Concrete Work Meeting Kit

WHAT'S AT STAKE

Concrete work is usually hard physical labor that presents many different hazards for the individuals who work in this field.

WHAT' S THE DANGER

Concrete is relatively easy to manage. You can run into huge problems if it is not worked on properly.

Discoloration – How to Solve Discoloration

- Specify with the ready-mix supplier your tolerance levels
- Prepare a uniform subgrade
- Wait until all the water has evaporated before finishing the concrete
- Avoid hard troweling on the exterior surface

Scaling – How to Avoid Concrete Scaling

- Use a low slump-air (6 to 7 percent) in the entrained mix
- Wait till water has been evaporated from the surface
- Do not use salt or other chemicals during the winter season

Crazing – How to Avoid Crazed Concrete

- Cure the concrete in a timely manner
- Use a moderate slump concrete without bleeding and segregation
- Do not finish concrete until all water has evaporated
- Do not dust dry cement on the surface while water is present
- Do not sprinkle water over the concrete while finishing it
- If the weather could produce high evaporation rates, spray some water onto the subgrade, so it will not absorb the water from the concrete mix

Cracking – How to Reduce Cracking

- Remove topsoil, soft spots and organic material in the subgrade
- Slope the subgrade for proper drainage
- Design a flexible concrete pavement that could accommodate load and movements
- Install concrete joints accordingly by sawing, forming or tooling a groove
- Place, finish and cure concrete accordingly depending on the weather conditions
- Do not finish concrete if it has not finished bleeding
- Avoid rapid drying conditions or use a set retarder admixture
- Minimize the mix water content by maximizing the size and amount of coarse

aggregate and use low-shrinkage aggregate

Curling – How to Avoid Concrete Curling

- Use proper curling techniques
- Place concrete joints accordingly
- Use low water content or use water reducing admixtures
- Use the largest possible aggregate size
- Ensure proper bonding when applying thin topping mixes
- Use enough, not excessive, amount of steel reinforcement in the slab
- Place concrete on a damp but absorptive sub-grade so that all the bleed water is not forced to the top of the slab

HOW TO PROTECT YOURSELF

THE TOOLS

Concrete waits for no one. The right tools can make the difference between a successful pour and a potential disaster.

Screeds: Long, straight, stiff tubing or boards used to smooth and roughly level wet concrete.

Protective Gear: Proper worksite safety practice requires the use of protective gear: eye, hearing, breathing protection concrete.

Rubber Gloves: Rubber gloves are always needed when handling concrete.

Rubber Boots: Rubber boots ensure you are prepared to step into concrete at any time.

Wheelbarrows: Are needed to move small amounts of concrete or to carry tools around the site.

Portable Mixer: Portable mixer allows you to mix small amounts of concrete at the job site.

Shovels: Are essential for moving small amounts of concrete around a pour to fill voids or depressions.

Bucket: Bucket or pail for water is handy for pours in very dry or humid conditions.

Laser Level: Laser level is now the standard tool for leveling forms and setting their elevation.

Floats: It involves tooling the surface of the damp concrete with a variety of smooth metal or wooden surfaces with the aim of slightly raising liquid cement to the surface to create a smooth finish.

Vapor Barriers: Vapor barriers or retarders are used to stop moisture from evaporating from concrete surfaces.

Groove Cutters and Edgers: Groove cutters are used to create control joints on sidewalks, walkways, driveways.

Curing Compound and Hand Sprayer: Curing compound applied directly to a wet concrete surface to reduce cracks.

Saws: Concrete, standard portable woodworking saws, chop saws.

Plate Compactor: A plate compactor is a large motorized tool that is used to compact granular surfaces.

Vibrators: Vibrators are used to settle and compact concrete during pours or as concrete is being finished.

Water Pump: Rain, snow, or drainage can lead to concrete forms full of water. A motorized water pump can get rid of the water much faster.

Power Hammers and Drills: Many jobs will require the use of contractor-grade power drills.

FINAL WORD

Concrete work presents a lot of hazards that can be difficult to mitigate against at times. Preplanning and recognizing the hazards will go a long way in preventing injuries. When workers communicate and help each other out while completing the work tasks it makes the environment safer for everyone involved.