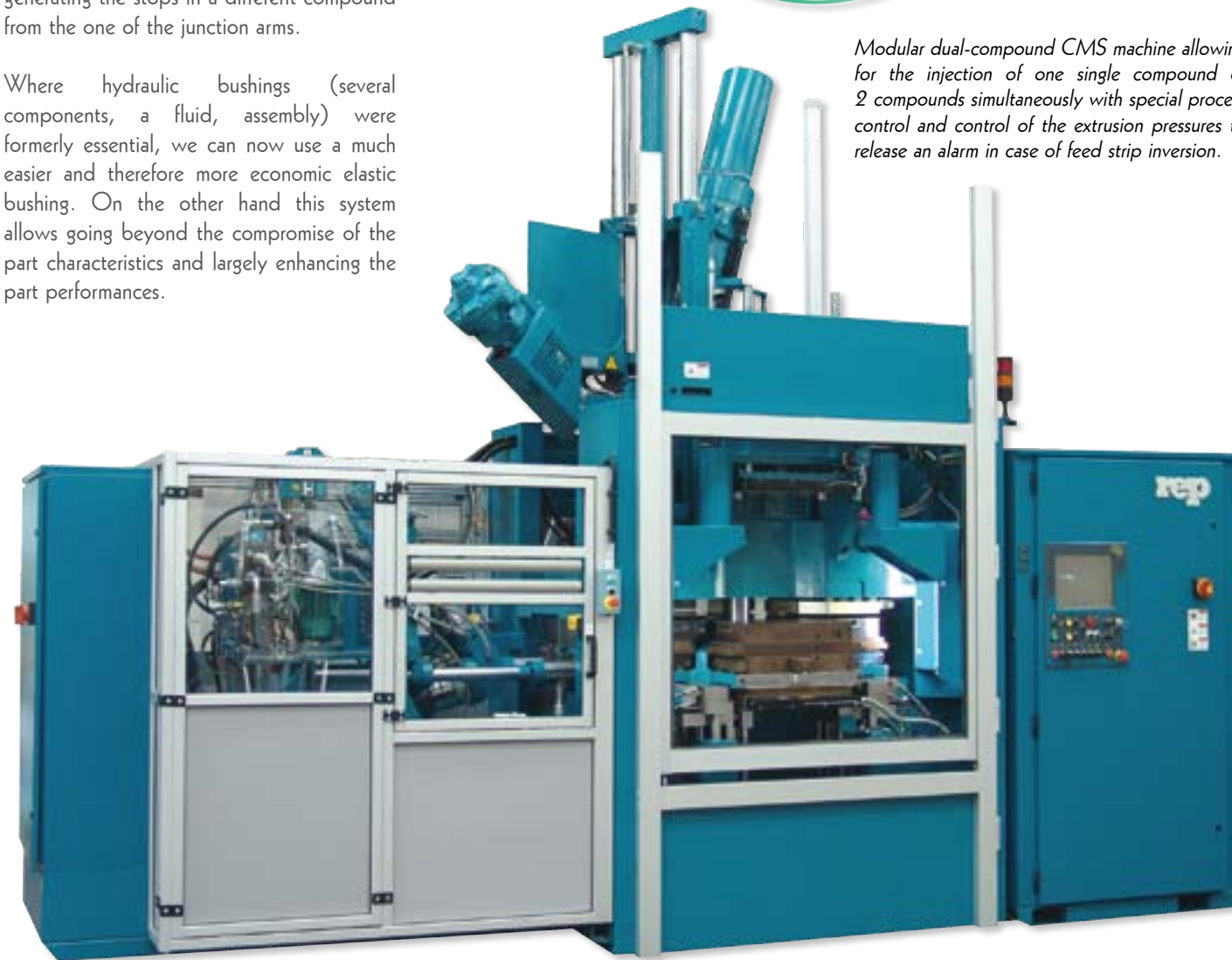
It includes an inside and outside tube. Molding the rubber part causes the two tubes to be linked by arms and generating stops. The use of two different compounds may allow adjusting the damping along the working axis using different rubber links or generating the stops in a different compound from the one of the junction arms.

Where hydraulic bushings (several components, a fluid, assembly) were formerly essential, we can now use a much easier and therefore more economic elastic bushing. On the other hand this system allows going beyond the compromise of the part characteristics and largely enhancing the part performances.

Principle of the dual-compound part



Modular dual-compound CMS machine allowing for the injection of one single compound or 2 compounds simultaneously with special process control and control of the extrusion pressures to release an alarm in case of feed strip inversion.



Mold with two sprue plates for the two independent compound circuits

What is the advantage of the CMS in the dual-compound application?

The injection of several compounds into the same cavity requires the perfect control of the compound flow and synchronization between the compounds. The CMS allows for enhanced productivity by limiting the number of cavities per mold, thus leading to a better control of the flow inside the cavity.

THEY WORKED ON THE PROJECT

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