Shop Rate

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

Shop Rate

Work out the hourly shop rate your billed hours must carry to cover the whole shop's cost and your target margin, and check the rate you quote against it.

For: Owners, general managers, estimators and controllers of job shops, machine shops, fabricators and contract manufacturers who set or review the shop rate.

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Quick start

1. On Setup, type your company, the period, your currency, the margin you want on price and the shop rate your quotes use today.
2. On Cost Budget, list every cost of running the shop for the period, each per month, per quarter or per year, under a category.
3. On Capacity, list your direct people by group with their paid hours per week, working weeks and the share of those hours you bill.
4. Fix anything the Check columns name, then open the Dashboard: the rate you need, the margin your quoted rate earns and the utilisation it needs.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Company, period and currency, your margin target, the rate you quote today, and the cost categories.
Cost Budget	Every cost of running the shop for the period: one row per line, per month, per quarter or per year.
Capacity	Your direct people by group: paid hours, working weeks and the share of their hours you bill.
Dashboard	The shop rate you need, the margin your quoted rate earns, what drives the rate and how utilisation moves it.
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

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Annual cost (per line)	Amount x 12 when typed per month, x 4 per quarter, x 1 per year.	currency/yr
Annual shop cost	Sum of every Cost Budget line's annual cost.	currency/yr
Available hours	People x paid hours per week x working weeks, per Capacity row, summed.	h/yr
Billable hours	Available hours x billable share, per Capacity row, summed.	h/yr
Billable utilisation	Billable hours / available hours.	%
Break-even shop rate	Annual shop cost / billable hours.	currency/h
Shop rate at target margin	Break-even rate / (1 - margin target).	currency/h
Margin at your quoted rate	(Quoted rate - break-even rate) / quoted rate.	% of price
Annual profit at your quoted rate	(Quoted rate - break-even rate) x billable hours.	currency/yr
Break-even utilisation	Annual shop cost / (quoted rate x available hours): the billable share the quoted rate needs to break even.	%
Quoted rate status	On target when the quoted rate reaches the rate at the margin target; Near target within 5% below it; Below target otherwise.	-
Adds to the break-even rate	A category's annual cost / billable hours.	currency/h
Rate at other utilisations	Annual shop cost / (available hours x utilisation), and that / (1 - margin target).	currency/h

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 Kestrel Machine Works, 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.

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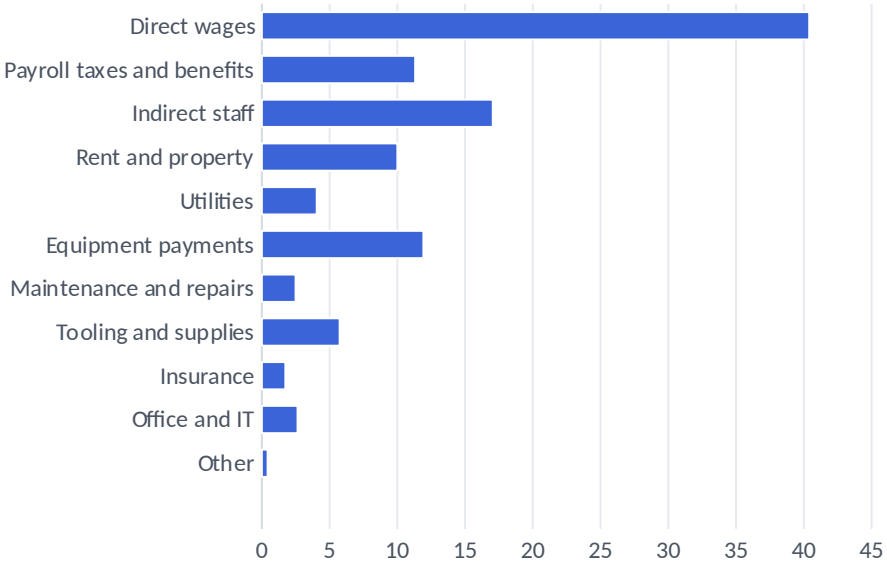
The shop rate you need, the margin your quoted rate earns, what drives the rate and how utilisation moves it.

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Kestrel Machine Works (example), FY 2027 budget: 1,643,400 USD a year over 15,247 billable hours (73.7% of available).

SHOP RATE AT TARGET MARGIN (USD/H)	BREAK-EVEN SHOP RATE (USD/H)	MARGIN AT YOUR QUOTED RATE	BREAK-EVEN UTILISATION, QUOTED RATE
126.81	**107.79**	**6.3%**	**69.1%**
Margin target 15% of price	Recovers cost, no profit	Target 15.0%	Now 73.7%
		Below target	On target

What each cost category adds to the hourly rate



Shop rate needed by billable utilisation

