

AM in tooling – Much more than conformal cooling

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Conformal cooling in mold inserts was one of the first applications of metal 3D printing. The potential of optimized temperature control to reduce scrap or cycle time was recognized early on. In the meantime, however, not only the technology and the available tool steels have evolved, but also the possibilities in the field of tool design. Both the way near-contour cooling channels are designed and other benefits that 3D printing can bring have been developed. 3D printing makes it possible, for example, to monitor and control the injection molding/die casting process much better through position-optimized sensors. Similarly, for example, targeted porosity can ensure good venting throughout the mold, even for challenging injection molded parts. 3D printing can do much more than cooling close to the contour.

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