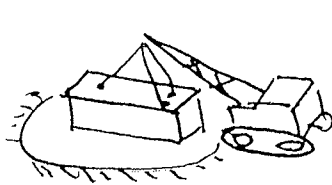


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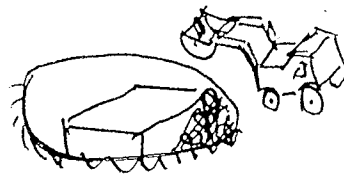
Problem: IS IT NECESSARY TO WAIT 28 DAYS BEFORE INSTALLING A PRECAST PRODUCT IN THE GROUND?

The real answer is no it may not be necessary to wait 28 days for installation of a precast product at the jobsite. However, there are several issues to consider before making a decision to ship and install before 28 days.

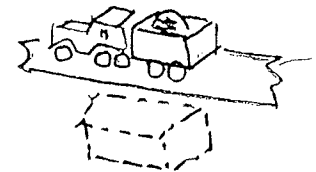
1. Jobsite inspectors have an obligation to insure the product will perform properly after installation. The inspector may be a representative of the owner or the supervisor for the contractor. Their approval is necessary to avoid contractual arguments. Sometimes, educating the inspector with results of test cylinder strengths will get approval.
2. Many installations are installed weeks before live load is applied. Concrete will be gaining strength every day.



INSTALL AT 7 DAYS



BACKFILL AT 14 DAYS



LIVE LOAD APPLIED AT 28 DAYS

3. The manufacturing process at precast plants is geared to remove product from the form early. The 2500psi concrete strength required for stripping can mean that the strength used by the designer could be reached before 28 days. Assume the designer used 4000psi as the strength to restrain loads at the site. The precast manufacturer can design the mix to reach 5000psi in 28 days. With proper curing the concrete will reach 2500 psi in 24 hours which is necessary for stripping. The concrete strength at 7 days could then be 4000psi which is strong enough to restrain loads considered by the designer. The product could then be installed in less than 28 days.

PRECASTER USES 5000 PSI
MIX AND SHIPS AT 10 DAYS
WHEN CONCRETE COMPRESSIVE
STRENGTH IS 4000 PSI



DESIGNER NEEDS
4000 PSI FOR PRODUCT
TO WITHSTAND LL