



MOLDMAX® APPLICATION: CAVITY MOLD INSERTS PROFILE: SHOWERHEAD MANUFACTURER

Aglobal leader in shower system production trusted Materion Performance Alloys to help the company bring innovations to consumers, including the Jet Set Shower, the first device with a wall-mounted movable jet; and the Nova Shower, their first shower manufactured in plastic.



Showerhead Mold

STEEL REPLACED WITH MOLDMAX

Tight dimensional tolerances on an interior showerhead component had the company looking for options other than 420SS to use on its mold cavities. Materion Performance Alloy's MoldMAX alloy was able to improve the molding tolerances demanded by this intricate part. Advantages of MoldMAX include:

- Highest thermal conductivity available
- Uniform cooling
- Better wear than steel tools
- Faster machining rates than steel tools

The interior showerhead component is made of polypropylene, and flatness and circularity are critical for the part. In addition, the mold used for this component is a four-cavity mold, making cavity-to-cavity variation a concern.

The manufacturing company's engineers turned to MoldMAX to solve these problems. By using MoldMAX inserts, the part circularity and flatness are now well within the required tolerances. In addition, the temperature variation between the cavities is negligible.

CONSISTENT TEMPERATURE IS KEY

Maintaining consistent temperature during the manufacturing process of plastic components is key for precision molding applications. For more than 20 years, Performance Alloys has been committed to bringing high thermal conductivity and uniform cooling to the plastics market.

The previous four-cavity mold used chilled water at 9°C to obtain a cycle time of 24 seconds. The new mold made with MoldMAX utilizes inexpensive tap water at 20°C and achieves a faster cycle time of 19 seconds – a 20-percent reduction in cycle time. In addition, the ability to use tap water with the MoldMAX mold has alleviated the problem of condensation.