Weld Deposition Rate

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

Weld Deposition Rate

Work out every welding job's deposition rate from its wire feed settings against the target, and the arc hours, welder hours and wire its weld metal takes.

For: Welding engineers, fabrication estimators and production planners scheduling GMAW work.

Version 1.0.0 · updated 11 November 2026

Quick start

1. On Setup, type your shop and currency, and list your solid wires with their diameter, density and price per lb.
2. On Jobs, give each job a row: weldment, wire, wire feed speed, deposition efficiency, target deposition, weld metal per weldment, operating factor and quantity.
3. Fix anything the Check column names.
4. Open the Dashboard: deposition against target, and the welder hours and wire each job needs.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Shop, currency, the near band, and the solid wires with their diameter, density and price.
Jobs	One row per welding job: wire, feed, efficiency, weld metal and quantity in; deposition, hours and wire out.
Dashboard	Deposition against target for every welding job, and the arc hours, welder hours and wire its weld metal takes.
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
Gross feed	Pi x wire diameter² / 4 x feed speed x 60 x density.	lb/h
Deposition	Gross feed x deposition efficiency.	lb/h
Filler loss	Gross feed - deposition.	lb/h
Shortfall	Target deposition - deposition.	lb/h

Quantity	How it is calculated	Units
Status	On target at or above the target; Near target up to the near band under it; Below target further under.	-
Arc and welder hours	Weld metal / deposition; / operating factor; x quantity for the job.	h
Wire to buy and cost	Weld metal / deposition efficiency x quantity; x price per lb.	lb, 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 Kirkwall Fabrication, 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.

Weld Deposition Rate

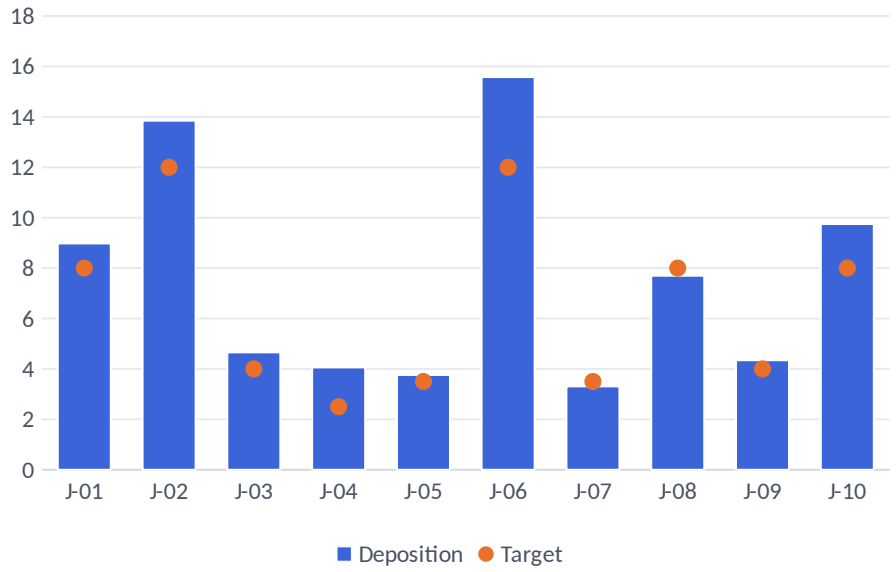
Deposition against target for every welding job, and the arc hours, welder hours and wire its weld metal takes.

mfgcalcs.com

Kirkwall Fabrication (example): 10 jobs, 654 weldments on 5 wires. Amounts in USD.

JOBS	ARC HOURS	WELDER HOURS	WIRE TO BUY (LB)
10	**310**	**1,231**	**2,199**
Rows on Jobs	Weld metal / deposition	Arc hours / operating factor	Weld metal / efficiency

Deposition against target (lb per arc hour)



Welder hours by job

