Asphalt Binder Usage

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

Asphalt Binder Usage

Plan the liquid asphalt binder every production run needs from mix tons and binder content, cost it, and see which binder grades will run short of the tanks.

For: Asphalt plant managers, plant operators, quality control technicians, estimators and purchasing staff at hot-mix and warm-mix asphalt plants.

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Quick start

1. On Setup, type your plant, currency and units, then your mix designs (binder grade and binder content per ton) and your binder grades (price and inventory in the tanks).
2. On Runs, add one row per production run or job: date, job, mix, mix tons and the pump and transfer efficiency.
3. Fix anything the Check column names.
4. Open the Dashboard: binder required against inventory by grade, binder cost and the binder needed each day.

What is in the workbook

Start Here	Read this first: what the workbook does and how to use it.
Setup	Plant, currency and units, the mix designs with their binder content, and the binder grades with price and tank inventory.
Runs	One row per production run or job: mix tons in; binder required, allowance and cost out.
Dashboard	Liquid asphalt binder needed against the tanks by grade, binder cost, and the binder needed each day.
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
Theoretical binder	Mix tons x binder content of the mix design (Setup).	volume unit
Liquid asphalt required	Theoretical binder / transfer efficiency.	volume unit
Transfer allowance	Required - theoretical binder.	volume unit
Binder cost	Liquid asphalt required x the grade's price (Setup).	currency
Binder cost per ton	Binder cost / mix tons.	currency/mass uni

Quantity	How it is calculated	Units
Required by grade	Sum of liquid asphalt required over the runs whose mix uses the grade.	volume unit
Tank status	Under capacity at 90% of the grade's inventory or less; Near capacity up to 100%; Over capacity above it.	-

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 Granite Valley Asphalt, 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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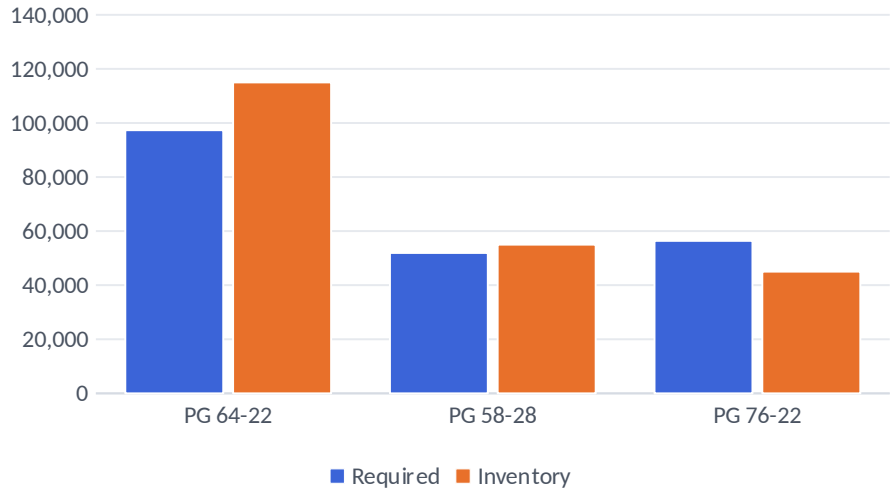
Liquid asphalt binder needed against the tanks by grade, binder cost, and the binder needed each day.

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Granite Valley Asphalt (example): 19 runs, 16,140 tons of mix. Binder in gal, money in USD.

LIQUID ASPHALT REQUIRED (GAL)	BINDER COST (USD)	MIX TO PRODUCE (TONS)	BINDER GRADES SHORT OF INVENTORY
205,632	**671,963**	**16,140**	**1**
All runs, transfer losses included	Per ton of mix: 41.63	All runs	Plan needs more than the tanks hold

Binder required against inventory, by grade



Liquid asphalt required by day

