

A little more than a year after release 5.5, MAGMASOFT has released version 6.0 with a brand-new livery which allows users to reach their objectives even faster, thanks to the special focus on ease-of-use and time-to-answer.

This version, which covers all foundry processes, features significant improvements to ease-of-use while the intuitive user interface accelerates the process of setting up simulations. The toolbars and menus have been simplified, making configuration of a simulation easier and more intuitive, while new keyboard shortcuts save time and simplify work processes.

The new CAD is more streamlined and intuitive, allowing both imported and internally modelled 3D files to be handled more quickly in the software. Projects also load in 80% less time, allowing users to save further time, or switch more quickly between different projects, or different versions of projects.

The composite solver mesh, previously available for HPDC (high pressure die casting) processes only, has now also been extended to gravity die casting processes, thus significantly reducing the number of elements needed to define the computational grid. A new control system for filling dynamics, which builds on the functionality of version 5.5, allows the user



Fig. 1. MAGMASOFT 6.0's new CAD.



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to define whether a mould should be filled completely or only up to a certain level. This functionality allows the true dynamics of the process to be represented more accurately.

MAGMASOFT Ver. 6 has been extensively updated and extended for gravity die casting processes. The permanent mould gravity casting model now integrates fluid dynamics for temperature control circuits, derived from the HPDC module. This allows designers to monitor the efficacy of the temperature control system and the efficiency of the circuits in terms of sudden increases in the temperature of the control medium, the pressures and speeds involved, as well as the relative zones of highest exchange per single





Fig. 2. New MAGMASOFT 6.0 composite mesh.



Fig. 3. New control system for filling dynamics.

circuit, and the heat transfer coefficients per single zone. This helps designers more accurately calculate the heat balance in the mold and to predict the presence of shrinkage porosities, to improve the quality of die casting results.

Release 6.0 allows users to define the settings of the heaters independently and separately from the temperature control circuits.

For process optimization purposes, MAGMASOFT Ver. 6.0's new preheating phase allows users to calculate and simulate the preheating of the mould or printer in preparation for production.

This release builds on the previous version's automatic optimizer that allows the optimal system configuration to be identified thanks to the introduction of geometric and process variables and the MOGA (Multi Objective Genetic Algorithm) solver.

Release 6.0 is available for 64-bit Windows and Linux operating systems.

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