

ITEM SPECIAL - SEALING OF CONCRETE SURFACES (EPOXY)

AN EPOXY SEALER SHALL BE APPLIED TO THE EXPOSED CONCRETE SURFACES OF THE BRIDGES AS LISTED BELOW. SEE THE PROPOSAL FOR SEALER MATERIAL AND SURFACE PREPARATION REQUIREMENTS, AND APPLICATION RATES AND PROCEDURES.

1. CURBS, SIDEWALKS AND PARAPETS (ALL FACES).
2. DECK EDGES AND THE UNDERSIDE FOR THREE FEET ON EACH SIDE OF AN EXPANSION JOINT OR AN UNDERSIDE EXTENDING BEYOND THE EXTERIOR BEAMS.
3. PIERS INCLUDING CAPS AND STEMS.(DOWN TO THE WATERLINE)
4. ABUTMENTS INCLUDING BACKWALLS AND WINGWALLS.

ITEM SPECIAL - PATCHING CONCRETE STRUCTURES WITH SUPERIOR BONDING MATERIALS

A. DESCRIPTION: THIS ITEM CONSISTS OF THE REMOVAL OF ALL LOOSE AND DISINTEGRATED CONCRETE, PREPARATION OF THE SURFACE, AND THE FORMING, MIXING, PLACING, FINISHING AND CURING OF THE PATCHES AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE PERFORMED UPON THE FOLLOWING EXPOSED CONCRETE BRIDGE COMPONENTS IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLY CLOSE CONFORMITY WITH THE PLANS AND THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

1. CURBS, SIDEWALKS AND PARAPETS (ALL FACES).
2. ABUTMENTS INCLUDING BACKWALLS AND WINGWALLS.

B. MATERIALS: THE PATCHING MATERIAL SHALL BE HORN 240 CONCRETE, FAST CRETE, BOSTICK 276, SET 45, SIKATOP 122 AND 123, THERMAL-CHEM PRODUCT NO. 304 OR POLY CARB MARK 193.4 OR 194. THE MATERIAL SHALL BE TINTED TO CURE TO THE COLOR OF THE EXISTING CONCRETE. ALL MATERIALS SHALL BE STORED AND INCORPORATED IN THE WORK AS RECOMMENDED BY THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT AT THE JOB SITE UNTIL SUCH TIME AS HE AND THE ENGINEER ARE SURE THAT THE CONTRACTOR IS QUALIFIED IN ALL ASPECTS OF PATCHING CONCRETE STRUCTURES WITH THE SELECTED MATERIAL.

C. REMOVAL OF CONCRETE: THE ENGINEER SHALL SOUND THE STRUCTURE AND OUTLINE THE AREAS TO BE REMOVED. ALL LOOSE, SOFT, HONEY-COMBED, AND DISINTEGRATED CONCRETE PLUS ONE-FOURTH INCH DEPTH OF SOUND CONCRETE SHALL BE REMOVED. WHERE THE BOND BETWEEN THE CONCRETE AND A REINFORCING BAR HAS BEEN DESTROYED, OR WHERE MORE THAN ONE-HALF OF THE PERIPHERY OF SUCH A BAR HAS BEEN EXPOSED, THE ADJACENT CONCRETE SHALL BE REMOVED TO A DEPTH THAT WILL PROVIDE A MINIMUM THREE-FOURTH INCH CLEARANCE AROUND THE BAR EXCEPT WHERE OTHER REINFORCING BARS MAKE THIS IMPRACTICAL. AFTER COMPLETION OF THE SECONDARY REMOVAL OPERATION, THE ENGINEER WILL RESOUND THE AREAS TO INSURE THAT ONLY SOLID CONCRETE REMAINS. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT DAMAGE OR SHATTER THE CONCRETE THAT IS TO REMAIN AND WILL NOT CUT, ELONGATE OR DAMAGE THE REINFORCING STEEL IN ANY WAY. CONCRETE MAY BE REMOVED BY CHIPPING OR HAND DRESSING. CHIPPING HAMMERS SHALL NOT BE HEAVIER THAN THE NORMAL 35 POUND CLASS. WHERE EXISTING REINFORCING BARS WOULD BE LESS THAN ONE INCH FROM THE PROPOSED FINISHED SURFACE OF CONCRETE, THEY SHALL, IF PRACTICAL, BE DRIVEN BACK INTO RECESSES CUT IN THE MASONRY TO OBTAIN THAT COVERAGE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

D. SURFACE PREPARATION: CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS BY NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SAND-BLASTING FOLLOWED BY AN AIR BLAST. IT MAY BE NECESSARY TO USE HAND TOOLS TO REMOVE SCALE FROM THE REINFORCING STEEL. SURFACE SHALL BE MADE FREE OF SPALLS, LAITANCE AND ALL TRACES OF FOREIGN MATERIAL. IF NECESSARY, DETERGENT CLEANING SHALL PRECEDE BLAST CLEANING TO INSURE THE REMOVAL OF CONTAMINANTS DETRIMENTAL TO ACHIEVING AN ADEQUATE BOND. FOR PATCHES WHICH DO NOT USE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE DRY. FOR PATCHES WHICH REQUIRE WATER AS THE ACTIVATOR, THE PREPARED SURFACE SHALL BE LEFT IN THE CONDITION AS RECOMMENDED BY THE MANUFACTURER. ANY ADDITIONAL SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR THE PATCHING MATERIAL WHICH IS USED. ALL UNCHIPPED SURFACES THAT WILL RECEIVE NEW MATERIAL SHALL BE MECHANICALLY ROUGHENED.

E. FORMS: IF REQUIRED TO RESTORE VERTICAL SURFACES IN AN ACCEPTABLE MANNER, FORMS SHALL BE ERECTED FLUSH WITH THE FACES OF REPAIR AREAS TO INSURE THAT THE MATERIAL DOES NOT ESCAPE FROM THE PATCH AREA.

F. PATCHING: THE MIXING, PROPORTIONING, PLACING AND CURING PROCEDURES AND THE TOOLS, EQUIPMENT, LABOR AND MATERIALS USED SHALL BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS EXCEPT THAT NO AGGREGATE SHALL BE ADDED TO THE MAGNESIUM PHOSPHATE MATERIALS. WHEN FORMS ARE USED MATERIAL SHALL BE PLACED THROUGH AT LEAST ONE HOLE AT THE HIGHEST POINT OF THE AREA TO BE PATCHED. THE FORMS SHALL BE TAPPED TO VIBRATE THE MATERIAL AND INSURE THAT IT REACHES THE LOWEST REGIONS OF THE PATCH AREA. THE SURFACE OF THE REPAIR AREA SHALL BE FLUSH WITH THE SURROUNDING AREA.

G. CURING: PATCHES SHALL BE CURED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

H. METHOD OF MEASUREMENT: THE QUANTITY SHALL BE THE ACTUAL AREA IN SQUARE FEET OF THE EXPOSED SURFACE OF ALL COMPLETED PATCHES, IRRESPECTIVE OF THE DEPTH OR THICKNESS OF THE PATCH COMPLETE, IN PLACE AND ACCEPTED. IF THE PATCH INCLUDES CORNERS OR EDGES OF MEMBERS ALL OF THE EXPOSED SURFACES SHALL BE INCLUDED, OR IF A PATCH EXTENDS COMPLETELY THROUGH A MEMBER BOTH EXPOSED SURFACES SHALL BE INCLUDED.

I. BASIS OF PAYMENT: PAYMENT WILL BE MADE AT CONTRACT PRICE BID FOR:

ITEM	UNIT	DESCRIPTION
SPECIAL	SQ. FT.	PATCHING CONCRETE STRUCTURES WITH SUPERIOR BONDING MATERIALS

ITEM SPECIAL - DOWEL HOLES

THIS WORK SHALL CONFORM TO SS-853 AND SS-956 AND SHALL BE USED TO REPOSITION EXISTING ALUMINUM RAIL POSTS.