

# Sugar Mill Calculations

Resource for Sugar Mill Calculations.....

1	Crushing Capacity	10560
2	Working hours	24
3	Crush Rate	440
4	No of bodies in effect	5

	Latent Heat	Sensible Heat	Temp. C	Bleed No
Lookup table	Heat	Heat	C	No
# 1	530.87	112.70	112.70	1
# 2	536.65	103.80	103.80	2
# 3	541.22	96.60	96.60	3
# 4	549.16	83.80	83.80	4
# 5	566.30	55.00	55.00	5
7 kg live steam	666.56	180	180	0
1.2 kg/cm2g exhaust	525.89	120.20	120.20	0

	1.00	2.00	3.00	4.00	5.00	7.00	8.00
A Heavy	0.00	0.00	0.00	0.97	0.00	0.00	0.00
B Heavy	0.00	0.00	0.00	0.55	0.00	0.00	0.00
C Light	0.00	0.00	0.00	0.39	0.00	0.00	0.00
C1 Heavy	0.00	0.00	0.00	0.15	0.00	0.00	0.00
R1 Molasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R2 Molasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R3 Molasses	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### Water addition in molasses conditioner

Particular		A Heavy	B Heavy	C Light	C1 Heavy	R1 Mol.	R2 Mol.	R3 Mol.
Molasses%canne		15.00	8.00	6.00	2.00	0.00	0.00	0.00
Molasses Quantity in	TPH	66.00	35.20	26.40	8.80	0.00	0.00	0.00
Molasses brix in		75.00	75.00	75.00	75.00	72.00	72.00	72.00
Molasses brix out desired		75.00	75.00	75.00	75.00	72.00	72.00	72.00
Molasses temperature in	Deg C	55.00	54.00	55.00	53.00	55.00	55.00	55.00
Water temperature in	Deg C	90.00	90.00	90.00	90.00	90.00	90	90
Water quantity in		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sp. Heat of molasses in	Kcal/kg/degC	0.55	0.55	0.55	0.55	0.57	0.57	0.57
Sp. Heat of molasses out	Kcal/kg/degC	0.55	0.55	0.55	0.55	0.57	0.57	0.57
Heat in molasses in	Kcal/hr	1996500.00	1045440.00	798600.00	256520.00	137.46	137.46	137.46
Heat in water applied in	Kcal/hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Molasses temperature out	Deg C	55.00	54.00	55.00	53.00	55.00	55.00	55.00
Molasses quantity out	TPH	66.00	35.20	26.40	8.80	0.00	0.00	0.00
Molasses brix out	TPH	75.00	75.00	75.00	75.00	72.00	72.00	72.00

### Steam or Vapour addition in molasses conditioner

Molasses Quantity in		66.00	35.20	26.40	8.80	0.00	0.00	0.00
Molasses brix in		75.00	75.00	75.00	75.00	72.00	72.00	72.00
Molasses temperature in		55.00	54.00	55.00	53.00	55.00	55.00	55.00
Temperature of molasses out finally	Deg C	70	70	70	70	70	70	70

### Steam Properties

Latent heat of steam in	kcal/kg	549.16	549.16	549.16	549.16	549.16	549.16	549.16
Sensible heat of steam in	kcal/kg	83.80	83.80	83.80	83.80	83.80	83.80	83.80
Losses assumed % total heat available		5.00	5.00	5.00	5.00	5.00	5.00	5.00
Heat lossed	Kcal/hr	31.65	31.65	31.65	31.65	31.65	31.65	31.65

Steam quantity in	TPH	0.97	0.55	0.39	0.15	0.00	0.00	0.00	2.05
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### Outlet from the molasses conditioner

Molasses quantity out	TPH	66.97	35.75	26.79	8.95	0.00	0.00	0.00
Molasses brix out		73.92	73.85	73.92	73.77	70.92	70.92	70.92

Steam saved with respect to exhaust	TPH	0.77	0.44	0.31	0.12	0.00	0.00	0.00	
Steam saved %canne		0.18	0.10	0.07	0.03	0.00	0.00	0.00	0.37