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PROCESS OF MOLDING FACED CONCRETE UNITS.

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This invention relates to the molding of concrete units with exposed aggregate facings, and has for its object the economical production of units of this kind that are most artistic and durable. In molding faced concrete units by this process the bottom part of the mold is first placed in a level position on a stable foundation, and the facing aggregate is placed upon it in the arrangement that the aggregate is to have on the face of the finished unit.

The temperature of the bottom part of the mold and the facing aggregate which it contains is next lowered until cold water poured into the bottom part of the mold shows little or no capillary action up the sides of the facing aggregate.

Cold water is then poured into the bottom part of the mold until it rises and submerges that portion of the facing aggregate that is to show on the face of the finished unit.

The water is then frozen sufficiently to firmly attach the facing aggregate and to withstand the pressure that the ice will be subjected to subsequently.

In molding units that are to be faced with small aggregate it is desirable to first pour water into the bottom part of the mold and allow it to freeze, then warm the surface of the ice until a shallow layer of water forms on it, then place the aggregate in the shallow layer of water on the ice, the temperature of the aggregate being low enough to prevent noticeable capillary action up the sides of the aggregate, and then allow the water to freeze again.

All surplus aggregate may now be removed by lifting the bottom part of the mold and turning it in such positions as will enable only the attached aggregate to remain.

The top part of the mold is then placed in position on the bottom part of the mold and the mold well filled with freshly-mixed concrete of such temperature as will not cause appreciable melting of the ice, and of such consistency as will permit neither slumping underneath when the ice is removed, nor setting of the facing aggregate if the unit be inverted later.

If the temperature now be raised sufficiently to cause setting of the concrete, and the warmth have access to the bottom of the mold, the ice will melt from the bottom upward and the resulting water escape through the small opening, or openings, in the bottom part of the mold provided for that purpose.

In molding some types of units by this process the best facings are obtained by firmly attaching a snug-fitting pallet against the back of the unit and top edges of the mold, and inverting the mold before raising the temperature. A rise in temperature sufficient to cause setting of the concrete will also melt the ice and the resulting water will then flow over the edges and down the outer sides of the mold.

The temperature is kept high enough for setting of the concrete to continue until the unit is sufficiently hard to withstand handling, at which time it is removed from the mold and its curing continued in the usual way.

In molding units with more than one face by this process the parts of the mold covering the faced sides of the unit are treated just as described above for the bottom part of the mold, and the mold is assembled in the usual manner to receive the mix.

Since normal winter temperatures at many places are sufficient to meet the requirements of this process with little or no assistance from artificial methods of heating and cooling, and since units made by this process come from the molds clean, requiring neither scrubbing nor the application of acids, this process is most economical for producing facings of this class.

Also, since the kinds of aggregates and the number of arrangements in placing them are practically unlimited, and since the mix required produces a superior quality of concrete, facings produced by this process are most artistic and most lasting.

I claim:

The process of molding faced concrete units consisting in partly submerging the facing aggregate in water on the bottom of the mold, allowing the water to freeze, filling the mold with cold, dense, freshly-mixed concrete, then melting the ice and eliminating the resulting water.

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