Forge Heating Schedule

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

Forge Heating Schedule

Check every billet-heating campaign fits its furnace window, from the recipe's observed completion rate, setup and transfer time.

For: Forge planners, furnace and heat treat supervisors, and production managers scheduling billet and bar heating for forging.

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Quick start

1. On Setup, type your shop and near band, list your furnaces, and your heating recipes with their observed completed loads and run time.
2. On Campaigns, give each heating campaign a row: date, furnace, recipe, planned loads, setup, extra transfer and the window available.
3. Fix anything the Check column names.
4. Open the Dashboard: required furnace hours against the window for every campaign, and the loads that do not fit.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Shop, the near band, the furnaces, and the heating recipes with their observed completion record.
Campaigns	One row per heating campaign: furnace, recipe, loads, setup, transfer and window in; required hours, remaining and loads that fit out.
Dashboard	Required furnace hours against the window for every heating campaign, and the loads that do not fit.
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
Loads per hour	Reference loads / reference hours.	loads/h
Heating hours	Planned loads x reference hours / reference loads.	h
Setup and handling	(Setup + extra transfer minutes) / 60.	h
Required hours, window remaining and used	Heating + setup and handling; available - required; required / available.	h, %

Quantity	How it is calculated	Units
Status	Over capacity below zero remaining; Near capacity within the near band; Under capacity above it.	-
Loads that fit and do not fit	ROUNDDOWN((available - setup and handling) x loads per hour); planned - fit, not below zero.	loads

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 Brannock Forge, 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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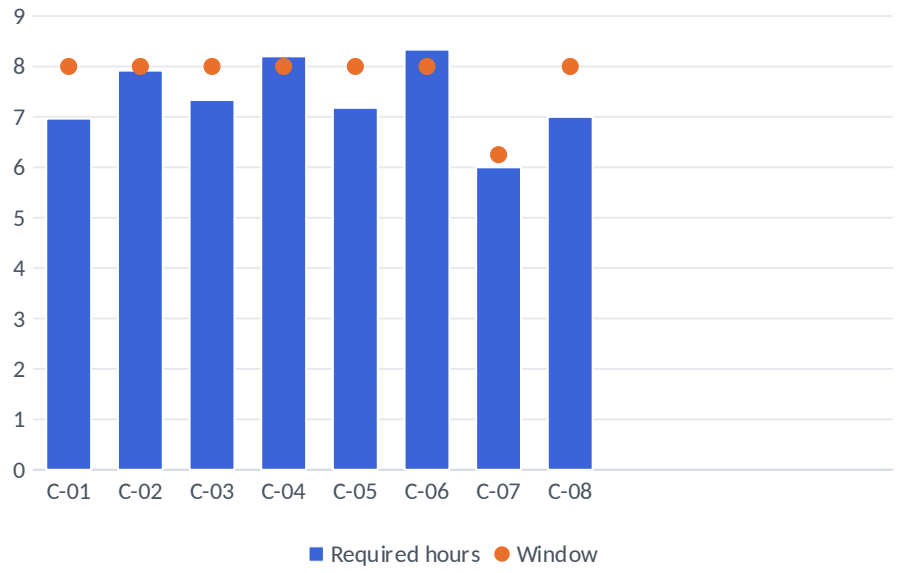
Required furnace hours against the window for every heating campaign, and the loads that do not fit.

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Brannock Forge (example): 8 campaigns from 16 Nov 2026 to 18 Nov 2026. Near capacity with 0.5 h or less left.

CAMPAIGNS	LOADS PLANNED	CAMPAIGNS OVER THE WINDOW	LOADS THAT DO NOT FIT
8	**362**	**2**	**5**
Rows with a required time	Every campaign	Required hours above available	At the recipes' observed rates

Required hours against the window



Window remaining by campaign (hours)

