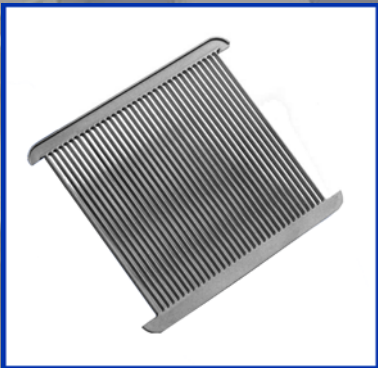


THIXOMOLDED[®] MAGNESIUM INJECTION MOLDING

ENTERPRISE
MOLDED
PRODUCTS



THIN WALL



LIGHT WEIGHT

HIGH STRENGTH



HEAT TRANSFER

EMI/RF SHIELDED

PART CONSOLIDATION

GREEN PROCESS

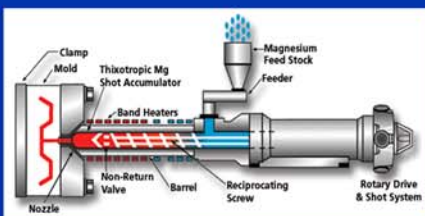
THE SYNERGY OF PLASTIC AND METAL

THE THIXOMOLDING® PROCESS

Thixomolding® is a proprietary process similar to plastic injection molding using semi-solid magnesium alloy chips. Solid magnesium chips fall into the barrel of a specially adapted injection molding machine. As the screw pushes the material down the barrel, heated bands, along with the screw's motion, transform the chips into a semi-solid slurry, which is then pushed into the tool's cavity. The machinery is self-contained, has no separate melt/transfer system, can be



operated by one operator, and emits no harmful gasses during processing.



MAGNESIUM PROPERTIES

“Doesn't magnesium corrode?”

Magnesium's reputation for corrosion is due to the use of poor alloys in the 1960-1970's. Today, poor filler content has been eliminated in the most common Thixomolding® grades (AZ91D, AZ91E), resulting in corrosion resistance up to four times greater than aluminum.



CORROSION
AFTER
10-DAY SALT
SPRAY TEST

“Doesn't magnesium burn?”

Solid magnesium does not ignite until over 1000°F/600°C. The risk of fire is dependent on magnesium's form. Solid parts have a negligible risk, while magnesium's most combustible state, fully molten, is eliminated in the Thixomolding® process.



ADVANTAGES

Thin Wall Applications



Due to the excellent flow of semi-solid magnesium, Thixomolded® products can be molded into intricate designs, with walls up to 0.02" (0.5mm) thin.

Weight Reduction



Thixomolded® magnesium is 34% lighter than cast aluminum and 76% lighter than cast steel, with density that is similar to most injection molded thermoplastics.

High Strength & Stiffness

Thixomolded® magnesium products are approximately 20 times stiffer than some plastics, without a significant increase in weight.



Shielding Properties

Unlike conventional materials, housings and cases made using Thixomolded® magnesium require no plating, fillers or sheeting to achieve maximum RF/EMI shielding.



Thermal Management

Thixomolded® magnesium parts combine magnesium's light weight with superior heat transfer abilities, providing the ideal solution for heat management components.



Green Process



The Thixomolding® process does not require the use of CF6, uses less energy than casting, produces no toxic gasses or slag, and all Thixomolded® magnesium parts are 100% recyclable.