



## ALUMINUM DIE CASTING

Aluminum die casting is a process where molten aluminum alloy is injected into a casting die under high pressure and at a controlled temperature. The mold has two sections, the "cover" half and the "ejector" half. The die may also have additional moveable segments called slides or pulls, which are used to create features such as undercuts or holes which are parallel to the parting line.

Aluminum die casting dies are run in cold chamber die casting machines. These machines are operated at the required temperatures and pressures to produce a quality part to net-shape or near net-shape specifications. Aluminum die castings can be readily machined, anodized, painted or powder coated.

Some of the more typical applications for aluminum die castings are: enclosures for the electronics industry, hand and power tools, hardware applications, pump parts, plumbing parts, parts for the automotive industries, sports and leisure, home appliances, and communications.

# AL

ALUMINUM DIE CASTING NOTES	
WEIGHT FACTOR COMPARISON	
1 LB. ALUMINUM =	2 1/2 LB. ZINC
MINIMUM DESIRED WALL STOCK =	.08
MINIMUM DESIRED DRAFT =	1° PER SIDE
DIE LIFE IN GENERAL =	100,000 SHOTS



## ZINC DIE CASTING

A zinc alloy die casting made from Zamak #3 or #5, or a zinc-aluminum alloy casting made from ZA-8 is made in the same general manner as an aluminum die casting. Molten metal is injected into a casting die under high pressure and at a controlled temperature. The metal is rapidly cooled until the solidified part is sufficiently rigid to permit ejection from the mold. The mold has two sections, the "cover" half and the "ejector" half. The die may also have additional moveable segments called slides or pulls, which are used to create features such as undercuts or holes which are parallel to the parting line.

Zinc die casting dies are run in hot chamber die casting machines. These machines are operated at the required temperatures and pressures to produce a quality part to net-shape or near net-shape specifications. Zinc die castings can be readily machined, plated, painted, or powder coated.

Some of the more typical applications for zinc and ZA alloy die castings are: the electronics industry, hardware, plumbing fixtures, automotive products, parts for the lighting industry, hand and power tools, and sporting goods.

# ZN

ZINC DIE CASTING NOTES	
WEIGHT FACTOR COMPARISON 1 LB. ZINC =	0.417 LB. ALUMINUM
MINIMUM DESIRED WALL STOCK =	.04
MINIMUM DESIRED DRAFT =	1/2° PER SIDE
DIE LIFE IN GENERAL =	1 MILLION SHOTS