



Mid-South Engineering Company

Issue No 18 Working Together

Second Quarter, 2006

Curing Concrete *By Bill Newton*

Curing is the maintaining of a satisfactory moisture content and temperature in concrete during its early stages so that desired properties may develop. The curing process is essential for the production of concrete that will have the desired properties. Control of moisture loss and concrete temperature may not be necessary if ambient conditions are optimum; but, otherwise, curing procedures should begin as soon as required. Concrete specifications written for the specific design requirements of a concrete structure should identify the curing requirements and acceptable implementation methods to be used by the builder.

Specifications typically require a minimum of a seven day cure time immediately after placement. This time period can be shortened when it is determined by test that cylinders kept adjacent to the structure and cured by the same methods as the structure have reached 70% of the specified strength. There are also other acceptable procedures that can be specified to shorten the required cure time, but the cure time will still be based on achieving a design minimum compressive strength.

During the required cure time, the concrete should be protected from premature drying, excessively hot or cold temperatures and mechanical injury. Acceptable preservation of moisture methods should be specified for implementation after placing and finishing. Typical methods used to preserve moisture are use of curing compounds, covering the concrete with sheet materials, and continuous fogging or sprinkling with water. Maximum and minimum temperature requirements should be specified for the concrete as well as the methods used to monitor concrete temperatures. Protection of concrete from one cycle of freezing and thawing must be exercised until concrete compressive strength is at least 500 psi; non air-entrained concrete should never be allowed to freeze and thaw in a saturated condition. Air-entrained concrete should not be allowed to undergo freeze and thaw cycles in a saturated condition before developing a compressive strength of 3,500 psi. Mechanical injury that could come from form removal or anchor bolt displacement is prevented by allowing the concrete to reach a required minimum strength prior to form removal or erection of steel. OSHA regulations require that the steel erection contractor be advised in writing that the concrete has reached either 75% of design strength or sufficient strength to support loads imposed during steel erection.

There are many factors to consider when specifying concrete cure requirements, and it is important that an understanding of specific concrete curing requirements for a particular project is reached by all involved. Communications and open discussion is necessary between owner, engineer and builder to define the expectations, determine the technical requirements and reach an agreement on the methods to be used to achieve a successful result.



Play Ball

By Mark Culpepper

The business world is filled with sports metaphors. That said, I'll ask you to indulge a few more and consider applying these experiences gained over the long, hot summer when my nephew's baseball team played in their "field of dreams" and how it applies to our world.

You play how you practice – No matter how well your team is doing, you have to keep strong emphasis on practicing the fundamentals in order to improve overall performance. Never let your team rest on how well they did in the last game.

Scout the competition – Learn what the other team does well and not so well. Take full advantage where you can while maintaining your ethics, but never underestimate them.

Warm up – Before the game starts, be sure your team is physically and mentally prepared to play. Go over your game plan to make sure everyone has the necessary equipment and understands the expectations.



"The Barn" built in the 1930's to house Welsh ponies, serves as Mid-South's offices.

Play Ball continued

Play your game – Go with what you do best. Lead off with your strengths. Sure, defense wins championships, but the old saying is sometimes very true...a good offense is often the best possible defense.

Take a risk – Doing the unexpected can get real results. Remember that your competition has likely also been scouting you. Lay down the bunt. Steal a base. Try something out of the ordinary every now and then to get closer to your goal, and maybe in the process you'll keep you opponent off balance – and you'll make the other guy play defense.

Keep your eye on the ball – You can't hit what you can't see. Be sure you know precisely what you're aiming at – then go for it with all your might. If you strike out, then strike out swinging for the fences.

Trust you teammates – The greatest teams have great role players – true specialists in some aspect of the game. Trust them to do what they do best; after all, that's why they're on your team.

Do a post game analysis – Evaluate what happened, win or lose. Refine, realign, or shake things up if need be after a loss. If you're winning, it's easy to let the post game critique go undone – but remember you can learn at least as many valuable lessons from a win as you can from a loss.

Celebrate – The game is tough, and when you win, celebrate that victory! An after-the-game snow cone is great for a 10-year old, but in business the reward can and should be more meaningful (and last a bit longer) – although offering up a simple “attaboy” when it's deserved can do wonders for any team's morale.

Mid-South Engineering Acquires CPM

Mid-South Engineering Company is pleased to announce the acquisition of **CPM – Project Management, Inc** of Cary, North Carolina. The acquisition brings together two established and respected names to better serve their customers. The existing operations of CPM – PMI will continue to operate as **CPM**, division of **Mid-South Engineering Co.**

Lee Murphy, president of Mid-South Engineering, says, “Mid-South and CPM have similar traditions of recognized technical excellence, strong client relationships, and a history of providing innovative solutions to our clients' many needs.” Murphy continues, “Our client bases and skill sets are highly complementary, and both firms share a deep commitment to partnering with our clients to perform quality, meaningful work. I am confident that our integrated resources will provide our clients with unique benefits while providing enhanced opportunities to our employees.”

Based in Hot Springs, Arkansas since 1969, Mid-South Engineering is known as a well established supplier of innovative and dependable engineering solutions for a broad range of industrial applications including the building products industries of pulp & paper, solid wood products, wood plastics, engineered wood products, gypsum wall board, Masonite, cement fiberboard, and others.



CPM, division of Mid-South Engineering, is located on the east coast in Cary, North Carolina.



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