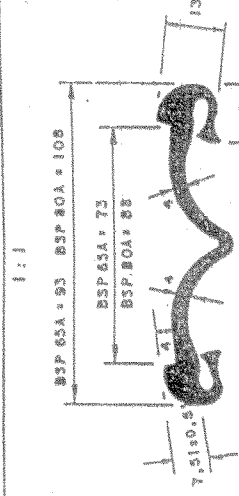
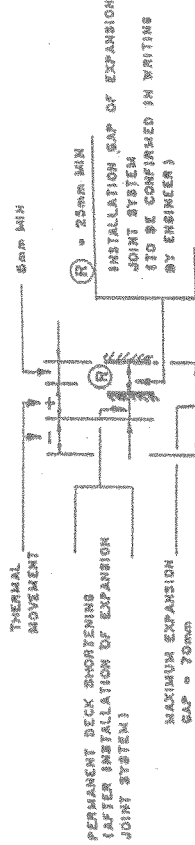


DETAIL OF BSP 65A/80A PROFILE AND ANCHORAGE

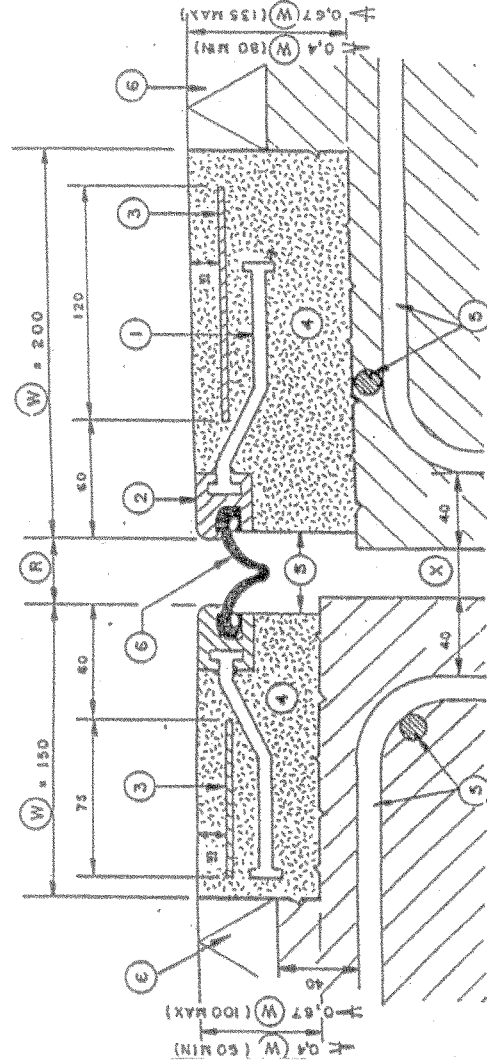


DETAIL OF SEALING STRIP



PERMISSIBLE MOVEMENT RANGE OF JOINT

N. T. S.



TYPICAL DETAIL AT TRAFFIC LANES AND SHOULDERS

1:2,5

**LEGEND:**

- ① BSP65A EXTRUDED ALUMINIUM PROFILES AND ANCHORS (ANCHORS WELDED TO PROFILES AT CENTRES - NOT GREATER THAN 150mm)
- ② EXPANDED METAL REINFORCEMENT.
- ③ ZENLAY "FLEXICON" ELASTOMERIC CONCRETE NOSINGS.
- ④ STRUCTURAL REINFORCEMENT.
- ⑤ ASPHALT SURFACING.
- ⑥ INSTALLATION GAP OF EXPANSION JOINT SYSTEM.
- ⑦ EXPANSION GAP BETWEEN "FLEXICON" NOSINGS (R + 8mm)
- ⑧ EXPANSION GAP BETWEEN STRUCTURAL ELEMENTS AT TIME OF TIME OF INSTALLATION OF EXPANSION JOINT SYSTEM.

**NOTES:**

1. **GENERAL:**
  - 1.1 THIS DRAWING DETAILS THE BSP 65A ALUMINIUM PROFILES AND ANCHORS CAST INTO BSP "FLEXICON" ELASTOMERIC CONCRETE NOSINGS, CATERING FOR A TOTAL MOVEMENT RANGE OF 65mm.
  - 1.2 THE JOINT CONFIGURATION WILL BE ADJUSTED TO MATCH THE "AS CONSTRUCTED" PROFILES OF THE PARAPETS, SKEW ANGLE AND BRIDGE DECK PROFILE FOR EACH INDIVIDUAL BRIDGE.
  - 1.3 FOR EXISTING WORK REQUIRING JOINT REPLACEMENT, THE POSITIONS OF THE BENDS IN THE EXPANSION JOINT SYSTEM WILL MATCH THE JOINT LAYOUT AND BRIDGE DECK PROFILE OF THE INDIVIDUAL BRIDGES.
  - 1.4 COMBINED VERTICAL AND HORIZONTAL BENDS WILL BE AVOIDED BY PROVIDING DEEPER RECESSES INTO THE PARAPET AND/OR KERB FACES TO ACCOMMODATE THE BENT-UP SECTIONS OF THE JOINT PROFILES.
  - 1.5 THE EXPANSION JOINT SYSTEM DOES NOT RELY ON ANY REINFORCEMENT PROTRUDING INTO THE RECESSES. EXISTING REINFORCEMENT WILL BE REMOVED ONLY WHEN SPECIFIED IN THE PROJECT SPECIFICATIONS OR ON WRITTEN INSTRUCTION BY THE ENGINEER.
2. **DESIGN LOADINGS:**

THE ALUMINIUM PROFILES AND ANCHORS ARE DESIGNED TO RESIST A NOMINAL TRAFFIC LOAD TAKEN AS A UNIFORMLY DISTRIBUTED HORIZONTAL LOAD OF 80 kN/m ACTING AT RIGHT ANGLES TO THE JOINT AT CARRIAGEWAY LEVEL.

**MATERIALS AND MANUFACTURING:**

- 3.1 **BSP 65 PROFILES AND ANCHORS:**
  - 3.1.1 THE PROFILES AND ANCHORS ARE WELDABLE EXTRUDED FROM ALUMINIUM ALLOY 6261-T6 TO THE DIMENSIONS AND TOLERANCES SHOWN ON THIS DRAWING.
  - 3.1.2 THE ANCHORAGES WILL BE FACTORY WELDED TO THE CLAW PROFILES. (SITE WELDING OF ALUMINIUM PROFILES IS NOT RECOMMENDED).
  - 3.1.3 WELDING WILL BE BY THE TIG PROCESS (TUNGSTEN INERT GAS) IN ACCORDANCE WITH THE GUIDELINES GIVEN IN "ALUMINIUM DESIGN GUIDE 1" AND "INTRODUCTION TO ALUMINIUM" PRODUCED BY THE ALUMINIUM FEDERATION OF SOUTH AFRICA AND BS 8118.
  - 3.1.4 THE EXPANSION JOINT ASSEMBLY WILL BE SUPPLIED AND INSTALLED IN STANDARD 3.5 METRE LENGTHS WITH MAKE-UP PIECES OF NOT LESS THAN 1.0 METRE IN ORDER TO:
    - a) ALLOW MOVEMENT DUE TO THERMAL EFFECTS AT BUTTING ENDS (SEE DETAILS ON PLAN NO. BSP 2/2)
    - b) FABRICATE LANE BY LANE CONSTRUCTION AT EXISTING JOINT REPLACEMENTS.
- 3.2 **ZENLAY "FLEXICON" ELASTOMERIC CONCRETE NOSINGS:**
  - 3.2.1 THE RECOMMENDED MINIMUM WIDTHS OF THE "FLEXICON" NOSINGS ARE AS FOLLOWS:
    - a) 200mm WIDE ROADS CARRYING MORE THAN 3000 VEHICLES PER LANE PER DAY OR ROADS CARRYING MORE THAN 2000 VEHICLES PER LANE PER DAY OF WHICH MORE THAN 15% ARE CLASSIFIED AS HEAVY.
    - b) 150mm WIDE ROADS WITH LOWER TRAFFIC INTENSITY.

- 3.2.2. THE "FLEXICON" NOSINGS COMPRISES THE FOLLOWING COMPONENTS:
  - i) PART A FLUID CLEAR ELASTOMERIC RESIN
  - ii) PART B FLUID BLACK TAR EXTENDED CURING AGENT
  - iii) PART C SELECTED GRADED AGGREGATE

THE AGGREGATE WILL BE A SELECTED GOOD QUALITY CLEAN WASHED, CRUSHED STONE COMPLYING WITH SABS 1083 AND THE FOLLOWING REQUIREMENTS:

- (a) FLAKINESS INDEX (TMB1 METHOD B3) : 35%  
(FOR 13,2 AND 9,5mm AGGREGATE FRACTIONS)
- (b) AGGREGATE CRUSHING VALUE (ACV), DRY, % : 25% MAX.  
(SABS 841)
- (c) GRADING: % PASSING SIEVE SIZES (mm) (SABS METHOD 829)
 

85 to 100	13,2mm
65 to 95	9,5mm
65 to 85	6,7mm
60 to 75	4,75mm
30 to 50	2,36mm
25 to 45	1,18mm
20 to 40	0,6mm
5 to 25	0,3mm
0 to 10	0,075mm

THE AGGREGATE IS SUPPLIED BY DSC-ZENDON cc IN PRE-MEASURED SEALED POCKETS.

- 3.2.4. THE BLENDED PRODUCT WILL COMPLY WITH THE FOLLOWING:
  - GEL TIMES - ± 30 MINUTES AT 20°C TO ± 10 MINUTES AT 40°C
  - CURING TIME - SEE NOTE 2.18 ON PLAN NO. BSP 2/3.
  - FLEXIBILITY OF "FLEXICON" NOSINGS (BINDER ONLY): MEASURED TO 10% DEFLECTION ON A COMPRESSOMETER WITHOUT FAILURE.

**REINFORCEMENT:**

- 3.3.1. THE EXPANDED METAL REINFORCEMENT WILL BE 30/80/30/30 "VALMATEX" TYPE NUMBER VEM 335G OR "MENTIS" REF. NO. 63 MANUFACTURED FROM MILD STEEL.
- THE STRIPS OF REINFORCEMENT WILL BE WIRED BRUSHED AND FREE OF DUST, OIL OR ANY FOREIGN MATTER THAT SHALL IMPAIR THE BOND WITH THE "FLEXICON" BINDER BEFORE CASTING INTO "FLEXICON" NOSINGS.

**LIMITING FACTORS:**

- 4.1. WHEN GRADES MEASURED ALONG THE LENGTH OF THE JOINTS EXCEED 4%, SPECIAL ATTENTION WILL BE PAID TO THE INSTALLATION PROCEDURE IN ORDER TO ENSURE THAT THE FINISHED NOSINGS ARE SMOOTH AND LEVEL WITH THE ADJACENT ASPHALT SURFACING.

**INSTALLATION:**

5. INSTALLATION OF THE EXPANSION JOINT SYSTEM, COMPLETE WITH COVER PLATES, WILL BE AS DESCRIBED ON PLAN NO. BSP 2/2 AND BSP 2/3.

**GUARANTEES AND DETAIL DRAWINGS:**

- 6.1. IT IS CONFIRMED THAT THIS EXPANSION JOINT SYSTEM:
  - (a) COMPLIES WITH THE LOAD REQUIREMENTS SPECIFIED IN CLAUSE 2.
  - (b) IS GUARANTEED TO PROVIDE A STABLE, FLEXIBLE, COMPLETELY WATERTIGHT CORROSION AND MAINTENANCE FREE SYSTEM FOR A PERIOD OF FIVE YEARS FROM THE DATE OF FINAL ACCEPTANCE BY THE ENGINEER AND THAT ANY DEFECT RESULTING FROM DEFECTIVE MATERIALS, INSTALLATIONS AND/OR WORKMANSHIP WILL BE REPAIRED BY THE CONTRACTOR AT HIS COST.

PRIOR TO THE INSTALLATION OF THE EXPANSION JOINTS, THE CONTRACTOR WILL SUBMIT TO THE ENGINEER FOR APPROVAL, DETAIL DRAWINGS SHOWING THE FOLLOWING:

- ANY VARIATIONS TO THE DETAIL OR PROCEDURES CONTAINED ON THESE DRAWINGS.
- DETAILS FOR ADDITIONAL ITEMS NOT COVERED ON THESE DRAWINGS.

**MANUFACTURERS:**

- 7.1. ALL COMPONENTS OF "FLEXICON" ELASTOMERIC CONCRETE ARE MANUFACTURED / SUPPLIED BY:
 

DSC-ZENDON cc  
42 MICHELSON ROAD, ANDERBOLT, BOKSBURG  
PO BOX 6221, DUNSWART 1508  
TEL No. (011) 894-1129. FAX No. (011) 894-2612

**LICENSEES:**

- DSC-Zendon cc  
• MBR cc

TEL No. (011) 894-1129  
TEL No. (011) 894-1129

**DSC-ZENDON cc**

42 Michelson Road, Anderbolt, Boksburg  
PO Box 6221,  
Dunswart 1508

Tel. No.: 011-894-1129  
Fax No.: 011-894-2612  
email: info@zendon.co.za

BRIDGE DECK EXPANSION JOINTS  
BSP PROPRIETARY JOINTS - MOVEMENTS > 80mm  
BSP 65A CAST INTO FLEXICON CONCRETE NOSINGS  
GENERAL DETAILS

SCALE:

AS SHOWN

PLAN No.:

DZ / 7

SHEET 1 OF 1

No.	DATE	AMENDMENTS	APPROVED
1	01/07/2005	Removed all referral to BSP 80A	