

DIE CASTING

DESCRIPTION

As a best-in-class manufacturer of functional and cosmetic, zinc and aluminum die casting components, Lincoln Industries provides parts within a wide variety of part specifications, including weight ranges from 0.002 ounces (1g) to 7 pounds (3.2 kg), shot weighs up to 10 pounds and dimensional tolerances within ± 0.0005 inches. The die casting process yields components of exceptional precision and complexity, even with thin walls and cosmetic surfaces. Allowing for high-speed, simultaneous production of multiple parts and achieving greater strength while using less material makes die casting more efficient than other processes.

ALUMINUM

Our aluminum die casting process allows us to produce complex, precise, lightweight, high-strength products: both functional and cosmetic.

ZINC

To produce exceptional components, we use four top-quality zinc alloys: Zamak 3, Zamak 5, ZA-8 and Zamak 2. These materials exhibit high levels of strength and allow us to create a variety of complex, tight-tolerance parts.

ZINC ADVANTAGES

- ▶ Offers a thin wall castability and can cast to print with little to no draft
- ▶ Features excellent bearing and tensile strength and rigidity
- ▶ Conducts electricity while dissipating heat
- ▶ Suitable for a variety of finishing options for cosmetic and anti-corrosion purposes including: electroplating, overmolding, power coating, chrome plating, PVD and CVD
- ▶ All zinc materials are non-toxic and can be recycled.

APPLICATIONS EXAMPLES

- ▶ Lock components
- ▶ Housings
- ▶ Connectors and clamps
- ▶ Automotive components
- ▶ Functional and decorative motor sports parts
- ▶ Small engine carburetors

DIE CASTING & TOOLING

We use the most advanced, state-of-the-art tool and die design concepts and software available to ensure you get unsurpassed quality and efficiency. Fully staffed and well equipped, our tool department achieves tolerances that transcends industry standards, providing accuracy within ± 0.0005 inches. Our tool and die makers create solutions for a wide range of applications in all major industries. Customers use our tooling solutions to produce complex, highly cosmetic, and precision components — from lock components to automotive parts, plus parts for medical, electronic, packaging, retail display and other applications.



SPECIFICATIONS	SUBSTRATE MATERIALS	FEATURES & BENEFITS
DESIGN/TOOLING/DIE CAST		
Assist in product design	Zinc/Aluminum	Assist in development of product to be cast-able and meet quality needs
Design tooling and fixtures	Zinc/Aluminum	Use mold simulation to develop tool designs, providing the highest quality casting with longest tool life
Tool build and repair	Zinc/Aluminum	Ability to build tooling in-house and handle all replacement and repair components
Multi-slide zinc die casting	Zamak 2, 3, 5	Single or multi-cavity multi-slide miniature zinc die casting with high precision and tight repeatable tolerances on 7-25 ton machines
Hot chamber zinc die casting	Zamak 3, 5, ZA-8	Single or multi-cavity zinc die casting in conventional machines from 80, 125, 200, and 500 tons
Cold chamber aluminum die casting	Aluminum 380	Single or multi-cavity aluminum die casting in conventional machine from 500 and 800 tons
Secondary operations	Zinc/Aluminum	Shot blast small batch zinc and aluminum die castings, tumble/hand deburr, hand degate, and manual tap
Secondary machining	Zinc/Aluminum	CNC tapping, drilling, cehining of zinc and aluminum die castings
Quality Inspection	All	Fully programmable CMM for full dimensional layouts and SPC tracking. Science scope for defect analysis

