

receive written approval from the Engineer before placing the concrete. The lights will be so directed that they do not affect or distract approaching traffic.

The Contractor will insure that concrete pumping lines do not displace reinforcing steel during placement.

844.07 EQUIPMENT FOR BRIDGE DECKS. Concrete will be mixed in a central mixing plant or by a ready-mixed truck capable of discharging concrete having a maximum water cementitious ratio of 0.38. Mixing equipment will meet the requirements of 499.04(b). Admixtures will be introduced into the concrete in such a manner as to facilitate dispersion throughout entire load. Batch plants will meet the requirements of 499.04(a) and will be located such that the maximum time required from start of mixing to completion of discharge of the concrete at the site will not exceed 90 minutes.

An approved self-propelled finishing machine will be used. The finishing machine will be equipped with forward and reverse drive mechanisms that enable precise velocity control of the machine while it is moving in either direction. It will be equipped with two or more rotating rollers. It will be equipped with augers and either a vibrating pan or vibrating rollers. Vibrating frequency for pan or rollers will vary from 1500 to 5000 pulses per minute. The Contractor will furnish the necessary verification of these vibration frequencies. Screeds will have provisions for raising above the finished concrete surface. Roller tampers attached to finishing machines to mechanically depress aggregate are not allowed.

The placing and finishing equipment will be designed so that the elapsed time between depositing concrete and final finishing will not exceed 10 minutes.

Standard hand vibration equipment shall be used. Because high performance concretes are more cohesive, more vibration is required for proper consolidation than for Class C and S mixes. Vibration, often between each rebar, will be required to adequately consolidate a bridge deck even though the surface appears well consolidated.

Finishing machines will be supported by rail and supports made of steel. Rail will be furnished in sections not less than 3m (10 feet) in length and be sufficient cross-section so that the weight of the finishing machine causes zero vertical deflection while in motion. Rail will be straight with no sections exceeding a tolerance of 3mm (1/8 inch) in 3.05m (10 feet) in any direction. Rail supports will be screw-type adjustable saddles and will be of sufficient number under the rail so that zero vertical deflection occurs under the weight of the finishing machine.

A flexible blue steel blade with rounded edges is recommended for finishing.

844.08 SUPERSTRUCTURE DECK CURING AND TEXTURING. Within 3m (10

feet) of the completed tining operation, the finished surface will be covered with a single layer of clean wet burlap. The burlap will be kept wet by a continuous flow of water through soaker hoses and covered with a 100 μ m (4 mils) white opaque polyethylene film or a wet burlap - white opaque polyethylene sheet for 7 days. At the end of 7 days, the deck will be allowed to surface dry (joints and cracks sealed as per 844.10 below). Within 12 hours, membrane cure as per 511.14 method(b).

When pouring under provision of 511.12 methods which retard evaporation may be used, but the deck will be kept continuously wet with hoses and the curing will be 7 days with the surface being maintained between 10 °C (50 °F) and 38 °C (100 °F) as specified. At the end of 7 days, the deck will be allowed to surface dry (joints and cracks sealed as per 844.10). Within 12 hours, membrane cure as per 511.14 method(b).

At the Contractor's option, the Contractor may saw texture the deck instead of texturing as per 511. If the texture as required by 511 is not met, the Contractor will saw texture the deck at no cost to the State.

The texture operation will follow as closely as possible behind the placement.

Immediately after finishing, the Contractor will spray an evaporation retardant on the fresh concrete as per manufacturer's written recommendations. Only products specifically marketed for such usage will be utilized. This material will not be finished into the plastic concrete at any time. Application in a stream will not be allowed. The Contractor is not limited in spraying additional evaporation retardant to concrete surfaces.

844.09 CURING AND LOADING. Curing and loading will be per 511.14, except that the deck will not be opened to traffic until the 7 day water cure is completed and the membrane curing compound has been applied and allowed to dry for the minimum time recommended by the manufacturer. Superstructure deck concrete placed between October 15 and March 15 will not be opened to traffic for a minimum of 30 days after placement.

844.10 SEALING JOINTS AND CRACKS. After the water curing period has been completed and prior to the application of the membrane cure, the following areas will be sealed with a high molecular weight methacrylate (HMWM) sealer meeting SS 954: transverse joints in the deck; joints between the concrete deck and steel end dams; longitudinal joints in the deck; and longitudinal joints between the deck and safety curb, barriers, and parapets, etc. Payment for the material and placement of the HMWM sealer will be included in this item.

Prior to opening the deck to traffic, the deck will be checked on the top and bottom surfaces. Any cracking will be sealed from above with same HMWM product, in