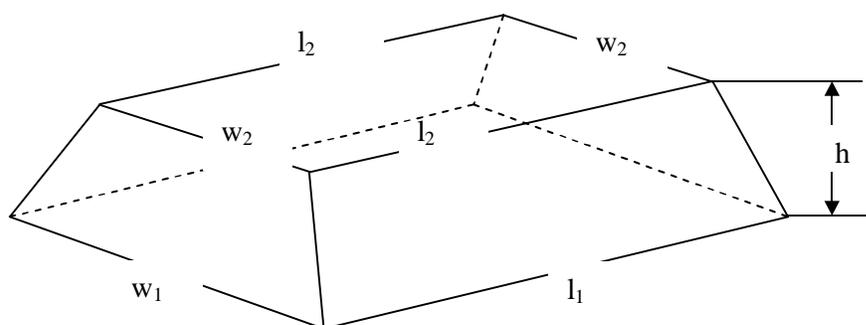


Procedure for Physical Stock Verification of Bagasse

The procedure for stock taking of bagasse is as follows –

- a. The excess bagasse from bagasse carrier collected in the bagasse yard.
- b. The bagasse is then stacked in a proper heap.



- c. The dimensions of the heap- w_1 , w_2 , l_1 , l_2 and h are measured physically at site.
- d. Based on the above measurement, the volume of the heap is calculated.

$$\text{Volume} = (A_1 + A_2 + \sqrt{A_1 A_2}) \times h/3$$

$$\text{Where } A_1 = w_1 \times l_1$$

$$A_2 = w_2 \times l_2$$

- e. The amount of bagasse is calculated based on the bagasse heap volume and bulk density of bagasse.
- f. Bagasse Weight = Volume (m^3) x Bulk density (kg/m^3)*

* Bulk density of stacked bagasse is 200 kg/m^3 with moisture of 48%. (Average moisture content in the stored bagasse is around 48 %.)

(Reference: page 915, 1986 edition of Handbook of Cane Sugar Engineering by E. Hugot)

Conservativeness in Stock taking of bagasse

The bagasse stock is taken at the end of the month by collecting the bagasse in the yard in form of a pyramidal heap as explained earlier. This is done with help of tractors.

As the heap so formed is not geometrically accurate the length and width are measured at different places. For calculations the average values of length and width are taken.

Also the density of bagasse taken is standard as per the text book which is on the lower side as the density of bagasse in the heap compacted by tractors is more than a normal bagasse stack.

Based on the volume of the heap and average density of bagasse, the stock is calculated

The stock so obtained is very close to actual as

- The average dimensions of the heap used for volume calculations take care of the unevenness in the heap.
- The increase in density due to use of tractors for stacking and leveling compensates for some voids / air gaps in the heap.

Moreover at the end of the season when stocks are low (after sale and consumption) the bagasse stock can be checked accurately. In general it is observed that the stocks reported by calculations as per the said procedure are generally 2-3 % less than actual. This is conservative in regard to bagasse stock.

Also it may be noted that this is a standard procedure adopted in the sugar industry for bagasse stock verification.

In case the bagasse would have been a parameter for calculation of CERs, the bagasse consumption being taken about 2-3% higher than actual (as the physical stocks are generally 2-3% lower than actual) would have meant that lesser CERs which can be considered conservative.

With reference to our scenario 12, since the bagasse consumption has no effect on CERs generated, monitoring of bagasse consumption / stocks is used as a parameter for assessing the performance of the boiler.