Cane and Juice Mass Balance (Drit Correction, Bagasse % Cane)

Drit, net mixed juice, mixed juice, added water and bagasse % cane from cane, added water, gross mixed juice and the drit correction.

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

Input parameters

Unit system: SI

Parameter	Value	Unit
Cane crushed	5,000.0	t
Added (imbibition) water	1,500.0	t
Gross mixed juice	5,100.0	t
Drit correction % mixed juice	1.0000	%

Calculated results

Parameter	Value	Unit
Drit	51.000	t
Net mixed juice	5,049.0	t
Net mixed juice % cane	100.98	%
Added water % cane	30.000	%
Bagasse % cane (cane + water − gross juice)	28.000	%

Formula and method

$$D = MJ_g k_d, \quad MJ_n = MJ_g - D, \quad B = \frac{C + W_a - MJ_g}{C}$$

Variables

C	Cane crushed	kg
W_a	Added (imbibition) water	kg
MJ_g	Gross mixed juice	kg
k_d	Drit correction % mixed juice	-
D	Drit	kg
MJ_n	Net mixed juice	kg
MJ	Net mixed juice % cane	-
AW	Added water % cane	-
B	Bagasse % cane (cane + water − gross juice)	-

Method and standards

Mass balance.

Assumptions and limits

- Same period for all weights.
- The balance is C + W_a = MJ_g + B, so with net juice it reads C + W_a = MJ_n + B + D: the drit is neither bagasse nor net juice. Some DMR conventions treat drit differently.
- A note appears when bagasse % cane is outside about 25–35 %.

References

- Sugar factory chemical control (daily manufacturing report) definitions
- as compiled in SugarProcessTech

- Formulas for calculating sugar industry DMR

Report details

Report reference	FCC-Y39H-YS8V (the same inputs always give the same reference)
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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/cane-mass-balance

Open this case on calc.firecad.com →

Reopens the calculator with the inputs of this report.