Fuel Stock for Days of Operation

Mass and volume of coal, biomass or oil to stock for a number of days at a firing rate and daily running hours, for yard and tank sizing.

Method: Mass and volume balance

Input parameters

Unit system: SI

Parameter	Value	Unit
Average fuel firing rate	12,000	kg/h
Running hours per day	24.000	h
Days of stock Enter your specification's or the regulator's stock requirement.	30.000	
Bulk density (liquid density for oil)	800.00	kg/m³

Calculated results

Parameter	Value	Unit
Fuel to stock	8,640.0	t
Volume of the stock	10,800	m³
Fuel burnt per day	288.00	t

Formula and method

$$m_d = \dot{m}_f t_d \qquad m = m_d\, d \qquad V = \frac{m}{\rho_b}$$

Variables

$\dot{m}_f$	average fuel firing rate	kg/s
t_d	running hours per day	s
d	days of stock	–
ρ_b	bulk density (liquid density for oil)	kg/m³
m	fuel to stock	kg
V	volume of the stock	m³
m_d	fuel burnt per day	kg

Method and standards

Mass and volume balance at the average firing rate.

Assumptions and limits

- Average firing rate over the stock period; use the MCR rate for a conservative stock.
- Stockpile losses, moisture changes and unusable heel in tanks are not included.

References

- Mass and volume balance

Report details

Report reference	FCC-BQZR-YZMT (the same inputs always give the same reference)
Generated	17 November 2026, 19:50 UTC
Calculator	Fuel Stock for Days of Operation
Method last reviewed	10 November 2026
Software release	FireCAD Calc, release of 17 November 2026
Release checks	3 reference cases of this calculator, computed independently, are checked on every release

Results are for engineering estimation. Verify critical designs against the referenced standards and your own data.

This calculator online

https://calc.firecad.com/boilers-power-plant/fuel-ash-handling/fuel-storage-days

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.