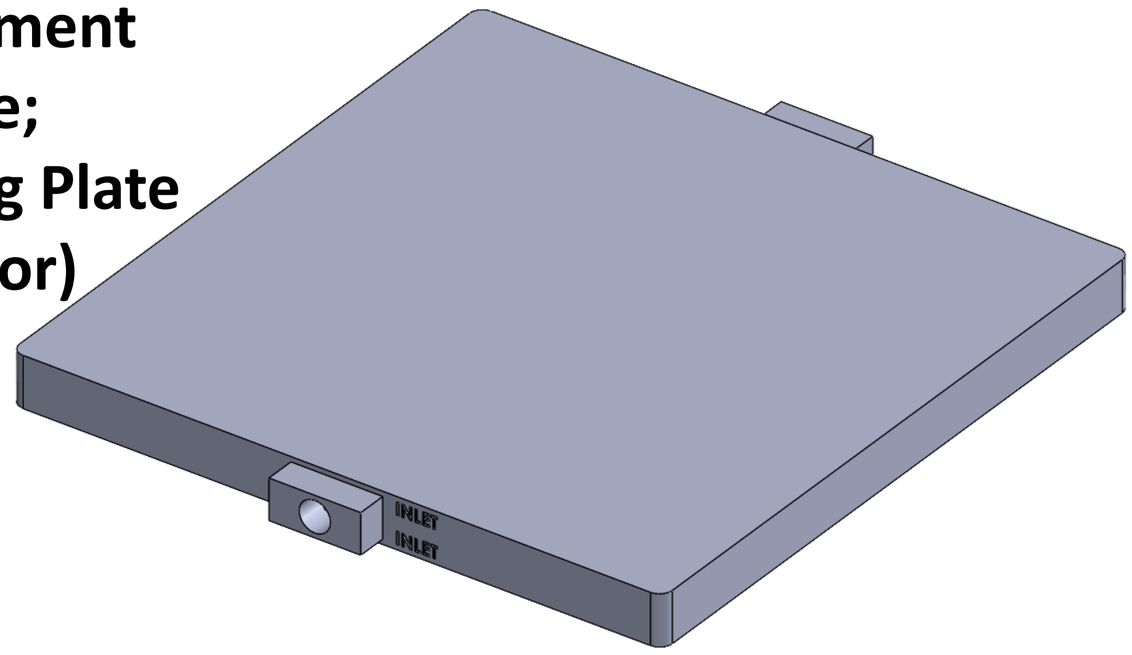
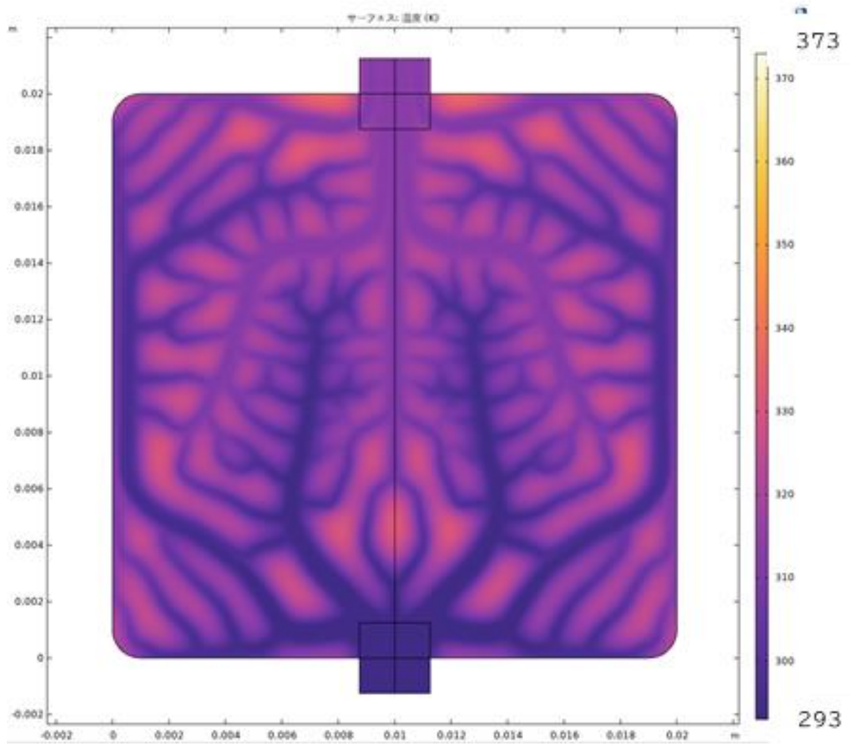
Mold Cooling Insert with High Cooling Efficiency

- Unique Internal Flow Path of 3D Printing with Durable material -

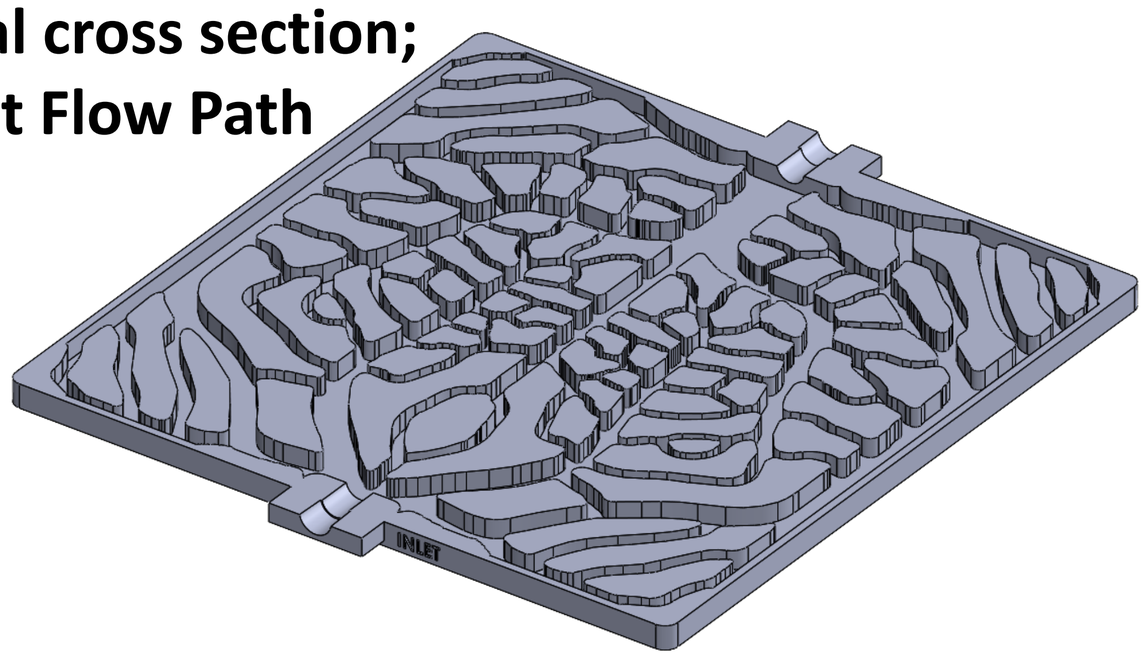
Experiment Sample; Cooling Plate (exterior)

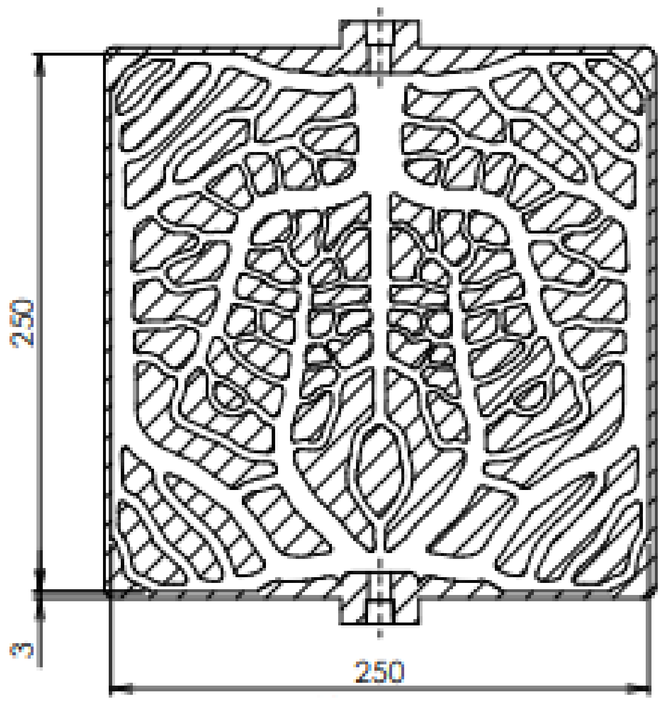




Cooling Effect Simulation

Internal cross section; Coolant Flow Path





CAE Design of Coolant Flow Path

MITSUCHI developed **Unique Mold Inserts with High Cooling Efficiency**. This was achieved using **CAE and 3D printing** combined with **Effect Simulation and Coolant Flow Path Design**.

Furthermore, we offer a **New Powder Material** specifically for 3D printing with the corrosion resistance and high strength suitable for mold cooling fixtures. (Now on Patent application)

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[Detail]

Injection Molds for Resin Products require strict temperature control to ensure the product Quality and Productivity. So our challenge was to create a Highly Efficient Cooling System for severe thermal cycles of the molds. Traditionally, Mold Inserts have been made with drilling holes in the steel to provide Coolant Flow Path. Such Flow Path was linear and had many restrictions to design, so it was not possible to obtain a sufficient cooling effect.

Mitsuchi