

FHWA REGION	STATE	PROJECT	
5	OHIO		

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LAKE COUNTY  
LAK-86-1.95

PLAN NO. BR-73-85

- D. SURFACE PREPARATION: CLEANING SHALL PRECEDE APPLICATION OF THE PATCHING MATERIAL OR ERECTION OF THE FORMS NOT MORE THAN 24 HOURS. THE SURFACE TO BE PATCHED AND THE EXPOSED REINFORCING STEEL SHALL BE THOROUGHLY CLEANED BY SANDBLASTING FOLLOWED BY AN AIRBLAST. 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 REQUIRE WATER AS THE ACTIVATOR, THE PREPARATION 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 RECIEVE 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 COMPLETE PATCHES, IRRESPECTIVE OF 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 MATERIAL

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, APPLICATION RATES, AND PROCEDURES.

1. PRESTRESSED CONCRETE BOX BEAMS (ALL SIX EXTERIOR FACES)
2. BRIDGE SEATS AND BACKWALLS
3. ABUTMENTS AND WINGWALLS

ITEM SPECIAL - PRECOMPRESSED JOINT SEAL (BITUMEN IMPREGNATED FOAM)

THIS WORK SHALL CONSIST OF SEALING JOINTS ON BRIDGES USING PRECOMPRESSED BITUMEN IMPREGNATED FOAM IN ACCORDANCE WITH THESE SPECIFICATIONS, IN REASONABLE CLOSE CONFORMITY WITH THE PLANS AND MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER.

THE MATERIAL SHALL BE A PRECOMPRESSED SELF-ADHESIVE BITUMEN IMPREGNATED FOAM JOINT SEALANT SUCH AS EMSEAL PCSA, PERMABAND 8100 OR AN APPROVED EQUAL. ENSEAL U.S.A. IS LOCATED AT 344 MILL ROAD IN STAMFROD CT. 06903 AND HAS A TELEPHONE NO. OF: (203) 322-3828. PERMABAND IS AVAILABLE FROM PERMAQUICK (CANADA) LTD. WHICH IS LOCATED AT 3043 UNIVERSAL DRIVE MISSISSAUGA, ONTARIO L4X2E2; TELEPHONE NO.: (416) 625-9444.

ALL MATERAILS 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 JOINT SEALING.

JOINT SEALS SHALL BE INSTALLED ONLY WHEN THE PRESTRESSED BOX BEAMS AND ADJACENT SURFACES ARE DRY AND THEIR SURFACE TEMPERATURES ARE ABOVE 50 DEGREES F. THE CONCRETE SURFACES SHALL BE PRIMED AS RECOMMENDED BY THE MANUFACTURER. THE FOAM JOINT SEAL SHALL BE REMOVED FROM THE PACKAGING AND ITS NARROW EDGE INSERTED INTO THE JOINT OPENING. THE DEPTH FACE WITH THE SELF ADHESIVE BACKING SHALL BE PRESSED AGAINST ONE SIDE OF THE JOINT SO THAT THE FOAM IS HELD IN PLACE WHILE IT RECOVERS.

AT TEMPERATURES ABOVE 70 DEGREES F, THE MATERIAL WILL RECOVER IN A FEW HOURS. AT TEMPERATURES BELOW 70 DEGREES F, THE RECOVERY SHALL BE ACCELERATED BY HEATING THE MATERIAL BY OPEN FLAME, GAS BURNER, INFRARED LAMP OR HOT AIR BLOWER.

A CONTINUOUS LENGTH OF JOINT SEAL SHALL BE ACHIEVED BY JOINING INDIVIDUAL STRIPS ONLY BY MEANS OF SCARFED JOINTS CUT AT 45 DEGREES OR LESS RELATIVE TO THE SIDES OF THE JOINT. THE SCARFED EDGES MUST BE PUSHED WELL PAST ONE ANOTHER. THE SEAL SHALL NOT BE PULLED OR STRETCHED SO THAT GAPS BETWEEN SUCCESSIVE LENGTHS ARE PREVENTED.

FOOTAGE UNDER THIS ITEM SHALL BE THE LINEAL FEET BITUMEN IMPREGNATED FOAM SEAL INSTALLED IN THE OPEN JOINTS THAT ARE COMPLETE, IN PLACE, AND ACCEPTED.

THE ACCEPTED QUANTITIES OF JOINT SEAL SHALL BE PAID FOR AT THE CONTRACT UNIT PER LINEAL FOOT, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR PREPARING THE SURFACES, FURNISHING AND PLACING ALL MATERIALS, SUPPLYING THE MANUFACTURER'S REPRESENTATIVE AND ALL OTHER MATERIALS, LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT SEAL ACCORDING TO SPECIFICATIONS. PAYMENT WILL BE MADE UNDER:

ITEM	UNIT	DESCRIPTION
SPECIAL	LIN. FT.	PRE-COMPRESSED JOINT SEAL (4"x 3" BITUMEN IMPREGNATED FOAM)
SPECIAL	LIN. FT.	PRE-COMPRESSED JOINT SEAL (2"x 2" BITUMEN IMPREGNATED FOAM)

ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS:

A. DESCRIPTION: THIS WORK SHALL CONSIST OF SAW CUTTING AND SEALING TRANSVERSE JOINTS ON THE NEW BITUMINOUS CONCRETE OVERLAY. BITUMINOUS CONCRETE JOINTS SHALL BE CONSTRUCTED DIRECTLY OVER, AND IN LINE WITH, THE EXISTING UNDERLYING TRANSVERSE BEAM END JOINT.

B. MATERIALS: JOINT SEALANT

THE JOINT SEALANT SHALL MEET THE REQUIREMENTS OF ASTM SPECIFICATION D3405, JOINT SEALANT, HOT Poured FOR CONCRETE AND ASPHALT PAVEMENTS; NITRIL RUBBER AS DISTRIBUTED BY W.J. RUSCOE CO., AKRON, OHIO; OR SILICONE SEALANT MEETING FEDERAL SPECIFICATIONS TT-5-230-A MANUFACTURED BY GENERAL ELECTRIC OR DOW CORNING. SEALANT WILL BE ACCEPTED ON THE BASIS OF THE MANUFACTURER'S CERTIFICATION THAT IT CONFORMS TO THE REQUIREMENTS OF THESE SPECIFICATIONS.

C: CONSTRUCTION DETAILS:

1. GENERAL: THE CONTRACTOR SHALL CONDUCT HIS OPERATION SO THAT SAW CUTTING OF TRANSVERSE JOINTS, CLEANING, AND SEALING IS A CONTINUOUS OPERATION. SAW-CUTTING, CLEANING AND SEALING SHALL BE DONE AS SOON AS PRACTICAL AFTER THE PAVING BUT WITHIN FOUR (4) DAYS AFTER PLACEMENT OF THE SURFACE COURSE ASPHALT CONCRETE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE THE SAWED JOINTS PRIOR TO SEALING.
2. SAWCUTTING OF TRANSVERSE JOINTS: THE CONTRACTOR SHALL SAW CUT OR ROUT TRANSVERSE JOINTS TO THE DIMENSIONS SHOWN IN THE PLAN DETAILS SHEET 1711. THE SAW CUT JOINTS SHALL BE DIRECTLY OVER EACH EXISTING BEAM END JOINT. THE SAW CUT SHALL BE PREMARKED ON THE NEW ASPHALT SURFACE BY A CHALK LINE OR OTHER ACCEPTABLE METHOD. DETAILS OF THE METHOD FOR LOCATING AND ACCURATELY MARKING THE PROPOSED SAW CUTS SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO STARTING ANY RESURFACING OPERATION.  
  
THE BLADE OR BLADES SHALL BE OF SUCH SIZE THAT THE FULL WIDTH AND DEPTH OF THE SAW CUT CAN BE MADE WITH ONE PASS. DRY OR WET CUTTING **SHALL BE ALLOWED**.  
  
THE TRANSVERSE SAW CUT JOINTS SHALL EXTEND THE FULL WIDTH OF THE BRIDGE.
3. CLEANING JOINTS: DRY SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH SUFFICIENT AMOUNT OF COMPRESSED AIR TO REMOVE ANY DIRT, DUST, OR DELETERIOUS MATTER. WET SAWED JOINTS SHALL BE THOROUGHLY CLEANED WITH WATER BLAST TO REMOVE ANY SAWING SLURRY, DIRT, OR DELETERIOUS MATTER. THE SAWED JOINTS SHALL BE BLOWN WITH COMPRESSED AIR TO PROVIDE DRY JOINT SURFACES PRIOR TO SEALING. THE AIR COMPRESSOR SHALL HAVE A MINIMUM RATED CAPACITY OF 90 P.S.I. AND SHALL HAVE SUFFICIENT HOSE FOR CONTINUING CLEANING OPERAITONS.

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
DISTRICT 12 BRIDGE DEPARTMENT

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STRUCTURE NOTES  
BRIDGE LAK-86-0195  
OVER KELLOGG CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
EJA	SDG	SDG	DWL	GWM	8/13/85	