



MANUFACTURING LOCATION: PHILLIPS MEDISIZE | EAU CLAIRE, WISCONSIN | US

FREQUENTLY ASKED QUESTIONS: WHAT IS THIXOMOLDING?

This manufacturing process heats magnesium alloy chips to a semi-solid state and injects them into a mold under high pressure to form components.

Why Thixomolding?

- Lightweight parts
- High strength-to-weight ratio
- EMI/RFI shielding properties
- Helps reduce waste - 100% recyclable
- 96% to 99% density
- Heat dissipation
- Non-magnetic

How Does Thixomolding Compare to Other Processes?

	Thixomolding	Die Casting
Complexity	↑	—
Thinner wall selections	↑	↓
Thixotropic material flow	↑	↓
Parts produced to NADCA precision tolerances	↑	—
Longer tool life	↑	↓
Environmentally friendly	↑	↓

How Does Magnesium Compare to Aluminum?

- Reduce part weight: 33% lighter than aluminum
- Greater elongation as compared to aluminum: Magnesium 6% in 51 mm
- Longer tool life: Aluminum is more abrasive on tool steel resulting in even lower tool life

What Are the Philips Medisize Capabilities?

Press Tonnage	220 T, 650 T, 850 T, 1,250 T
Materials	AZ91D, AM60B, MgCarbonit ⁹¹
Finishes	<ul style="list-style-type: none"> • Prime • Liquid paint • Powder coat paint • E-coat • Pad print • Laser etch • Plating • Conversion coating: <ul style="list-style-type: none"> – Alodine 5200 or equivalent (non-chromate) – Alodine 5900 or equivalent (trivalent chromate) – Tagnite, Anomag and Keronite
Secondary Operations	<ul style="list-style-type: none"> • Machining • Vibratory deburring • Shot blasting • Manual and robotic surface finishing • Form-in-place gasketing • Assembly • Helicoil installation
Certifications	IATF 16949, ITAR

What Are Some Industry Applications?

AUTOMOTIVE

- Instrument cluster display housings
- Head-up display housings
- Camera housings

CONSUMER

- Borescope housings
- Appliance motor and transmission housings
- Electronics housings

DEFENSE

- EMI/RFI shields
- Ruggedized laptop housings and components

MEDICAL

- Power generator housings
- Medical device housings
- Patient wearable device housings

To learn more about our diverse portfolio and our expertise in materials, injection molding and manufacturing, visit our website at phillipsmedisize.com/non-medical.