Press Release

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PRIAMUS Fill – Automatic Hotrunner Balancing

Every mold setup with hotrunner systems shows the same problems: identical set values of the hotrunner nozzle temperatures lead to different fills of the single cavities. And this happens although all cavities have the same dimension. The procedure is usually as follows: the single nozzle temperatures are optimized manually by comparison with short shots until all cavities are filled simultaneously. However after very few cycles the original unbalanced condition comes back again because the ambient conditions are permanently changing and influencing each other.

PRIAMUS Fill adjusts permanently the set values of the hotrunner nozzles and therefore balances automatically the fill phase of the single cavities. For this purpose the mold surface temperatures in each cavity are acquired, compared to each other and if necessary controlled via the hotrunner nozzle temperatures.

Unlike the cavity pressure measurement rather inexpensive temperature sensors are used which do not cause measuring errors once they touch the mounting bore and which can be used economically even in case of a high number of cavities.

The entire system consists of an industrial PC (Embedded Controller), a modular multi channel temperature measuring unit, the mold surface temperature sensors and the actual software for signal monitoring and process control. Every single cavity is monitored in terms of warning and monitoring limits and can be selected via a digital output signal. Special 2D and 3D views which are based on the actual measuring signals show the user the temperature distribution of the single cavities at a glance. An unfilled cavity can be as easily identified as an unsymmetrical mold cooling. In other words: the systematic failures of a mold during production are made visible.

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