Heat Treat Load and Cost Log

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



Heat Treat Load and Cost Log

Log every furnace load and see cost per part and per kg, furnace fill and rejects and, for commercial work, each load's price and margin.

For: Heat treat managers, commercial heat treaters, metallurgists and cost accountants in forging, gear, fastener and machining plants.

Version 1.0.0 · updated 25 November 2026

Quick start

1. On Setup, type your plant name, currency, units, labour rate and energy and gas prices, then replace the example furnaces and processes.
2. On Load Log, add one row per furnace load: parts, load weight, furnace hours, energy, gas, labour hours and parts rejected.
3. For commercial work, give each process its price per part, minimum charge and batch fee on Setup; leave them blank for in-house work.
4. Read the Check column, then use the Dashboard filters to look at one furnace, one process or one week.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Your plant, units, costing rates and targets, and the furnace and process lists.
Load Log	One row per furnace load: parts, weight, hours, energy, gas and labour, with cost, price and margin.
Dashboard	Cost, margin, furnace fill and rejects, for the furnaces, processes and dates you choose.
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
Parts, load weight and parts rejected	Typed per row; load weight is the net weight of the parts, without baskets and fixtures.	parts, mass
Furnace hours, energy, gas and labour hours	Typed per row, as metered or estimated for the load; gas in the gas unit on Setup.	h, kWh, gas unit

Quantity	How it is calculated	Units
Load fill	Load weight / the furnace's maximum load from Setup.	%
Furnace cost	Furnace hours x the furnace's hourly rate (its cost without energy, gas and labour).	currency
Utility cost	Energy x electricity price + gas x gas price.	currency
Labour cost	Labour hours x the loaded labour rate.	currency
Load cost	Furnace cost + utility cost + labour cost.	currency
Cost per good part	Load cost / (parts - parts rejected).	currency/part
Cost per unit of mass	Load cost / load weight.	currency/mass
Lot price	MAX(parts x rate per part, minimum charge) + batch fee, from the process's price list; blank when the process has no rate (in-house work).	currency
Margin and margin %	Lot price - load cost, and margin / lot price.	currency, %
Reject rate	Parts rejected / parts.	%
Max load, furnace rate and rate per part	Looked up from the Furnaces and Processes lists on Setup (INDEX/MATCH); minimum charge and batch fee are read the same way inside the lot price.	-
Dashboard roll-ups	Every figure is a SUMIFS over the Load Log restricted to rows whose View date is filled in (inside the filters), e.g. margin % = SUMIFS(margin) / SUMIFS(lot price) over priced loads, fill = SUMIFS(load weight) / SUMIFS(max load).	-

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 Aldermoor Thermal Processing, 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.

Heat Treat Load and Cost Log

Cost, margin, furnace fill and rejects, for the furnaces, processes and dates you choose.

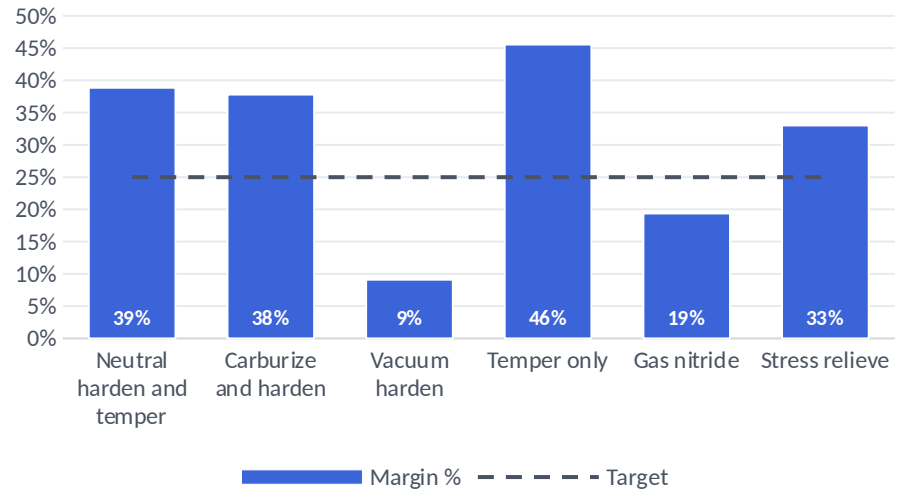
mfgcalcs.com

Furnace		From	
Process		To	

Showing 126 loads. Leave the filters blank to include everything; dates are inclusive. Money in USD, weights in kg.

COST PER KG (USD)	MARGIN	LOAD FILL	REJECT RATE
0.86	**28.4%**	**69.5%**	**0.49%**
Load cost / load weight	Target 25.0%	Target 75.0%	Parts rejected / parts
	On target	Below target	

Margin by process



Load fill by furnace

