Imbibition Water % Cane and % Fibre

Imbibition water flow and imbibition % fibre from the crushing rate, added water % cane and fibre % cane.

Method: Sugar factory chemical control (daily manufacturing report) definitions; as compiled in SugarProcessTech; ...

Input parameters

Unit system: SI

Parameter	Value	Unit
Crushing rate	250.00	t/h
Added (imbibition) water % cane	30.000	%
Fibre % cane	14.500	%

Calculated results

Parameter	Value	Unit
Imbibition water flow	75.000	t/h
Imbibition % fibre	206.90	%
Fibre crushed	36.250	t/h

Notes for this case

- Every tonne of imbibition water must later be evaporated: balance extraction against evaporator steam.

Formula and method

$$\dot{m}_w = C\,AW, \quad \dot{m}_F = C\,F_c, \quad AW/F = \frac{AW}{F_c}$$

Variables

C	Crushing rate	kg/s
AW	Added (imbibition) water % cane	-
F_c	Fibre % cane	-
$\dot{m}_w$	Imbibition water flow	kg/s
AW/F	Imbibition % fibre	-
$\dot{m}_F$	Fibre crushed	kg/s

Method and standards

Definitions.

Assumptions and limits

- Steady crush.

References

- Sugar factory chemical control (daily manufacturing report) definitions
- as compiled in SugarProcessTech
- Formulas for calculating sugar industry DMR

Report details

Report reference	FCC-BREV-GMZ7 (the same inputs always give the same reference)
Generated	17 November 2026, 19:46 UTC
Calculator	Imbibition Water % Cane and % Fibre
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/milling/imbibition-water

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.