

Injection Molding Part Cost

How-to guide: what the workbook does, how to use it and what every number means.

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Injection Molding Part Cost

Cost an injection molded part from resin, cycle time, press rate, secondary work, changeover and mold amortisation, and price five order quantities.

For: Estimators, sales engineers and owners of custom injection molders, and buyers who want to check a molded-part quote.

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Quick start

1. On Setup, type your company name, currency, costing defaults, press rates and resin prices.
2. On Cost Builder, choose the resin and press, then enter part and runner weights, cavities, reject rate and the regrind allowed.
3. Enter the cycle-time parts (fill, pack and hold, cooling, screw recovery, mold movement) and any secondary operations and packaging.
4. Enter the mold cost and how it is paid, the changeover per run and five order quantities; read cost, price and margin.
5. On the Dashboard, pick a quantity to see the tiles, the two charts and where the cost goes.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Your company, currency, costing defaults, press rates and resin prices.
Cost Builder	The part, shot, cycle, secondary work, mold and changeover, and the cost and price for five order quantities.
Dashboard	Piece price, cost and margin at the order quantity you pick, and where the cost of a molded part goes.
Method	How every number is calculated, with assumptions, limits and sources.
Verify	Self-check: the workbook's formulas recomputed on fixed inputs against an independent reference.

What each number means

Quantity	How it is calculated	Units
Weights	Part and runner weights in g (oz x 28.349523125). Shot = part x cavities + runner.	g
Good parts per shot	Cavities x (1 - reject rate).	parts
Regrind used per shot	The smaller of the scrap per shot (shot - good parts per shot x part weight) and regrind allowed x shot weight.	g

Quantity	How it is calculated	Units
Resin per good part	Virgin resin = (shot - regrind) / good parts per shot; cost = virgin g x price per kg / 1000 (a price per lb / 0.45359237). Loss = cost - part weight x price / 1000.	g, currency/part
Cycle time	Fill + pack and hold + the longer of cooling timer and screw recovery + mold open, eject and close.	s
Press cost per good part	Press rate x cycle / 3600 / good parts per shot. Good parts per hour = 3600 / cycle x good parts per shot.	currency/part
Secondary and packing	Sum over rows of labour seconds / 3600 x labour rate + bought-in cost.	currency/part
Mold and changeover	Mold amortisation = mold cost / amortisation quantity (0 if the customer pays). Changeover per run = hours x press rate + purge kg x resin price.	currency
Order lines	Shots = CEILING(quantity / good parts per shot). Changeover per part = changeover / quantity. Overhead = (press + changeover) x overhead %.	currency/part
Piece price	CEILING(total cost / (1 - target margin), price step). Margin achieved = (price - cost) / price.	currency/part
Press hours and days	Changeover hours + shots x cycle / 3600 / press efficiency; days = hours / scheduled hours per day.	h, days

Assumptions, limitations, sources and the self-check (the Verify sheet, which recomputes the workbook's formulas on fixed test inputs) are in the workbook. The last page shows the Dashboard with the example data for Cedar Valley Molders, a fictional business.

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Engineering estimates for planning and improvement work. Verify the results against your own process, data and standards before you rely on them.

Injection Molding Part Cost

Piece price, cost and margin at the order quantity you pick, and where the cost of a molded part goes.

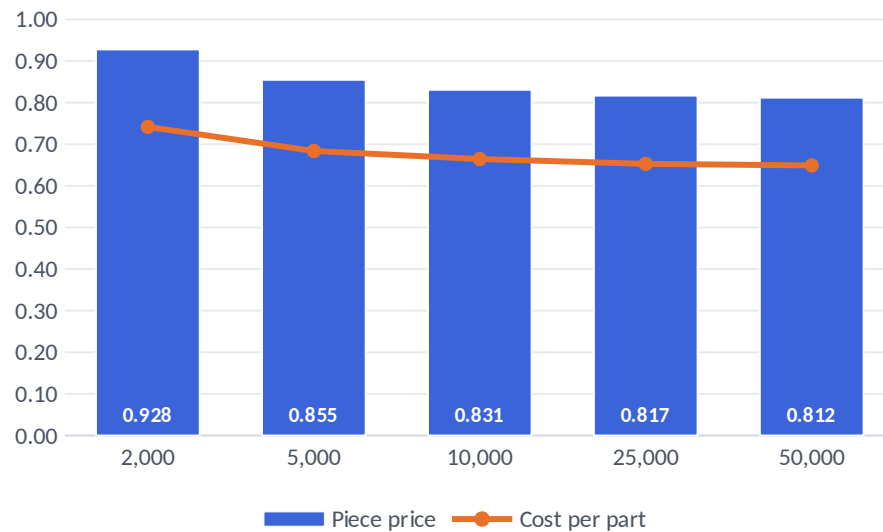
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Order quantity shown 10,000

Showing 10,000 parts of BWI-4410-H in ABS general purpose, 4 cavities, 28.8 s cycle. Pick another quantity in the yellow cell.

PIECE PRICE (USD/PART)	COST PER PART (USD)	MARGIN ACHIEVED	GOOD PARTS PER RUNNING HOUR
0.8310	0.6646	20.0%	493
Rounded up to your price step	All lines, before margin	Target 20.0%	Press days for the order: 1.2
		On target	

Piece price and cost by order quantity



Where the cost per part goes

