

THE IDEAL BLOCK PRODUCTION METHOD FOR PRODUCING +/- 1 500 BLOCKS PER DAY

A seven-person team can produce 1 500 blocks per day, if the following procedure is followed:

1. **The soil** must be sieved with a minimum of two days' lead time, i.e., 1m³ per 100 blocks or 30m³ sieved soil for two days' production of 1 500 blocks / day.
2. **The water** must be available close to the operation, preferably by hosepipe, from either a gravity-fed tank or by municipal pipeline.
3. **Cement** must be stacked next to the mixing area. The full day's supply must be stacked before any production begins:
 - 5% cement = 23 bags for 1 500 blocks
 - 10% cement = 45 bags for 1 500 blocks
4. **The labor force** employed should be composed of neither elderly people, nor young girls. Instead, they should be healthy, strong individuals who are able to work hard. To run one machine, seven people are required; this excludes the carrying of the cement to the production area, curing of the blocks, stockpiling and sieving of the soil. All activities, other than running the machine, must be done by separate personnel.

The block production team, and functions of each of the seven, are as follows:

- One machine operator
- One person loading soil by bucket into the machine
- Carrying blocks up to 15m from the machine: 1 person; if the distance exceeds an average of 15m from machine to final stacking point: 2 persons
- Two people mixing the first mix
- Two people mixing the second mix

The second mix is the most crucial mix. If it is not always 100% ready, the machine will have to stop and wait for the mixing to be completed. If the machine stops, production will fall by four blocks per minute.

To illustrate, if the machine stops between each and every mix for only seven minutes, production will fall by almost 30 blocks per mix. To produce 1 500 blocks per day, 15-20 mixes are typically, which means that the production would drop by almost 600 blocks per day – as a result of a mere seven-minute delay per mix.

5. **Production pay** is normally the most effective pay method. The team is paid a fixed amount per good quality finished block. The incentive will ensure that production is maximised while giving the team a goal to increase their daily pay. Example: 7 individuals x daily rates/1 500 blocks = value for 1 block.
6. **Curing** is extremely important and should be done by a responsible person who is separate from the seven-man team. This person should be also used to carry the cement bags before production begins and to prepare the ground for the newly staked blocks.
7. **Tools** should be of good quality and there should be no shortage of tools, forcing people to share.

Tools required are as follows:

1. **Spades (shovels)**
4 spades for mixing and loading the bucket
2 spades for sieving of soil
1 spade for levelling the ground
 2. **Wheelbarrows**
2 wheelbarrows for moving soil to the mix and for measuring out the mix
2 wheelbarrows for sieving
1 wheelbarrow for moving the cement
1 wheelbarrow for the person moving the fully cured blocks
 3. **Sieve (8-10mm)**
A good quality sieve, undamaged and supported by a frame at approximately 45°.
 4. **Ten-litre buckets**
2 ten-litre buckets, to be used for filling the machine; while one is being lifted the other can be filled on the ground
 5. **Block brush**
For keeping the machine clean and keeping the bottom ram free from soil build-up
 6. **Shade cloth**
Not essential but will help to reduce operator fatigue on a hot day
 8. **Lunchtime** – Before the team goes on lunch, they should prepare the mix for after lunch. The cement bags should be placed on top of the soil, ready to be opened, and spread out over the soil. No mix must be left unused before lunch and if the cement has been mixed into the soil, it must be used before lunch. Lunchtime must be strictly monitored. After lunch, the full team should help to get the first mix ready.
 9. **End of the day** – Before packing up, the soil must be measured out for the following day's first two mixes (without adding cement). The machine must be filled with diesel and cleaned. The next morning, the machine should be ready to run 10 minutes after work begins.
 10. **The blockyard** should be set out properly with sufficient space to move freely. The blocks should be set out neatly so as not waste space. The total of 1 500 blocks should take up approximately 2,2mx12m.
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