MATERION

CASE STUDY

MoldMAX HH insert stands up well to the glass-filled nylon used in RT Technology's chair bases.

MOLDMAX® APPLICATION:
CAVITY MOLD INSERTS
PROFILE: RT TECHNOLOGIES

RT Technologies recently utilized Materion Performance Alloys' MoldMAX HH (High Hardness - 40 HRC) to improve cycle time as well as improve the dimensional control of the hub diameter. MoldMAX HH is used in core and cavity inserts in the injection molding of RT Technology's office chair bases. Prior to using MoldMAX, RT Technology was using strictly steel in their molds. Compared to the old system that used all steel inserts, molds using MoldMAX inserts run at a 20% faster cycle.

RT Technology's office chair componens are built with quality and consistency from the base up.

EFFICIENCY STARTS AT THE BASE

For more than 15 years, RT Technology has been guided by its basic objective of manufacturing well-made office furniture components. It is with that objective in mind that RT Technology selects its suppliers, choosing only those that meet the highest standards for the quality and consistency of its products and services. With thousands of products being manufactured by RT Technology, having efficient systems throughout the manufacturing process is essential. Faster cycle times and reduced scrap rates are goals all manufacturing facilities strive to attain. To meet these goals and maintain their environmentally friendly commitment, RT Technology relies on products, services, and suppliers that enable, support and share their philosophy. This is why they turn to Materion Performance Alloy for their mold material.

On a weekly basis, RT Technology shipped 50,000 chair bases from its facility in Toronto, Ontario. They were using strictly steel in their molds, but found that by utilizing MoldMAX HH core and cavity inserts in the injection molding of their chair bases, they were able to decrease cycle time from 122 seconds to 98 seconds allowing for faster production throughout. By using MoldMAX, RT Technology was able to increase annual production by 500,000 chair bases. Additionally, they are able to produce their chair bases on 16 presses using MoldMAX tools whereas all steel tooling would have required 20 presses.

IT'S GETTING HOT HERE

Uniform cooling temperatures are critical on molding applications. For more than 20 years, Performance Alloys has been committed to bringing high thermal conductivity and uniform cooling to the plastics market. Performance Alloy's reputation is one of the reasons RT Technology is using MoldMAX in the sections of their cores and cavities that are the most difficult to cool. "We use the MoldMAX

Cont.

MOLDMAX®

TECHNICAL INQUIRIES
P: 800.375.4205
F: 216.383.4005

PERFORMANCE ALLOYS
6070 Parkland Boulevard
Mayfield Heights, OH 44124 USA
P: 800.321.2076 +216.486.4200
www.materion.com/brushalloys

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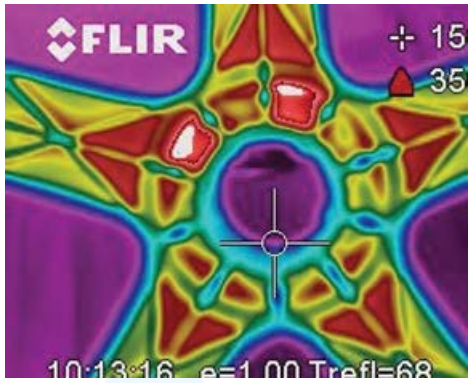
Injection Molding Machine: RT Technology's chair base mold with MoldMAX HH insert as seen at RT Technology

wherever uniform heat dissipation is required," said Paul Karim, Director of Plastic Development for RT Technology. "The use of this alloy dramatically improves the ability to cool the plastic."

Materion Performance Alloys is working closely with RT Technology to provide an analysis of the high thermal conductivity and uniform cooling realized with the use of MoldMAX through infrared imaging. With infrared cameras and a knowledgeable staff, the company can literally look inside the mold and demonstrate, in real time, how and where the thermal management properties of MoldMAX can increase the efficiency of molding operations.

The Business and Institutional Furniture Manufacturer's Association (BIFMA) standards require chair bases withstand 2,500 lbs. ultimate load. RT Technology tests all bases to 3,000 lbs ultimate load.



IR imaging technology can identify hot spots making it an integral step in ensuring uniform cooling.

The underside of RT Technology's chair base shows the intricate design of the piece.

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