

FHWA REGION	STATE	PROJECT	
5	OHIO		

8.0 CURING

BEFORE A FULL DEPTH REPAIR MADE WITH 511 CONCRETE IS OVERLAID, IT SHALL BE WATER-CURED AND SHALL HAVE ATTAINED A MODULUS OF RUPTURE OF 400 PSI.

IMMEDIATELY AFTER THE TINIING OPERATION THE CONTRACTOR SHALL SPRAY AN EVAPORATION RETARDANT OVER THE TEXTURED AREA. THE APPLICATION RATE SHALL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE WET BURLAP CURE SHALL FOLLOW THIS OPERATION AS CLOSELY AS POSSIBLE.

AS SOON AS POSSIBLE AFTER THE TINIING OPERATION, THE FINISHED OVERLAY SURFACE SHALL BE COVERED WITH A SINGLE LAYER OF CLEAN WET BURLAP. THE FRESH OVERLAY SURFACE SHALL RECEIVE A WET BURLAP CURE FOR 3 DAYS. FOR THE ENTIRE CURING PERIOD OF 72 HOURS THE BURLAP SHALL BE KEPT WET BY THE CONTINUOUS APPLICATION OF WATER THROUGH SOAKER HOSES. EITHER A 4-MIL WHITE OPAQUE POLYETHYLENE FILM OR A WET BURLAP-WHITE OPAQUE POLYETHYLENE SHEET SHALL BE USED TO COVER THE WET BURLAP FOR THE ENTIRE 72 HOUR PERIOD.

THE CURE DAY SHALL BE DEFINED AS A 24-CONSECUTIVE HOUR PERIOD OF TIME. THE TEMPERATURE AT THE OVERLAY SURFACE SHALL BE MAINTAINED ABOVE 35° F UNTIL THE CURING PERIOD IS COMPLETED. ANY DAY DURING WHICH THE AIR TEMPERATURE AT THE OVERLAY SURFACE FALLS BELOW 45° F SHALL NOT BE COUNTED AS A CURE DAY.

AS SOON AS THE OVERLAY HAS BEEN CURED, ALL JOINTS AND ABUTTING SURFACES SHALL BE SEALED BY PAINTING THEM WITH A CEMENT-WATER SLURRY OF A THICK PAINTLIKE CONSISTENCY. JOINTS TO BE SEALED SHALL INCLUDE TRANSVERSE JOINTS IN THE MSC CONCRETE, JOINTS BETWEEN MSC CONCRETE AND STEEL ENDDAMS, LONGITUDINAL JOINTS BETWEEN MSC CONCRETE PLACEMENTS, AND LONGITUDINAL JOINTS BETWEEN MSC CONCRETE AND SAFETY CURB, BARRIERS, PARAPETS, BULB ANGLES, ETC. ON THE EDGES OF DECKS WITHOUT CURBS, THE INTERFACE BETWEEN THE OVERLAY AND THE EXISTING DECK SHALL BE SEALED IN A SIMILAR MANNER. ANY CRACKING WHICH OCCURS PRIOR TO OPENING TO TRAFFIC SHALL BE SEALED IN THIS MANNER OR REPAIRED OR CORRECTED IN ANOTHER MANNER AS DIRECTED BY THE ENGINEER AT NO COST TO THE STATE. THE DECK SHALL BE SOUNDED AND ANY DELAMINATED AREAS REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

TRAFFIC WILL NOT BE PERMITTED ON THE FINISHED OVERLAY SURFACE UNTIL AFTER COMPLETION OF THE 3-DAY WET CURE.

THE ENGINEER MAY ORDER ANY IMPROPERLY CURED OVERLAY TO BE REMOVED AND REPLACED AT NO ADDITIONAL COST TO THE STATE.

9.0 LIMITATION ON PLACING OPERATIONS

PRIOR TO OVERLAY PLACEMENT, THE ENGINEER SHALL ESTABLISH THE CONTRACTOR'S ABILITY TO PLACE THE OVERLAY ON A CONTINUOUS BASIS AND TO CONSOLIDATE, FINISH, TEXTURE AND COMMERCE CURING WITHIN THE TIME INTERVAL SPECIFIED IN 8.0. ONCE THE FINISHING MACHINE HAS MADE THE FIRST PASS, WORKERS SHALL NOT BE ALLOWED TO WALK IN THE FRESHLY PLACED OVERLAY.

THE OVERLAY SHALL BE PLACED ONLY WHEN THE LOCAL AMBIENT TEMPERATURE IS ABOVE 45° F AND IS FORECAST TO REMAIN ABOVE 45° F FOR THE CURING PERIOD. THE OVERLAY SHALL NOT BE PLACED WHEN RAIN IS FORECAST WITHIN THE INTENDED WORKING PERIOD. OVERLAYS SHALL BE PLACED ONLY IF THE OVERLAY SURFACE EVAPORATION RATE, AS AFFECTED BY AMBIENT AIR TEMPERATURE, CONCRETE TEMPERATURE, DECK TEMPERATURE, RELATIVE HUMIDITY AND WIND VELOCITY, IS 0.1 POUND PER SQUARE FOOT PER HOUR OR LESS. THE CONTRACTOR SHALL DETERMINE AND DOCUMENT THE ATMOSPHERIC CONDITIONS, SUBJECT TO VERIFICATION BY THE ENGINEER. NO MSC SHALL BE PLACED IF THE AMBIENT AIR TEMPERATURE IS 85° F OR HIGHER OR PREDICTED TO GO ABOVE 85° F DURING THE OVERLAY PLACEMENT REGARDLESS OF THE SURFACE EVAPORATION RATE.

FIGURE 1 MAY BE FOUND ON PAGE 11 OF SUPPLEMENTAL SPECIFICATION 845 AND SHALL BE USED TO DETERMINE GRAPHICALLY THE LOSS OF SURFACE MOISTURE FOR THE OVERLAY. IN NO CASE SHALL THE TEMPERATURE OF THE MSC EXCEED 90° F DURING PLACEMENT. IF RAIN OCCURS DURING PLACING OF THE OVERLAY, ALL OPERATIONS SHALL CEASE. NO MSC OVERLAY SHALL BE PLACED AFTER OCTOBER 15TH EXCEPT BY SPECIFIC PERMISSION OF THE DIRECTOR.

IF PLACEMENT OF THE OVERLAY IS TO BE MADE AT NIGHT, THE CONTRACTOR SHALL SUBMIT A PLAN WHICH PROVIDES ADEQUATE LIGHTING FOR THE WORK AREA. THE PLAN SHALL BE SUBMITTED AT LEAST 15 CALENDAR DAYS IN ADVANCE AND BE APPROVED BY THE ENGINEER BEFORE CONCRETE IS PLACED. THE LIGHTS SHALL BE SO DIRECTED THAT THEY DO NOT AFFECT OR DISTRACT APPROACHING TRAFFIC.

DURING DELAYS IN THE OVERLAY PLACEMENT OPERATIONS OF MORE THAN 10 MINUTES, THE WORK FACE OF THE OVERLAY AND ANY BONDING GROUTED AREAS SHALL BE TEMPORARILY COVERED WITH WET BURLAP. IF AN EXCESSIVE DELAY IS ANTICIPATED, A BULKHEAD SHALL BE INSTALLED AT THE WORK FACE AND THE OVERLAY PLACEMENT OPERATION TERMINATED.

UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER, AN OVERLAY SHALL NOT BE PLACED ADJACENT TO A PREVIOUS OVERLAY WHICH HAS CURED FOR LESS THAN 36 HOURS.

ADEQUATE PRECAUTIONS SHALL BE TAKEN TO PROTECT THE FRESHLY PLACED OVERLAY FROM RAIN.

PRIOR TO THE END OF THE FULL CURING PERIOD FOR ANY SECTION, NO POWER DRIVEN TOOLS HEAVIER THAN A 15-POUND CHIPPING HAMMER SHALL BE USED ADJACENT TO THE NEW OVERLAY.

VEHICLES OTHER THAN APPROVED CONSTRUCTION EQUIPMENT WILL NOT BE PERMITTED ON THOSE SECTIONS OF THE DECK WHERE CONCRETE REMOVAL OPERATIONS HAVE BEGUN. CONTAMINATION BY CONSTRUCTION EQUIPMENT OR FROM ANY OTHER SOURCE SHALL NOT BE PERMITTED.

10.0 MANUFACTURER'S REPRESENTATIVE

THE MANUFACTURER'S TECHNICAL REPRESENTATIVE FOR THE MICRO-SILICA ADMIXTURE SHALL BE NOTIFIED WHEN THE ADMIXTURE IS SELECTED AND SHALL BE PRESENT DURING THE PLACEMENT OF THE OVERLAY UNLESS HIS PRESENCE IS WAIVED BY THE ENGINEER. OPERATIONS AND PROCEDURES WHICH ARE CONSIDERED BY THE REPRESENTATIVE AS BEING DETRIMENTAL TO THE INTEGRITY OF THE OVERLAY WILL NOT BE PERMITTED.

11.0 METHOD OF MEASUREMENT

FOR MEASUREMENT OF QUANTITIES, THE OVERLAY IS DIVIDED BY A HORIZONTAL PLANE INTO TWO ITEMS, CONSISTING OF AN UPPER PART OF UNIFORM THICKNESS "MSC OVERLAY (PLAN SPECIFIED THICKNESS)" AND A LOWER PART OF VARIABLE THICKNESS MSC OVERLAY (VARIABLE THICKNESS)". "FULL-DEPTH REPAIR" IS MEASURED AS A SEPARATE PAY ITEM.

MSC OVERLAY (PLAN SPECIFIED THICKNESS) SHALL BE MEASURED AS THE ACTUAL DECK AREA IN SQUARE YARDS OVERLAID. THE BID PRICE FOR THIS ITEM INCLUDES THE COST OF FURNISHING, PLACING, FINISHING, TEXTURING AND CURING THE PLAN SPECIFIED THICKNESS OVERLAY. IT ALSO INCLUDES THE COST OF SURFACE SCARIFYING, REMOVAL OF SCARIFICATION DEBRIS, CLEANING, APPLYING BONDING GROUT, TEST SLABS AND ALL OTHER MATERIAL, LABOR AND EQUIPMENT REQUIRED TO COMPLETE THIS WORK, BUT NOT SPECIFICALLY INCLUDED IN THE OTHER ITEMS OF PAVEMENT.

FULL-DEPTH REPAIR SHALL BE MEASURED AS THE VOLUME IN CUBIC YARDS BASED ON THE MEASURED AREA OF FULL-DEPTH OPENINGS IN THE DECK AND THE EXISTING SLAB THICKNESS, LESS 1/4 INCH. THE BID PRICE FOR THIS ITEM INCLUDES THE COST OF REMOVING UNSOUND CONCRETE EXCLUSIVE OF CONCRETE REMOVED BY SCARIFICATION, REMOVING OF SOUND CONCRETE WHERE THE DEPTH OF SOUND CONCRETE IS LESS THAN HALF OF THE ORIGINAL THICKNESS OF THE DECK, FURNISHING AND INSTALLING FORMS AND SUPPORTS, FURNISHING AND PLACING EITHER MSC OR 511 CONCRETE, AND IF 511 CONCRETE IS USED, THE FINISHING AND CURING REQUIRED.

MSC OVERLAY (VARIABLE THICKNESS) SHALL BE THE VOLUME IN CUBIC YARDS MEASURED AS THE DIFFERENCE BETWEEN THE TOTAL VOLUME (AS DIRECTED BY THE BATCH QUANTITY TICKETS FOR THE READY-MIX TRUCKS) OF MSC OVERLAY PLACED AND ACCEPTED, LESS THE CALCULATED VOLUME OF THE MSC OVERLAY (PLAN SPECIFIED THICKNESS), LESS THE VOLUME OF THE MSC USED FOR FULL-DEPTH REPAIR, AND LESS ANY WASTED MSC. THE VOLUME OF MSC REMAINING IN THE DRUM OF THE LAST READY-MIX TRUCK SHALL BE WEIGHED OR MEASURED BY THE ENGINEER. THE BID PRICE FOR THIS ITEM INCLUDES THE COST OF FURNISHING AND PLACING THE VARIABLE THICKNESS OVERLAY. IT ALSO INCLUDES THE COST OF REMOVAL OF ALL CONCRETE EXCEPT THAT REMOVED BY SCARIFICATION AND AS PART OF THE FULL-DEPTH REPAIR. CONCRETE FOR THE TEST SLABS REQUIRED UNDER 4.0 SHALL BE PAID FOR ON A LUMP SUM BASIS. ALL OTHER CONCRETE FOR TESTING PURPOSES SHALL BE FURNISHED WITHOUT CHARGE TO THE DEPARTMENT PER 106.03.

12.0 BASIS OF PAYMENT

PAYMENT FOR COMPLETED AND ACCEPTED QUANTITIES AS MEASURED ABOVE WILL BE MADE AT THE CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQUARE YARD	MICRO-SILICA MODIFIED CONCRETE OVERLAY (1 1/4 INCHES THICK)
SPECIAL	CUBIC YARD	MICRO-SILICA MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
SPECIAL	CUBIC YARD	FULL-DEPTH REPAIR
SPECIAL	LUMP SUM	TEST SLAB