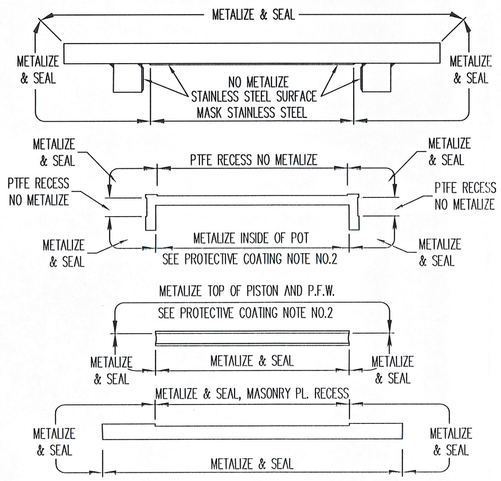
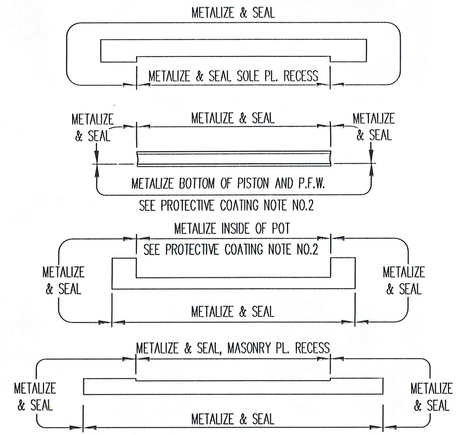


UNI-DIRECTIONAL VERSIFLEX HLMR COATING LIMITS



FIXED BEARING COATING LIMITS

PROTECTIVE COATING NOTES:

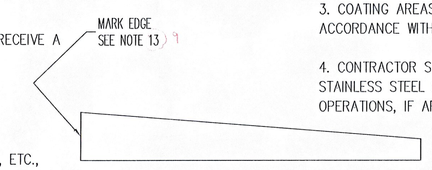
1. ALL MILL SCALE SHALL BE REMOVED FROM BEARINGS BY BLASTING (SSPC-SP10) PRIOR TO APPLYING PROTECTIVE COATING.

2. METALIZATION SHALL BE IN ACCORDANCE WITH ANSI/AWS C2.18-93 & SECTION 506.15b OF THE VT STANDARD SPECIFICATIONS. EXTERNAL STEEL SURFACES SHALL BE METALIZED TO A MINIMUM THICKNESS OF 6 MILS. THE INSIDE OF THE POT, PORTION OF PISTON IN CONTACT WITH ELASTOMER, AND THE P.F.W. SHALL BE METALIZED TO A MINIMUM COATING THICKNESS OF 2 MILS AND BE POLISHED TO 125 MICROINCHES AFTER METALIZING. PROVIDE WIRE MATERIAL FOR THE METALIZED PRIMER CONSISTING OF PURE ZINC (99.9% PURITY).

3. WITHIN 8 HOURS AFTER METALIZATION, THE EXTERNAL STEEL SURFACES SHALL RECEIVE A SEAL COAT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
   SEAL COAT = CARBOLINE RUSTBOND, D.F.T. = 2 MILS MIN.

4. SEE COATING LIMIT DETAILS FOR COATING LOCATIONS.

5. PRIOR TO METALIZING ALL CORNERS AND EDGES OF THE STEEL PLATES, SHAPES, ETC., SHALL BE GROUND TO 1/16" RADIUS.



SOLE PLATE EDGE DETAIL

GENERAL NOTES:

1. MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES [SECTION 14 (DIVISION I) AND SECTION 18 (DIVISION II)]; ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE AND THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006.

2. PTFE SHALL BE VIRGIN, UNFILLED POLYTETRAFLUOROETHYLENE. GUIDE BAR PTFE SHALL BE PIGMENTED. THE PTFE RESIN SHALL CONFORM TO THE REQUIREMENTS OF ASTM D4894.

3. PTFE IS TO BE PURCHASED ETCHED ON ONE SIDE FOR BONDING INTO MACHINED RECESS. STEEL MATING SURFACES OF PTFE AND STEEL SHALL BE GRIT BLASTED AND DEGREASED PRIOR TO APPLICATION OF ADHESIVE. ADHESIVE SHALL BE APPLIED USING DIRECTIONS SUPPLIED BY THE ADHESIVE MANUFACTURER.

4. STAINLESS STEEL SHALL CONFORM TO ASTM A240 – TYPE 304 AND SHALL BE 11 GA. (0.120"). STAINLESS STEEL SLIDING SURFACES IN CONTACT WITH PTFE SHALL HAVE A NO. 8 MIRROR FINISH AND ALL OTHERS SHALL HAVE A 2B FINISH.

5. WELDING SHALL CONFORM TO AWS-D1.5 BRIDGE WELDING CODE, AS WELL AS ANY STATE STANDARD OR PROJECT SPECIAL PROVISION.

6. THE TOP AND BOTTOM OF THE NEOPRENE DISC SHALL BE LUBRICATED WITH DOW CORNING #4 SILICONE COMPOUND.

7. ALL SHARP CORNERS OF STEEL MATERIALS SHALL BE REMOVED BY GRINDING OR SANDING.

8. THE BRASS SEALING RING ENDS SHALL BE CUT AT AN ANGLE OF 45° WITH A MAXIMUM GAP OF 0.050". THE RINGS SHALL BE STAGGERED 120° APART USING A QUANTITY OF THREE (3) RINGS.

9. EACH BEARING SHALL BE MARKED WITH THE MANUFACTURER'S NAME, THE BEARING TYPE OR MODEL NUMBER, THE BEARING NUMBER AND LOT NUMBER, UPSTATION MARK, AND THE INSTALLED LOCATION. THE MARKING SHALL BE PERMANENT AND IN A LOCATION THAT WILL BE VISIBLE AFTER ERECTION OF STRUCTURE.

10. EACH NON-FIXED BEARING SHALL HAVE MARKS PLACED ON THE TOP OF THE MASONRY PLATE AND SIDE OF THE SOLE PLATES/GUIDE BARS TO INDICATE THE LOCATION OF THE CENTERLINE. THIS MARK CAN BE USED IN THE FIELD TO DETERMINE THE INITIAL OFFSET LOCATION OF THE SLIDE PLATE, IF APPLICABLE. THE MARKS SHALL BE MADE IN INDELIBLE INK AND SHALL BE VISIBLE AFTER BEARING INSTALLATION.

11. BEARINGS ARE TO BE SHIPPED AS COMPLETE UNITS, STEEL BANDED, AND SHALL BE WRAPPED TO PROTECT FROM MOISTURE AND DIRT DURING TRANSIT AND STORAGE. BEARINGS SHALL BE STORED IN A CLEAN, DRY, LEVEL UPRIGHT POSITION WHILE AT JOBSITE. BEARINGS SHALL BE LIFTED FROM THEIR UNDERSIDES ONLY.

12. AT NO TIME MAY THE BEARINGS BE DISASSEMBLED WITHOUT AUTHORIZATION FROM D.S. BROWN OR WITHOUT THE PRESENCE OF A D.S. BROWN REPRESENTATIVE.

13. POT/PISTON INTERFACE SHALL BE CAULKED WITH SIKAFLEX 1A, OR APPROVED EQUAL PRIOR TO SHIPMENT.

14. VERSIFLEX HLMR "POT" STYLE BEARING MANUFACTURING FACILITY AND REPRESENTATIVE FOR COORDINATING PRODUCTION:
    THE D.S. BROWN COMPANY
    300 EAST CHERRY STREET
    NORTH BALTIMORE, OHIO 45872
    CSR – JAMIE SCHROEDER (419) 257-3561

CONTRACTOR NOTES:

1. THE EXPANSION BEARINGS WILL BE SHIPPED CENTERED, AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OFFSET THE SLIDE PLATES IN THE FIELD DURING INSTALLATION. IF REQUIRE, THE OFFSET WOULD BE PROVIDED TO THE CONTRACTOR BY THE BRIDGE DESIGNER.

2. WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE TEMPERATURE TO A MAXIMUM OF 200°F (93°C) FOR SURFACES IN CONTACT WITH THE ELASTOMER AND 300° (149°C) FOR SURFACES IN CONTACT WITH PTFE. TEMPERATURES SHALL BE DETERMINED BY TEMPERATURE INDICATING WAX PENCILS OR OTHER SUITABLE MEANS. DURING FIELD WELDING, NO WELDING CURRENT SHALL BE PERMITTED TO PASS BETWEEN POT AND PISTON COMPONENTS.

3. COATING AREAS DAMAGED DURING INSTALLATION OR FIELD WELDING SHALL BE REPAIRED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

4. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTION TO PROTECT THE PTFE & STAINLESS STEEL SLIDING SURFACES FROM SPLATTER DURING WELDING, GROUTING, OR PAINTING OPERATIONS, IF APPLICABLE.

SAMPLING AND TESTING NOTES:

ELASTOMERIC DISCS SHALL BE SUBJECTED TO RANDOM IN-HOUSE TESTING OF THE APPLICABLE PHYSICAL PROPERTIES PER AASHTO DIVISION 2, SECTION 18.

BEARINGS SHALL BE SUBJECTED TO THE TESTS DESCRIBED BELOW AND IN ACCORDANCE WITH THE APPLICABLE AASHTO SPECIFICATIONS.

1. SAMPLE TEST – ONE (1) BEARING PER "LOT" SHALL BE TESTED AND SHALL BE CHOSEN AT RANDOM. A "LOT" SHALL CONSIST OF ONE OF THE FOLLOWING:
   (1) NO MORE THAN 10 FIXED BEARINGS OF ONE "LOAD CATEGORY"
   (2) NO MORE THAN 10 EXPANSION BEARINGS OF ONE "LOAD CATEGORY"
   ONE LOAD CATEGORY MAY CONSIST OF BEARINGS OF A DIFFERING VERTICAL LOAD CAPACITY BUT THE BEARINGS MAY NOT EXCEED A RANGE OF CAPACITY DIFFERING BY MORE THAN 300 KIPS.

2. PROCEDURE FOR TESTING EXPANSION BEARINGS–
   a.) LOAD THE BEARING WITH ITS DESIGN LOADING FOR AT LEAST 12 HOURS. MEASURE THE FORCE REQUIRED FOR THE FIRST MOVEMENT AND CALCULATE THE COEFFICIENT OF FRICTION. MEASURE THE FORCE REQUIRED FOR MOVEMENT UNDER DYNAMIC LOADING AND CALCULATE THE COEFFICIENT OF FRICTION.
   b.) LOAD THE BEARING AT 70% OF THE DESIGN LOAD BUT NOT LESS THAN 2000 PSI. MEASURE THE STATIC AND DYNAMIC COEFFICIENTS OF FRICTION [70% OF DESIGN LOAD = 276.5 KIPS = 2.39 KSI].
   c.) LOAD THE BEARING AT 150% OF THE DESIGN LOAD FOR 30 MINUTES, AT A 2% ROTATION, AND SUBJECT THE BEARING TO 100 CYCLES OF MOVEMENT, MEASURE THE STATIC AND DYNAMIC COEFFICIENTS OF FRICTION.
   d.) COEFFICIENTS OF FRICTION SHALL BE LESS THAN 4%.

3. PROCEDURE FOR TESTING FIXED BEARINGS–
   a.) LOAD BEARING AT 150% OF ITS DESIGN LOAD FOR 30 MINUTES, AT A 2% ROTATION.

4. AFTER PERFORMING EACH TEST DESCRIBED IN (2) & (3) ABOVE, DISASSEMBLE THE BEARING AND INSPECT FOR:
   a.) ANY SIGN OF SEALING FAILURE.
   b.) ANY SIGN OF MATERIAL FAILURE.
   c.) ANY OTHER DEFECTS.

TOLERANCES:

THE DIMENSIONAL TOLERANCES AND SURFACE FINISHES OF THE BEARING SHALL SATISFY THE REQUIREMENTS OF AASHTO, DIVISION II, SECTION 18, TABLE 18.5.1.5-1.

RECEIVED
CK'D BY JEL OK'D BY JEL
JUN 05 2008
RESUBMIT ____ APPROVED JEL (AS NOTED)
BY DATE 6/24/08

REV.	DESCRIPTION	DATE	DET.	CK'D.

D.S. BROWN
THE D.S. BROWN COMPANY
300 E. CHERRY STREET
NORTH BALTIMORE, OHIO 45872
419.257.3561
FAX: 419.257.0332
WWW.DSBROWN.COM

LOCATION — VT RTE. 100 (MINOR ARTERIAL) OVER WHITE RIVER
—
PROJECT — (STP) BRF 013-4(21)
—
P.O. NO. — C2120
DESIGNER — VT DOT
CUSTOMER — WINTERSET, INC.

ITEM	QUANTITY
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–
–	–

DESCRIPTION:
GENERAL NOTES & COATING LIMITS
WINDSOR CO., VT

SCALE:	DRAWN BY:	CHECKED BY:	DATE:	
N.T.S.	DA	RSS	5/29/08	–
PROJECT NUMBER		PRODUCT CODE	RELEASE	SHEET
23160		1112	1	GN1