Air-Dry, Oven-Dry and Wet Pulp Tonnes

Converts between oven-dry (bone-dry) tonnes, air-dry tonnes (90 % dry) and wet tonnes at any dryness, for pulp shipments and production reports.

Method: Smook; Handbook for Pulp & Paper Technologists; ...

Input parameters

Unit system: SI

Parameter	Value	Unit
Wet mass weighed	1.0000	t
Dryness (dry solids share)	50.000	%

Calculated results

Parameter	Value	Unit
Oven-dry mass	0.50000	t
Air-dry mass (90 % dry)	0.55556	t
Water in the wet mass	0.50000	t

Formula and method

$$M_{OD} = Md, \quad M_{AD} = \frac{M_{OD}}{0.9}$$

Variables

M	Wet mass weighed	kg
d	Dryness (dry solids share)	-
M_{OD}	Oven-dry mass	kg
M_{AD}	Air-dry mass (90 % dry)	kg
M_w	Water in the wet mass	kg

Method and standards

Trade definitions.

Assumptions and limits

- 90 % air-dry convention.

References

- Smook
- Handbook for Pulp & Paper Technologists
- 3rd ed. (Angus Wilde, 2002)
- ch. 8: an air-dry ton is 90 % bone-dry fibre and 10 % water

Report details

Report reference	FCC-6DNY-3DH6 (the same inputs always give the same reference)
Generated	17 November 2026, 19:36 UTC
Calculator	Air-Dry, Oven-Dry and Wet Pulp Tonnes
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/chemical/pulp-paper/air-dry-tonne-conversion

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.