

	Green Sand	Precision Molding			Chemically Bonded Molding
	Sand Casting	Permanent Mold Cast	Die Casting	Ceramic & Investment Casting	Shell CO ₂ No-Bake
Typical dimensional tolerances, inches	± .010" ± .030	± .010 ± .050	± .001" ± .015"	± .010" ± .020"	± .005 ± .015
Relative cost in quantity	Low	Low	Lowest	Highest	Medium high
Relative cost for small number	Lowest	High	Highest	Medium	Medium High
Permissible weight of casting	Unlimited	100 lbs.	75 lbs.	Ounces to 100 lbs.	Shell ozs. To 250 lbs. no-bake 1/2 lb. - tons
Thinnest section castable, inches	1/10"	1/8"	1/32"	1/16"	1/10"
Relative surface finish	Fair to good	Good	Best	Very Good	Shell good
Relative ease of casting complex design	Fair to good	Fair	Good	Best	Good
Relative ease of changing design in production	Best	Poor	Poorest	Fair	Fair
Range of alloys that can be cast	Unlimited	Aluminum and copper base preferable	Aluminum base preferable	Unlimited	Unlimited

Parting Line Influence

When parting lines are considered, very close tolerances are difficult to obtain. A parting line absorbs fractions of inches per inch. A foundry is doing well to hold a parting line to 0.015 inch. Additional measurement is added to the casting tolerance.