

ITEM SPECIAL - POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION JOINTS AS PER THESE DETAILS AND THE MANUFACTURERS REQUIREMENTS USING A POLYMER MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

THE APPROVED APPLICATORS ARE LISTED ON THE FOLLOWING WEB SITE:

<http://www.dot.state.oh.us/se/standard/english/revisions/>

07-19-02%20mailing/plninst.htm

THE APPROVED APPLICATORS LISTED ON THE WEBSITE SHALL BE IN EFFECT FOR THIS PROJECT FOURTEEN (14) CALENDAR DAYS PRIOR TO THE BID LETTING DATE.

MATERIALS:

BRIDGING PLATE: MILD STEEL 1/8" OR 1/4" THICK PLATE, 8" WIDE OR 18 GAUGE ALUMINUM, 8" WIDE.

BINDER:

TYPE: POLYMER MODIFIED ASPHALT
 SOFTENING POINT: 180 DEGREES F. MIN.
 FLOW: 3 mm. MAX. AT 140 DEGREES F.
 PENETRATION: 9 mm. MAX. AT 77 DEGREES F.
 1 mm. MAX AT 0 DEGREES F.
 ASTM D 3407
 DUCTILITY: 40 cm. MIN. ASTM D 113
 RESILIENCE: 60% MIN. AT 77 DEGREES F.
 TENSILE ADHESION: 700% MIN.
 SPECIFIC GRAVITY: 1.10 * 0.05
 POURING TEMP: 350 - 390 DEGREES F.

AGGREGATE:

TYPE: CRUSHED, DOUBLE WASHED AND DRIED GRANITE OR BASALT

GRADATION

THE GRADUATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT

BACKER ROD:

THE BACKER ROD SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

NOTE: PRIOR TO PLACEMENT OF ANY PORTION OF THE JOINT SYSTEM, THE PROJECT ENGINEER MUST HAVE CERTIFIED TEST DATA MEETING ALL THE MINIMUM REQUIREMENTS OF ALL THE MATERIALS OF THE JOINT SYSTEM.

INSTALLATION PROCEDURES:

SAWING AND SEALING PREPARATION

AFTER ALL PAVING OPERATIONS ARE COMPLETED, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN 2" DEEP (20" CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATERPROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 3000 DEGREES F. AT A VELOCITY OF 3000 FEET PER SECOND WITH 15 PSIG CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 6 INCHES OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

SEALING OF EXPANSION JOINT: (PRESTRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT CAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 1/8" OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATE SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 1/8" AND 1-1/8" BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

BOND BREAKER:

SPREAD BINDER OF SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 1 FOOT INTERVALS ALONG THE LONGITUDAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SET UP BEFORE THE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE INDIVIDUAL PLATES.

CALCULATED BY	LOGAN COUNTY LOG-117-0.00
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GENERAL NOTES AND DETAILS FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM

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