

ADVANTAGES OF DIE CASTING

Forgings

Compared with forgings, die casting can be more complex in shape and have shapes not forgeable, can have thinner sections, be held to closer dimensions, and have coring not feasible in forging.

Plastic Injection moldings

Compared with plastic injection moldings, die casting are stronger, stiffer, more stable dimensionally, more heat resistant, and are far superior to plastics on a properties/coat basis. They help prevent radio frequency and electromagnetic emissions. For chrome plating, die castings are much superior to plastics. Die castings have a high degree permanence under load compared to plastics, are completely resistant to ultra-violet rays, weathering, and stress-cracking in the presence of various reagents. Manufacturing cycles for producing die castings are much faster than for injection moldings.

Extrusions

Compared to extrusions, die casting can be produced faster and more net shape. Features and depressions on the sides, tops and bottoms can be created in one operation. There is less waste using die casting than extrusion. Holes can be cast in place to save additional machining cost.

Stampings

Compared with stampings, one die casting can often replace several parts. Die casting frequently require fewer assembly operations, can be held within closer dimensional limits, can have almost any desired variation in section thickness, involve less waste in scrap, and are producible in more complex shapes. Die castings can be made in many shapes not producible in stamped form.

Screw Machine Parts

Compared with screw machine products, die castings are produced more rapidly, involve much less waste in scrap, can be made into shapes that are difficult or impossible to produce from bar or tubular stock, and may require fewer operations.

Sand castings

Compared with sand castings, die castings require much less machining, can be made with thinner walls, can have all or nearly all holes cored to size, can be held within much closer dimensional limits, and are produced more rapidly in dies which make thousands of die castings without replacement. Die castings do not require new cores for each casting, are easily provided with inserts die cast in place, have smoother surfaces and involve much less labor cost per casting.

Permanent mold castings

Compared with permanent mold castings, die castings can be made to closer dimensional limits and with thinner sections and holes can be cored to near net shape. Die castings are produced at higher rates with less manual labor, have smoother surfaces, and usually cost less per die casting.