Runner Weight

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

Runner Weight

Work out every cold-runner mould's runner and sprue weight per shot, its share of the shot against the regrind limit, and the resin a run puts into runners.

For: Moulding process and tooling engineers, estimators and materials planners at injection moulders.

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Quick start

1. On Setup, type your plant and currency, and list your resins with their density and price per kg.
2. On Moulds, give each mould a row: resin, cavities, part weight, runner and sprue dimensions, the print's regrind limit and shots per run.
3. Fix anything the Check column names.
4. Open the Dashboard: runner share of shot against regrind limit, and the resin each run puts into runners.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Plant, currency, and the resins with their density and price.
Moulds	One row per cold-runner mould: layout, part weight and regrind limit in; runner weight, share of shot and resin per run out.
Dashboard	Runner and sprue share of every shot against the regrind limit, and the resin each run puts into runners.
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
Parts per shot	Cavities x part weight.	g
Runner weight	Pi / 4 x runner diameter² x runner length / 1,000 x density.	g
Sprue weight	Pi / 4 x mean sprue diameter² x sprue length / 1,000 x density.	g
Shot weight	Parts per shot + runner and sprue.	g
Share of shot	Runner and sprue / shot weight.	%

Quantity	How it is calculated	Units
Regrind status	Within limits when the share of shot is no more than the regrind limit; Out of limits otherwise.	-
Runner resin per run and value	Runner and sprue x shots per run / 1,000; x price per kg.	kg, currency

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 Ashford Moulding, 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.

Runner Weight

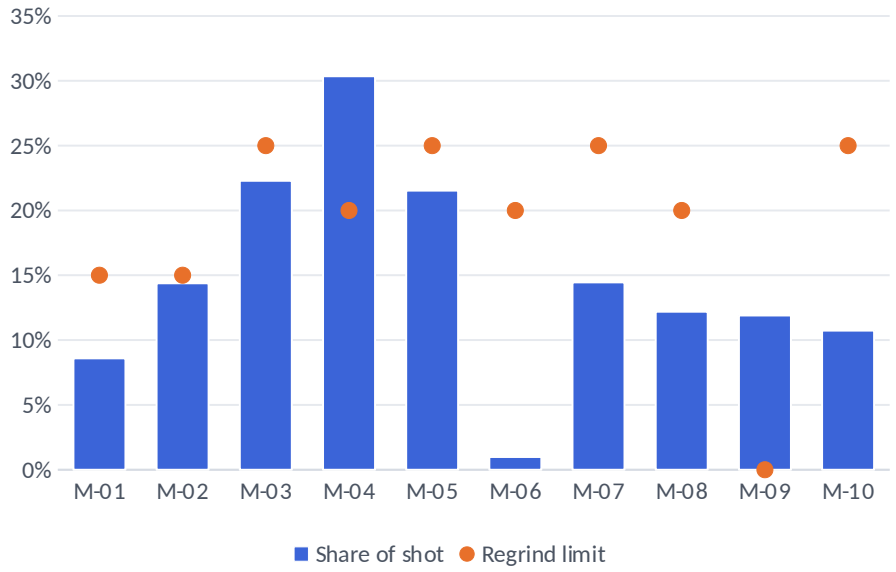
Runner and sprue share of every shot against the regrind limit, and the resin each run puts into runners.

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Ashford Moulding (example): 10 cold-runner moulds in 5 resins. Weights in g, resin per run in kg, amounts in USD.

MOULDS	RUNNER RESIN PER RUN (KG)	RUNNER RESIN VALUE (USD)	OVER THEIR REGRIND LIMIT
10	**2,508**	**7,327**	**2**
Rows on Moulds	One run of every mould	At the resin price	Runner share above the limit

Runner share of shot against regrind limit



Runner and sprue per shot (g)

