ARMCON

How to stack concrete paving moulds

– for the best curing

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CPA
A MEMBER OF THE CEA Construction Equipment Association

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Top Tips

Curing Concrete

Curing concrete is a term used for stopping freshly poured concrete from drying out too quickly. This is done because concrete if left to dry out on it's on accord, and will not develop the bond between all of its ingredients.

Curing is one of the most important steps in concrete construction, because proper curing greatly increases concrete strength and durability.

Aids to curing

Hydration

Concrete hardens as a result of hydration: the chemical reaction between cement and water.

Add heat during the hydration process

Hydration occurs only if water is available and if the concrete's temperature stays within a suitable range.

Keep moist

During the curing period (from five to seven days after placement for conventional concrete) the concrete surface needs to be kept moist to permit the hydration process. New concrete can be wet with soaking hoses, sprinklers or covered with wet burlap, or can be coated with commercially available curing compounds, which seal in moisture.

Using polythene to prevent moisture loss

The plastic should be laid in direct contact with the concrete surface as soon as possible without marring the surface. The edges of the sheets should overlap and be fastened with waterproof tape and then weighted down to prevent the wind from getting under the plastic. Plastic will make dark streaks wherever a wrinkle touches the concrete so plastic should not be used on concretes where appearance is important.

Chemical Membranes

Apply to the concrete surface about one hour after finishing. Do not apply to concrete that is still bleeding, or has a visible water sheen on the surface. While a clear liquid may be used, a white pigment will give reflective properties, and allow for inspection of coverage. A single coat may be adequate but where possible a second coat, applied at right angles to the first, is desirable for even coverage. If the concrete will be painted, or covered with vinyl or ceramic tile, then a liquid compound that is non-

reactive with the paint or adhesives must be used, or a compound that is easily brushed or washed off. On floors, the surface should be protected from the other trades with scuff-proof paper after the application of the curing compound.

Retain the heat of hydration with insulated covers

Temperature extremes make it difficult to properly cure concrete. On hot days, too much water is lost by evaporation from newly placed concrete. If the temperature drops too close to freezing, hydration slows to nearly a standstill. Under these conditions, concrete ceases to gain strength and other desirable properties. In general, the temperature of new concrete should not be allowed to fall below 50 Fahrenheit (10 Celsius) during the curing period.

A good curing blanket will ensure that your concrete will cure faster in the summer and enable you to pour concrete in colder weather. Meaning your team and precast works can keep working throughout the winter.

A good blanket should have at least 90% heat retention, and be made from a heavy duty terylene reinforced PVC, whilst being filled with a good insulator like polyester fibre.

Stacking curing moulds

During the curing process these paving mould can be stacked on top of one another by using timber separators between the steel casing.