

VALUES ARE BASED ON A COEFFICIENT OF EXPANSION OF 0.0000099/C. ALL TABULATED DIMENSIONS ARE IN MILLIMETERS.

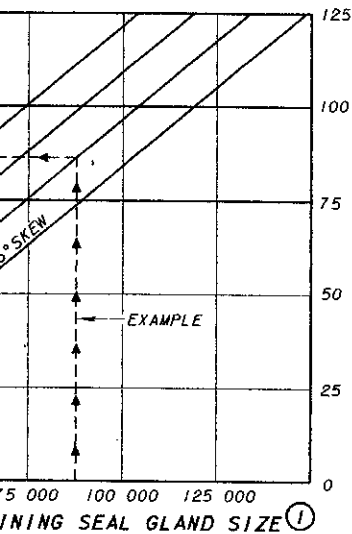


TABLE A

REQUIRED JOINT OPENING (DIM. "A")

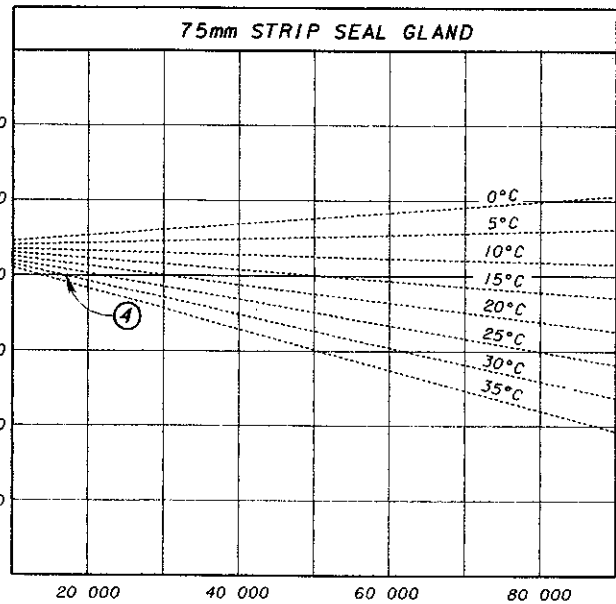


TABLE B

REQUIRED JOINT OPENING (DIM. "A")

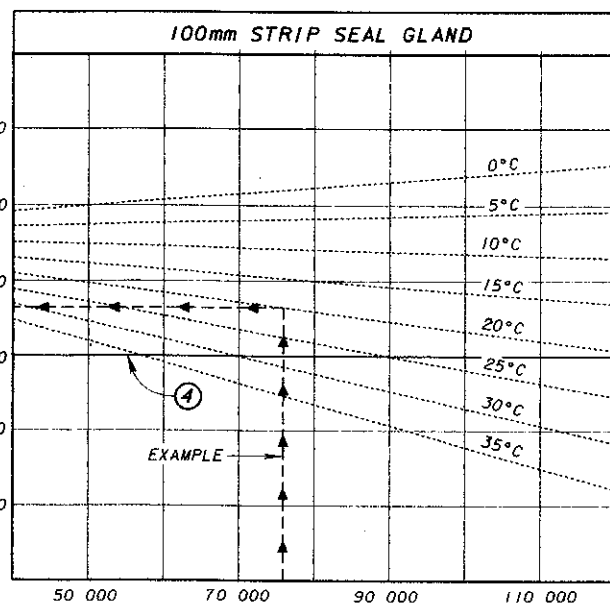


TABLE C

REQUIRED JOINT OPENING (DIM. "A")

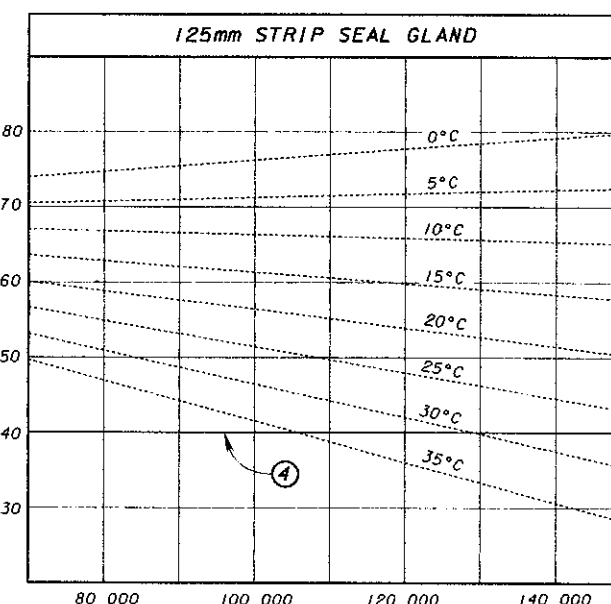


TABLE D

SEALS SHALL BE ASTM A709M, STEEL ASSEMBLY SHALL BE METALIZED. THE THICKNESS SHALL BE 150-200 MICROMETERS. THE WIRE USED FOR THE SEAL SHALL BE 85% ZINC AND 15% ALUMINUM. SURFACE PREPARATION SHALL CONFORM TO SSPC COATING SYSTEM GUIDE "STANDARD PRACTICES FOR PREPARATION OF STEEL SURFACES FOR THERMAL SPRAY METALLIC COATING SYSTEMS". AN OPAQUE PRIMER SHALL BE APPLIED TO ALL SURFACES THAT WILL BE IN CONTACT WITH THE CONCRETE. THERE SHALL BE NO OIL OR GREASE ON THE SURFACES OF THE RETAINERS TO WHICH THE GLANDS ARE ATTACHED. SURFACES MAY BE MASKED TO PREVENT THE BUILDUP OF SEALANT IN RETAINER GROOVE.

SEAL GLAND SHALL BE EXTRUDED POLYCHLOROPRENE WITH A TENSILE STRENGTH OF 13.8 MPa. REQUIREMENTS OF ASTM D2628M. DUE TO THE CONFIGURATION OF THE SEAL, THE RECOVERY TEST IS NOT APPLICABLE. THE SEAL SHALL MEET THE REQUIREMENTS SPECIFIED IN TABLE E.

GLANDS SHALL BE TESTED BY THE MANUFACTURER OR BY AN INDEPENDENT LABORATORY TO ENSURE COMPLIANCE WITH THESE PROVISIONS. IF THE QUALIFICATION TEST DATA INDICATING THAT THE SEAL DOES NOT COMPLY WITH THESE PROVISIONS SHALL BE SUBMITTED TO THE CONTRACTOR'S LABORATORY.

POLYCHLOROPRENE GLAND SHALL BE SUPPLIED BY THE CONTRACTOR AND SHALL BE DESIGNED TO FUNCTION AS AN INTEGRAL PART OF THE JOINT ASSEMBLY.

LUBRICANT-ADHESIVE USED TO INSTALL THE PREFORMED STRIP SEALS SHALL BE A ONE PART MOISTURE CURING POLYURETHANE COMPOUND, MEETING THE REQUIREMENTS OF ASTM D4070M, AND AS SPECIFIED BY THE SEAL GLAND MANUFACTURER. IT SHALL HAVE A SUITABLE CONSISTENCY AT THE TEMPERATURE AT WHICH THE SEALS ARE INSTALLED AND SHALL BE COMPATIBLE WITH THE SEALS AND THE STEEL RETAINERS.

SPLICE OR JOINT IN SEAL GLAND: SEAL GLANDS FOR BRIDGE DECK JOINTS SHALL BE FURNISHED IN ONE CONTINUOUS PIECE UNLESS SHOP FABRICATED SPLICES ARE SHOWN ON THE PLANS OR APPROVED BY THE DIRECTOR. FIELD SPLICING SHALL NOT BE PERMITTED.

COMPLETED SPLICES SHALL HAVE NO OFFSETS ON EXTERIOR SURFACES, AND AFTER INSTALLATION, THERE SHALL BE NO EVIDENCE OF BOND FAILURE AT THE SPLICES.

FOR OTHER THAN STRAIGHT SEALS WITHOUT INTERMEDIATE SPLICES, SEAL GLANDS SHALL BE SHOP FABRICATED IN ACCORDANCE WITH APPROVED SHOP DRAWINGS. SHOP DRAWING DIMENSIONS FOR EXISTING JOINTS OR FOR JOINTS WHICH ARE BEING MODIFIED SHALL BE BASED ON FIELD MEASUREMENTS PROVIDED BY THE CONTRACTOR.

PREPARATION FOR INSTALLATION: TO AVOID THE SUBSEQUENT CONTAMINATION OF THE PREPARED SURFACES, ALL SURFACES OF ELASTOMERIC STRIP SEAL GLANDS SHALL BE CLEANED WITH METHYL ETHYL KETONE (MEK), TOLUENE (T) OR ANOTHER APPROVED SOLVENT USING CLEAN DISPOSABLE CLOTHS.

NO MORE THAN 24 HOURS BEFORE APPLICATION OF THE LUBRICANT ADHESIVE, ONLY THE SURFACES OF THE STEEL RETAINER TO WHICH ADHESIVE IS APPLIED SHALL BE CLEANED TO SSPC VISUAL STANDARD SP-6.

INSTALLATION: IMMEDIATELY PRIOR TO APPLICATION OF LUBRICANT-ADHESIVE, BONDING SURFACES SHALL BE CLEAN, DRY AND WARMER THAN 7 DEGREES C. AND THEY SHALL BE MAINTAINED AT OR ABOVE THIS TEMPERATURE UNTIL THE ADHESIVE HAS CURED. LUBRICANT-ADHESIVE SHALL BE APPLIED LIBERALLY TO BOTH STEEL AND ELASTOMERIC BONDING SURFACES USING A STIFF BRUSH IF NECESSARY TO ACHIEVE A COMPLETE AND RELATIVELY UNIFORM COATING. THE BULBED EDGES OF THE ELASTOMERIC SEAL SHALL BE INSERTED INTO THE RETAINER GROOVES. AFTER INSTALLATION, EXCESS LUBRICANT-ADHESIVE SHALL BE REMOVED FROM THE EXPOSED SEAL SURFACES.

MEASUREMENT FOR PAY PURPOSES SHALL BE BASED ON THE LINEAR METERS OF SEALED JOINT SYSTEM, MEASURED HORIZONTALLY ALONG THE JOINT CENTERLINE AND BETWEEN THE OUTER LIMITS OF THE FABRICATED JOINT. THIS PAY ITEM SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT IN PLACE, WHICH INCLUDES: THE JOINT ARMOR, RETAINERS, GLAND, ANCHORING DEVICES, PLATE "A", PLATE "B" AND TEMPORARY SUPPORTS. THE M16 THREADED RODS SET INTO THE END DIAPHRAGMS, ALONG WITH HEX. NUTS, SHALL BE INCLUDED WITH DECK CONCRETE FOR PAYMENT. PAYMENT WILL BE MADE PER LINEAR METER FOR ITEM 516, "STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS".

THERMAL NEUTRAL POINT OF THE SUPERSTRUCTURE IS THAT POINT WHICH HAS ZERO HORIZONTAL MOVEMENT DURING TEMPERATURE CHANGES.

LEGEND

- ① - THIS IS THE ACTUAL DISTANCE FROM THE CENTERLINE OF JOINT TO THE THERMAL NEUTRAL POINT OF THE SUPERSTRUCTURE MEASURED ALONG THE CENTERLINE OF ROADWAY. THIS DIMENSION SHALL BE A MAXIMUM OF 103 980 mm FOR 60° SKEWS, 118 835 mm FOR 45° SKEWS, 133 690 mm FOR 30° SKEWS AND 148 545 mm FOR 0° THRU 15° SKEWS.
- ② - THIS DISTANCE FOR EXPANSION JOINTS HAVING SKEW ANGLES OF 15° OR LESS IS THE ACTUAL DISTANCE TO THE THERMAL NEUTRAL POINT OF THE SUPERSTRUCTURE ALONG CENTERLINE OF ROADWAY. THIS DISTANCE FOR EXPANSION JOINTS HAVING SKEW ANGLES OVER 15° BUT NOT GREATER THAN 60° IS ARRIVED AT BY MULTIPLYING THE ABOVE DEFINED DISTANCE ALONG THE CENTERLINE OF ROADWAY BY THE COSINE OF THE EXPANSION JOINT SKEW ANGLE.
- ③ - THIS IS THE JOINT OPENING (DIMENSION "A") REQUIRED AT THE TIME OF ABUTMENT BACKWALL CONCRETE PLACEMENT, BASED ON THE DAY'S ANTICIPATED PEAK AMBIENT TEMPERATURE.
- ④ - MINIMUM JOINT OPENING (DIMENSION "A") AT TIME OF SEAL GLAND INSTALLATION SHALL NOT BE LESS THAN 40 mm. IF THE JOINT OPENING IS LESS, INSTALLATION SHALL BE POSTPONED UNTIL THE TEMPERATURE DROPS A SUFFICIENT AMOUNT TO ALLOW THE MINIMUM 40 mm OPENING.

	REQUIREMENT	ASTM METHOD
TENSILE STRENGTH, MPa	13.8	D412M
ELONGATION AT BREAK, PERCENT	250	D412M
SHORE A HARDNESS, POINTS	60 ± 5	D2240M (MODIFIED)
TEMPERATURE RESISTANCE, °C		D573M
TEMPERATURE RESISTANCE, °C MAX	20 PERCENT	

DESIGN AGENCY: OFFICE OF STRUCTURAL ENGINEERING

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

10-18-95 DATE

ADMINISTRATOR: *Richard L. Engle*

REVISIONS: 3-18-97

DESIGNED: A/JM
CHECKED: JS
DRAWN: A/JM

REVIEWED: L/MW
EX-J-6-95M

JOINTS
DETAILS