

## Improvement of the plastic cap injection process



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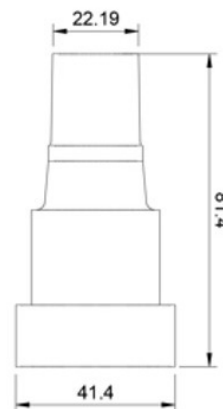
**Sector:** Moulds & Dies

**Challenge:** The customer needed to improve productivity of a plastic cap injection mould with 8 cavities.

**Solution:** A new design was made for the heating/cooling channels inside the insert to improve the injection cycle.

### CHALLENGE

Integration of an optimised cooling circuit that allows more efficient thermal adjustment than traditional methods.

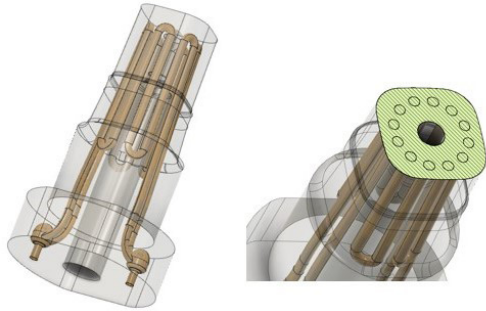


## SOLUTION

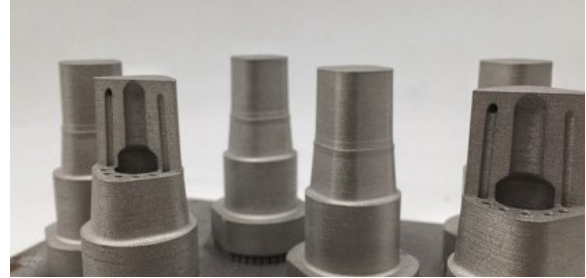
An internal cooling circuit is designed that maintains a constant distance from the outer surface of the insert. The manufacturing process of the mould inserts is not affected by the complexity of the cooling system chosen

since additive technology allows the construction of the channels at the same time without negative effects on manufacturing times.

Cooling System Design:



AM Manufacturing:



## ADVANTAGES

1. Increase in **production**: 20%.
  - More efficient thermal adjustment.
  - Reduction in cycle times.
  
2. Increase in **durability**: running since October 2018 without having to replace inserts.
  - Analogous thermal properties in matrices.
  
3. Improved finished product **quality**.
  - Improvement in injection conditions and geometry.
  - Improved injection process stability.
  - Lower amount of burn marks.