Bagasse Storage Pile Volume and Area

Volume and ground area for storing bagasse loose or baled from the quantity, bulk density and pile height, with a share for access ways.

Method: V = M/ρ; A = V/H (1 + k); bulk density by measurement

Input parameters

Unit system: SI

Parameter	Value	Unit
Bagasse to store	30,000	t
Bulk density (loose or baled) Loose bagasse roughly 100–160 kg/m³; bales much denser.	140.00	kg/m³
Average pile height	10.000	m
Extra area for access and fire lanes	30.000	%

Calculated results

Parameter	Value	Unit
Pile volume	214,286	m³
Ground area including access	27,857	m²

Notes for this case

- Large piles heat up and lose value: rotate stock and keep fire lanes.

Formula and method

$$V = \frac{M}{\rho_b}, \quad A = \frac{V}{H}(1 + k_a)$$

Variables

M	Bagasse to store	kg
ρ_b	Bulk density (loose or baled)	kg/m³
H	Average pile height	m
k_a	Extra area for access and fire lanes	-
V	Pile volume	m³
A	Ground area including access	m²

Method and standards

Definitions.

Assumptions and limits

- Average height; the height is your input (up to 30 m) and is not checked against fire or stability limits.
- Storage losses (heating, fermentation, decay) are not quantified: allow extra bagasse for them.

References

- V = M/ρ
- A = V/H (1 + k); bulk density by measurement

Report details

Report reference	FCC-7AVZ-Q2CT (the same inputs always give the same reference)
Generated	17 November 2026, 19:49 UTC
Calculator	Bagasse Storage Pile Volume and Area
Method last reviewed	13 November 2026
Software release	FireCAD Calc, release of 17 November 2026
Release checks	2 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/sugar-ethanol/steam-power/bagasse-pile-storage

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.