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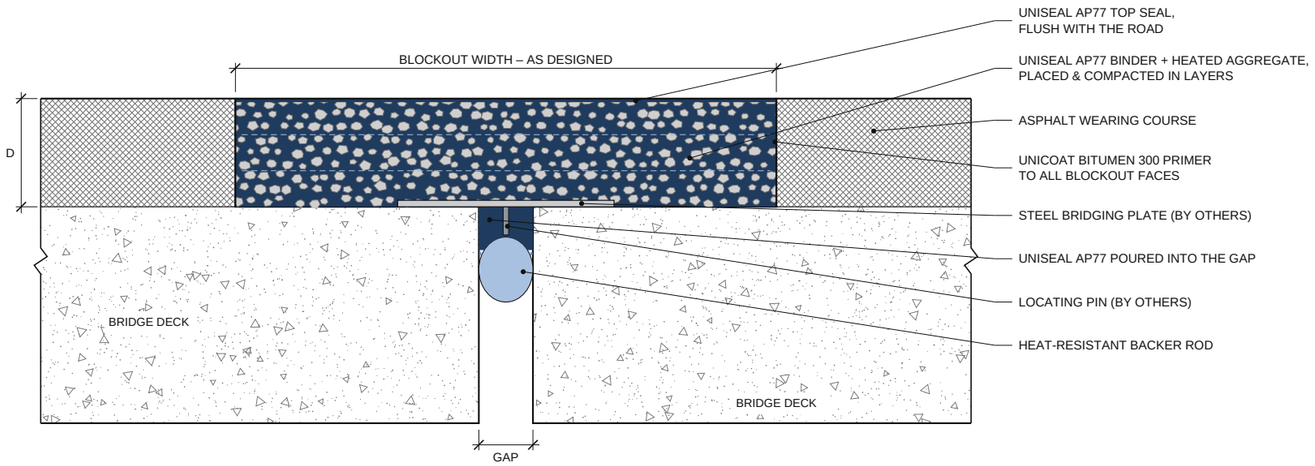
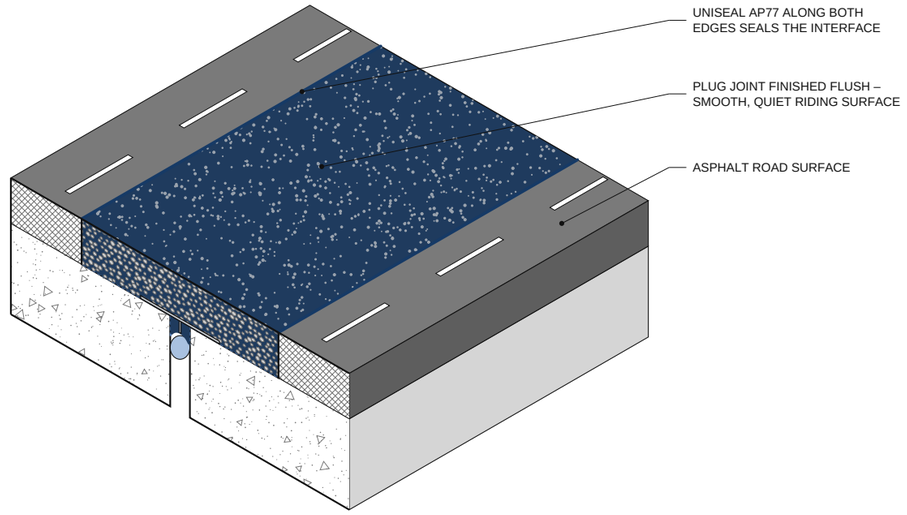


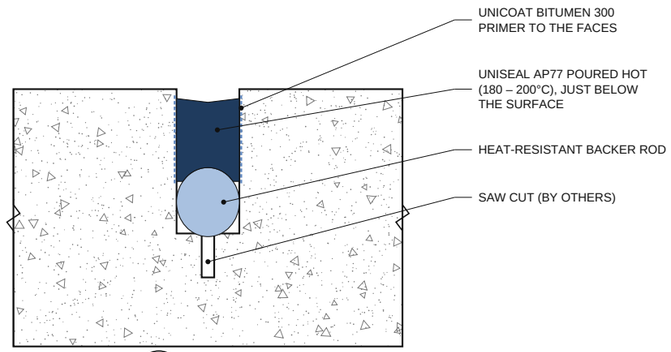

## 1 ASPHALTIC PLUG JOINT

SECTION – BRIDGE EXPANSION JOINT, NOT TO SCALE



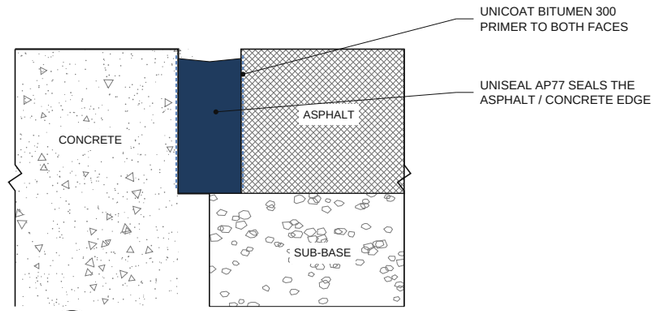

## 2 ASPHALTIC PLUG JOINT

3D VIEW – JOINT ACROSS THE CARRIAGEWAY



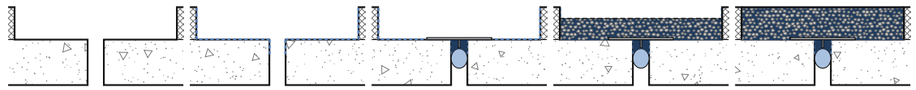

## 3 PAVEMENT JOINT

SECTION – CONCRETE ROAD / APRON / WAREHOUSE




## 4 ASPHALT / CONCRETE JUNCTION

SECTION – CUT, PRIME AND POUR




Steps 1 – 2 and heating as TDS; steps 3 – 5 follow common asphaltic plug joint practice – follow the specification and the joint designer's method statement.

## 5 INSTALLATION SEQUENCE – APJ

POUR WITHIN 6 h OF PRIMING; AP77 HEATED 180 – 200°C, NEVER ABOVE 200°C

## UNISEAL AP77 BITUMEN JOINT (REFER TO TDS)

| PROPERTY | TEST | VALUE |
|---|---|---|
| **Material / colour** | – | Rubberised bitumen, black |
| **Softening point** | ASTM D36 | > 95°C |
| **Flow resistance** | ASTM D1191 | 1mm max. @ 60°C, 5 h |
| **Cone penetration** | ASTM D217 | 10 – 30 dmm @ 25°C |
| **Flash point** | ASTM D92 | approx. 250°C |
| **Pouring temperature** | – | 180 – 200°C |
| **Application temperature** | – | above 5°C |
| **Extension** | BS 2499 | 3 cycles to 50% @ 25°C |
| **Formulated to** | – | ASTM D1190, BS 2499 |
| **Packing / shelf life** | – | 20kg carton / 36 months |

## AGGREGATE FOR THE PLUG JOINT (TDS)

| PROPERTY | TDS VALUE |
|---|---|
| **Aggregate abrasion value** | max. 5.0 |
| **Polished stone value** | min. 62 |
| **Aggregate impact value** | max. 16 |
| **Aggregate crushing value** | 10 – 25% |

## COVERAGE – SEALANT USE (TDS)

| JOINT (W x D) | kg / m RUN |
|---|---|
| **10mm x 25mm** | 0.40 |
| **30mm x 25mm** | 1.20 |

**kg / m run = W (mm) x D (mm) x 0.0016 – theoretical, add site wastage.**
For estimating only. Joint sizes as specified by the consultant.

D1: D = surfacing depth. Blockout, gap and plate sizes are not to scale.

## GENERAL NOTES (FOR GUIDANCE ONLY)

1. UNISEAL AP77 is the hot-applied binder for asphaltic plug bridge expansion joints and a hot-poured sealant for horizontal joints in asphalt or concrete pavements, bridges, aprons, terminals and parking areas (TDS).
2. Surfaces structurally sound, clean, dry and free of laitance, curing compound and loose material – high-pressure water or light grit blasting. Repair honeycombed or damaged concrete first (TDS).
3. Prime all faces with UNICOAT BITUMEN 300; allow at least 30 min to dry and pour within 6 hours. Joint must be dry (TDS).
4. Melt in an oil-jacketed kettle with thermometer and stirrer. Pour at 180 – 200°C, never above 200°C; use within 2 hours of melting and do not re-heat material that has gone cold (TDS).
5. Joint gap, blockout size, plate, aggregate grading and layer thickness as designed by the bridge engineer / supplier.
6. Keep hot AP77 away from water. Fire: foam or dry-powder extinguisher and sand – never water. Ignites above 250°C.

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**DISCLAIMER – FOR ILLUSTRATION ONLY, NOT FOR CONSTRUCTION**

This drawing is a generic product illustration. It is NOT an engineering design and has not been prepared, checked or endorsed by a professional engineer. Unity Reliance (M) Sdn Bhd is a product supplier, not a design consultant. All sizes, bedding thickness, edge distances, reinforcement, dowels and installation details shall be designed, verified and approved by the project's qualified engineer. Unity Reliance (M) Sdn Bhd accepts no responsibility for structural design, site conditions, workmanship, or any loss or damage arising from the use of this drawing. Product supply is governed by the relevant TDS and terms of sale.

**REVISIONS**

| REV | DATE | DESCRIPTION |
|---|---|---|
| 0 | 29/10/26 | FIRST ISSUE |
| A | 30/10/26 | SEALANT ON BACKER ROD |
| B | 12/11/26 | TDS VALUES & COVERAGE FORMULA |

PRODUCT
**UNISEAL AP77 BITUMEN JOINT**
**UNICOAT BITUMEN 300 / HEAT-RESISTANT BACKER ROD**

DRAWING TITLE
**UNISEAL AP77 ASPHALTIC PLUG JOINT & HOT-POURED SEALANT**

DRAWING NO.
**UR-SL-04**

REV
**B**

| SCALE | SIZE | DATE | DRAWN |
|---|---|---|---|
| NTS | A3 | 12/11/26 | UR |

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