

What's Happening in Masonry

by: Gary Porter



Hot Weather Masonry

While commuting home last week, I was passed by a pickup that advertised “Cement Contractor” on the side of the truck. What is a cement contractor? I think it was supposed to say concrete contractor as cement is just one of the components of concrete. If this person is a cement contractor, what about the sand and stone that go into concrete? Is that included too? I just thought that was, I guess, unusual?

Something else unusual is Hot Weather Masonry requirements. Especially if you live in Chicago. I would not be surprised that in the next month or two we see the necessity to review and follow these requirements. In Chicago we are quite familiar with the Cold Weather Masonry requirements, but as our environment tends to go through its cycles and global warming..? we have not seen really hot weather for several years.

The Brick Industry Association, BIA, has provided us with technical notes on their website, www.gobrick.com. Technical note #1, Hot and Cold Weather Construction, includes the table 1 below which displays Requirements for Masonry Construction in HOT and Cold Weather per the TMS Specifications. (TMS is the group responsible for creating the minimum requirements for safe masonry practices.)

TABLE 1
Requirements for Masonry Construction in Hot and Cold Weather per the TMS Specification

| | Temperature ¹ | Preparation Requirements (Prior to Work) | Construction Requirements (Work in Progress) | Protection Requirements (After Masonry is Placed) |
|-------------|---|--|--|--|
| Hot Weather | Above 115 °F, or 105 °F with a wind velocity over 8 mph (46.1 °C, or 40.6 °C with a wind velocity greater than 12.9 km/hour) | Shade materials and mixing equipment from direct sunlight. Comply with hot weather requirements below. | Use cool mixing water for mortar and grout. Ice is permitted in the mixing water prior to use. Do not permit ice in the mixing water when added to the other mortar or grout materials. Comply with hot weather requirements below. | Comply with hot weather requirements below. |
| | Above 100 °F, or 90 °F with a wind velocity greater than 8 mph (above 37.8 °C, or 32.2 °C with a wind velocity greater than 12.9 km/hour) | Provide necessary conditions and equipment to produce mortar having a temperature below 120 °F (48.9 °C). Maintain sand piles in a damp, loose condition. | Maintain temperature of mortar and grout below 120 °F (48.9 °C). Flush mixer, mortar transport container, and mortar boards with cool water before they come into contact with mortar ingredients. Maintain mortar consistency by retempering with cool water. Use mortar within 2 hours of initial mixing. | Fog spray newly constructed masonry until damp, at least three times a day, until the masonry is three days old. |

What's Happening in Masonry



Hot Weather Masonry (cont.)

The temperature range from 40°F to 100°F is considered normal weather conditions with no additional preparation, construction or protection requirements required.

If the temperature is 90°F to 100°F with a wind greater than 8 mph, the mortar should have a temperature 120°F or less. Sand, if being site batched should be damp. In addition, cool water should be used to dampen mortar to keep it cool. Mortar needs to be used within 2 hours. Additionally the wall should be fog sprayed at least 3 times per day until the masonry is three days old.

If the temperature is above 115°F or 105°F with a wind of 8 mph or greater, the above requirements should be followed as well as shading the materials and mixer from the sun. Ice can be used to lower the mixing water temperature, but the ice cubes should not be part of the actual mixing of the sand and cement. Just use ice to cool the water down.

Manpower suffers in this heat as well, so different means can be used to possibly shade where the masons are working. Some contractors use a fog system on the scaffold to improve the comfort for their men. Starting at earlier hours and possibly quitting prior to the hottest part of the day helps as well. Staying hydrated is paramount in the heat.

I wonder how the cement contractor deals with the heat?

What's Happening in Masonry



Concrete Masonry Units (cont.)

One of the other benefits of concrete block is that it can be formed into many different architectural shapes and finishes. Concrete block can be a color, burnished (ground face), fluted or smooth face finish. There are even concrete block that can be shaped and colored to look like brick. Concrete block are readily available with short lead times to keep projects that have tight schedules to be delivered on time.

