Blow Molding Cost per Bottle Estimator

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

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Estimate a blow molded bottle's cost from resin, flash and regrind, cavities and cycle, setup and tooling, and price five order quantities per 1,000 bottles.

For: Blow molding estimators, sales and plant managers, and packaging buyers checking a bottle quote.

Version 1.0.0 · updated 25 November 2026

Quick start

1. On Setup, type your company name, currency, labour rate, overhead, margin and price step, then your resins and machines.
2. On Bottle Estimate, choose the resin and enter the bottle weight, flash, regrind and colourant.
3. Choose the machine and enter cavities, cycle time, a sampled acceptance and the crew, then the setup, packaging and mould.
4. Type five order quantities and read cost and price per 1,000 bottles, margin and material to order.
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, resins and machine rates.
Bottle Estimate	The bottle, material, machine and cycle, order setup and tooling, and cost and price for five order quantities.
Dashboard	Price, cost and margin per 1,000 bottles at the order quantity you pick, and where the cost of a bottle 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.
About MFG Calcs	Everything MFG Calcs offers, free: calculators, templates, tariff tools, data and the Calkee AI helper.

What each number means

Quantity	How it is calculated	Units
Blended material price	(1 - colourant let-down) x resin price + let-down x masterbatch price.	currency/kg
Material used per bottle made	Bottle weight + flash - flash x share reground.	g

Quantity	How it is calculated	Units
Material cost per bottle made	Material used / 1,000 x blended price.	currency
Output	Cycles per hour = 3,600 / cycle seconds; gross = cavities x cycles per hour; acceptance = accepted / inspected sample; good = gross x acceptance.	bottles/h
Machine and crew per bottle made	(Machine rate + operators x labour rate) / gross output.	currency
Bottles to make	CEILING(order quantity / acceptance).	bottles
Cost lines per accepted bottle	Material and machine and crew x bottles to make / quantity; packaging per 1,000 / 1,000; (setup hours x machine and crew rate + purge kg x blended price + handling) / quantity; mould cost x share / life; overhead = (machine and crew + setup) x overhead %.	currency/bottle
Price per 1,000	CEILING(cost per 1,000 / (1 - target margin), price step); margin achieved = (price - cost) / price.	currency/1,000
Material to order and grams per accepted bottle	Bottles to make x material used per bottle / 1,000 + purge kg; and that x 1,000 / quantity.	kg, g

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 Brackenfield Plastics, a fictional business.

Free from MFG Calcs - keep this credit when you share it.

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

Blow Molding Cost per Bottle Estimator

Price, cost and margin per 1,000 bottles at the order quantity you pick, and where the cost of a bottle goes.

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Order quantity shown 50,000

Showing 50,000 bottles of BT-1000-HD in HDPE blow grade, 42.0 g each. Pick another quantity in the yellow cell.

PRICE PER 1,000 (USD)	COST PER BOTTLE (USD)	MARGIN ACHIEVED	GOOD BOTTLES PER HOUR
230.50	0.1889	18.0%	1,013
That is 0.2305 USD per bottle	All lines, before margin	Target 18.0%	4 cavities at 14.0 s, 98.5% accepted
		On target	

Price and cost per 1,000 by quantity



Where the cost per 1,000 goes

