

UNITY
RELIANCE

Expansion Joint
System

UNISEAL®

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UNISEAL® PU

POLYURETHANE JOINT SEALANT



Product Features

UNISEAL® PU is a one-component, moisture-curing polyurethane joint sealant with a high solids content. It cures at room temperature to a tough, elastic seal with good weather, abrasion and low-temperature resistance.

It bonds strongly to concrete, masonry, metals, timber and most construction materials and accommodates joint movement of ±25%. Once cured, it is non-corrosive and non-staining, and can be painted over.

UNISEAL® PU is widely used for sealing expansion, control and perimeter joints in buildings, precast panels, roads, bridges and airfields.

Advantages

Single-Component, Ready-to-Use Application
Superior Multi-Substrate Adhesion
Paintable with Most Coating Systems
Exceptional Weathering & Ageing Resistance
Low-Odour & Environmentally Friendly Formulation
Abrasion, Water & Cold Temperature Resistance
Non-Corrosive & Non-Staining Properties
High Elasticity, Tear & Cut Resistance

Fields of Application

Buildings & Balconies	Precast Concrete Joints
Parapet Walls	Sealing of Roads & Bridges
Bathrooms & Kitchen Installation	Airstrips
Wooden Frames Around Doors, Windows & Walls	Curtain Wall Perimeter Joints
Roof, Floor & Tile Movement Joints	Concrete Panels, Subways & Underground Tunnels

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Technical Properties

Property	Value
Appearance	Thixotropic paste
Cure Method	Moisture curing
Specific Gravity (ASTM D792)	1.55 ± 0.05
Curing Rate	> 2 mm / 24 hours
Skin Formation	60 – 180 minutes
Shore 'A' Hardness (ASTM D2240)	35 – 45
Tensile Strength at Break (ASTM D412)	> 1.5 MPa
Elongation at Break (ASTM D412)	> 500%
Tear Resistance (ISO 34)	Minimum 6.5 N/mm
Modulus at 100% Elongation (ISO 8339)	≤ 0.4 MPa
Movement Capability	±25%
Total Joint Movement	50%
Resistance to UV Radiation & Weathering	Good
Service Temperature	-40°C to +80°C
Application Temperature	+5°C to +35°C
VOC Content	35 g/L

Typical properties after curing at 23°C and 50% relative humidity.

Physical Properties

Material	Polyurethane (PU)
Colour	White / Grey / Black
Size & Packing	UNISEAL® PU – 600 ml sausage / 20 sausages per carton UNISEAL® PRIMER – 1 litre tin
Primer Coverage	Approximately 30 – 50 litres sealant per litre

Paintability

UNISEAL® PU can be painted after it has fully cured. Paints and coatings containing solvents may cause the sealant to react and become tacky, and some coatings may crack or craze due to the cyclic movement of the joint. Always carry out a field test to confirm compatibility with the chosen coating.

Storage & Shelf Life

Store in a cool, dry place away from heat and direct sunlight (air-conditioned storage in hot climates). Shelf life: 12 months in unopened condition.

Cleaning

Remove masking tape before the sealant skins over. Clean uncured sealant from tools with solvent or xylene; cured sealant can only be removed mechanically.

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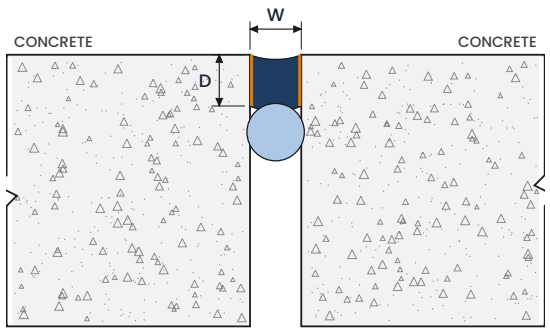
Joint Design Geometry

To ensure that the correct joint width to depth ratio is achieved and to prevent the sealant from adhering to the bottom of the joint, use a tight-fitting backing material such as **UNIFLEX® PE Backer Rod**. Do not puncture the skin of the backer rod during installation, as this can cause bubbling in the uncured sealant as the temperature rises. Do not use oil or tar impregnated backing materials.

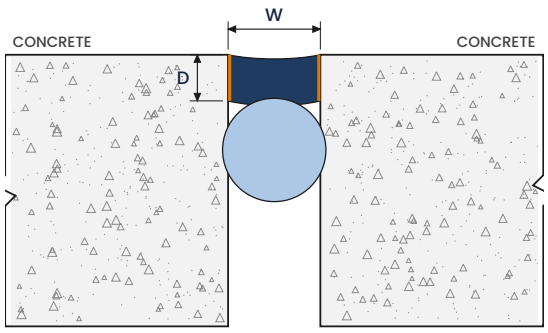
Minimum joint depth 6mm : maximum joint width 35mm for vertical installation

1 JOINTS UP TO 12MM WIDE Not to scale



Width : Depth = 1 : 1

2 JOINTS OVER 12MM WIDE Not to scale



Width : Depth = 2 : 1

Coverage

Theoretical calculation formula as below :-

Width (mm) x Depth (mm) x Length (m) / 1000 = Volume (litres)

Length of joint in metres filled per sausage of 600ml of **UNISEAL® PU**

Depth (mm)	Width (mm)					
	5	10	15	20	25	30
5	24	12	8	–	–	–
10	–	6	4	3	–	–
15	–	–	2.67	2	1.6	1.33
20	–	–	–	1.5	1.2	1
25	–	–	–	–	0.96	0.8

*Calculation based on theoretical coverage. Actual material consumption at site will vary depending on the wastage.

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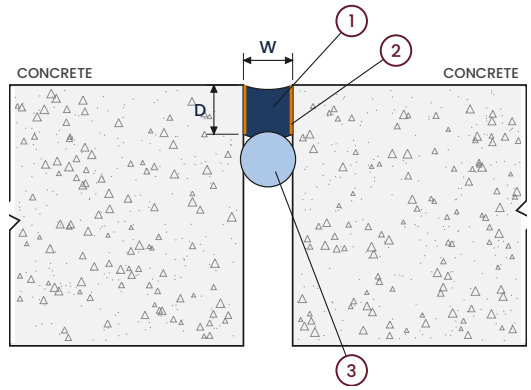
Typical Drawing & Application

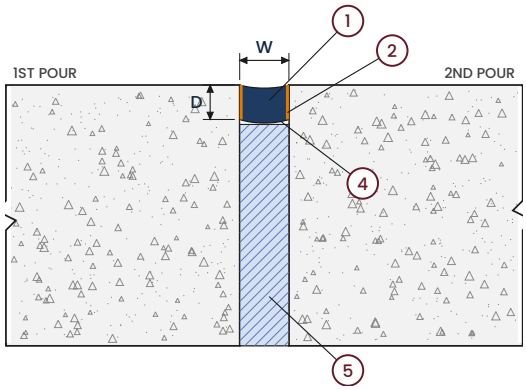
1 SEALANT ON BACKER ROD

Not to scale



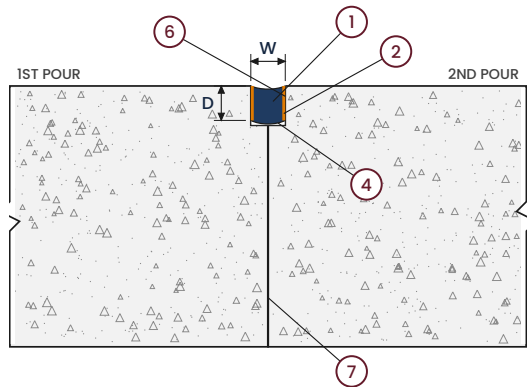
2 SEALANT OVER FILLERBOARD

Not to scale



3 SEALED GROOVE

Not to scale



4 WHY A BOND BREAKER

Not to scale



LEGEND

1. UNISEAL® joint sealant
2. UNISEAL® PRIMER (porous surfaces)
3. UNIFLEX® PE backer rod
4. UNIFLEX® PE bond breaker tape
5. UNIFLEX® fillerboard
6. Formed or saw-cut groove
7. Construction joint

Illustrations only – not for construction. Refer to drawing UR-SL-01.

Accessories



UNISEAL® PRIMER



BARREL GUN



MASKING TAPE

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Installation Procedures

1 Surface Preparation | Primer (If Required) | 3 Sealant Application | 4 Finishing & Cleaning

Step 1
SURFACE PREPARATION

UNISEAL® PU should be applied when the ambient temperature is between **+5°C and +35°C**, using a hand-operated or air-powered barrel gun.

Before application, all joint surfaces must be **clean, dry and free from dust, oil, laitance, loose particles or any contaminants** that may impair adhesion. Surface preparation may include **wire brushing, grinding, sandblasting or solvent wiping**. On glazed or non-porous substrates such as ceramic, terrazzo or porcelain enamel, **abrade the surface** with sandpaper or a wire brush to promote mechanical adhesion.

Step 2
PRIMER (IF REQUIRED)

UNISEAL® PRIMER is required on porous substrates (concrete, mortar, masonry) and in joints that will be immersed in water. On dry, sound, non-porous joints it is optional, as **UNISEAL® PU** has good inherent adhesion to clean, prepared surfaces. Where used, apply the primer by brush and allow it to dry (1 – 2 hours) before applying the sealant.

Step 3
SEALANT APPLICATION

Position a suitable **backer rod (e.g. UNIFLEX® PE Backer Rod)** at the bottom of the joint to set the correct depth and prevent three-sided adhesion, which can inhibit movement.

Cut the nozzle of the sausage pack to the required size and insert it into the joint, ensuring an **even and continuous bead** and **avoiding air entrapment**. Tool the surface immediately with a spatula or jointing tool to ensure **full contact with the joint sides** and a neat finish.

Step 4
FINISHING & CLEANING

Remove any masking tape before the sealant skins over. Clean excess uncured sealant with solvent or xylene. **Cured sealant must be removed mechanically.**

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UNISEAL® PU PRO

FAST CURE TRAFFICABLE POLYURETHANE JOINT SEALANT



Product Features

UNISEAL® PU PRO is a one-component, fast-curing, high-performance polyurethane sealant and adhesive. Its thixotropic, moisture-curing formulation gives high mechanical strength and excellent weathering resistance, making it suitable for trafficked joints in floors, roads, runways and pavements as well as general building joints.

Advantages

ASTM C920 Class 25 – ±25% Movement Capability
Superior Adhesion to Porous & Non-Porous Substrates
Exceptional Weathering & Long-Term Durability
High Hydrocarbon, Skydrol & Aviation Fuel Resistance
Non-Sag in Vertical Joints up to 35 mm Wide
Rapid Tack-Free & Short Skinning Time
Fungal & Biological Growth Resistance
Low VOC Formulation
Non-Hazardous Safety Classification

Fields of Application

Construction & Control Joints	Retaining Walls
Expansion Joints in Buildings	Brickwork, Stone & Ceramic Joints
Precast & Tilt-Up Panel Joints	Sanitary Applications
Window & Door Perimeter Joints	Bonding Aluminium Composite Panels
Wall & Floor Penetrations	Trafficable Joints – Stairs, Roads, Runways

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Technical Properties

Property	Value
Classification (ASTM C920)	Type S, Grade NS, Class 25, Use T1, NT, M, G, A
Cure Method	Moisture curing
Specific Gravity	1.16 ± 0.03
Curing Rate	3 – 4 mm / 24 hours
Skin Formation	45 – 60 minutes
Extrusion Rate (ASTM C1183)	> 50 ml/min
Sag – Vertical (ASTM C639)	None
Shore 'A' Hardness (ASTM C661)	35 ± 5
Tear Resistance (ISO 34)	Minimum 6.5 N/mm
Elongation at Break (ASTM D412)	> 500%
Movement Capability (ASTM C719)	±25% – no loss of bond
Adhesion-in-Peel (ASTM C794)	> 40 N, cohesive failure
Adhesion-in-Peel after UV (ASTM C920)	> 100 N, no bond loss
Heat Ageing (ASTM C1246)	Weight loss < 1%, no cracking
Accelerated Weathering (ASTM C793)	No cracking after UV & bend
Staining (ASTM C510)	No staining / colour change
Service Temperature	-40°C to +80°C
Application Temperature	+5°C to +35°C
VOC Content	35 g/L

Typical properties after curing at 23°C and 50% RH. Adhesion tests on aluminium, glass and mortar (primed).

Physical Properties

Material	Polyurethane (PU)
Colour	White / Grey / Black
Size & Packing	UNISEAL® PU PRO – 600 ml sausage, 20 per carton UNISEAL® PRIMER – 1 litre tin
Primer Coverage	Approximately 30 – 50 litres sealant per litre

Paintability

UNISEAL® PU PRO can be painted once fully cured and is compatible with water-based paints. Solvent-based paints and coatings may cause the sealant to react and become tacky, and some coatings may crack or craze due to the cyclic movement of the joint. Always carry out a field test to confirm compatibility with the chosen coating.

Storage & Shelf Life

Store unopened sausages in a dry place between +5°C and +25°C (ideally +10°C to +25°C before use). Shelf life: 12 months from date of manufacture.

Cleaning

Scrape off excess sealant, then wipe tools with a rag; xylene or solvent removes any thin film. Cured material can only be removed mechanically.

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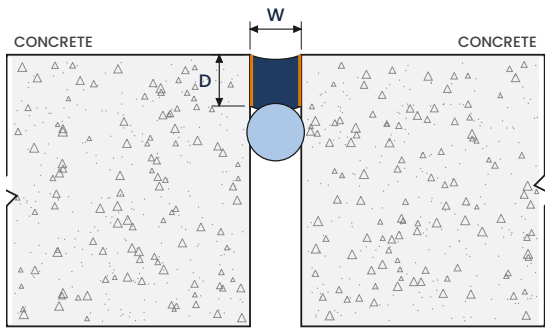
Joint Design Geometry

To ensure that the correct joint width to depth ratio is achieved and to prevent the sealant from adhering to the bottom of the joint, use a tight-fitting backing material such as **UNIFLEX® PE Backer Rod**. Do not puncture the skin of the backer rod during installation, as this can cause bubbling in the uncured sealant as the temperature rises. Do not use oil or tar impregnated backing materials.

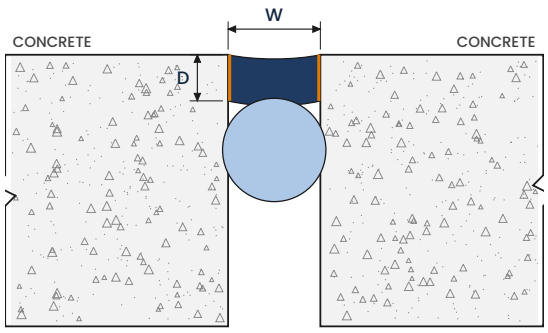
Minimum joint depth 6mm : maximum joint width 35mm for vertical installation

1 JOINTS UP TO 12MM WIDE Not to scale



Width : Depth = 1 : 1

2 JOINTS OVER 12MM WIDE Not to scale



Width : Depth = 2 : 1

Coverage

Theoretical calculation formula as below :-

Width (mm) x Depth (mm) x Length (m) / 1000 = Volume (litres)

Length of joint in metres filled per sausage of 600ml of **UNISEAL® PU PRO**

Depth (mm)	Width (mm)					
	5	10	15	20	25	30
5	24	12	8	6	4.8	4
10	12	6	4	3	2.4	2
15	8	4	2.67	2	1.6	1.33
20	6	3	2	1.5	1.2	1
25	4.8	2.4	1.6	1.2	0.96	0.8

*Calculation based on theoretical coverage. Actual material consumption at site will vary depending on the wastage.

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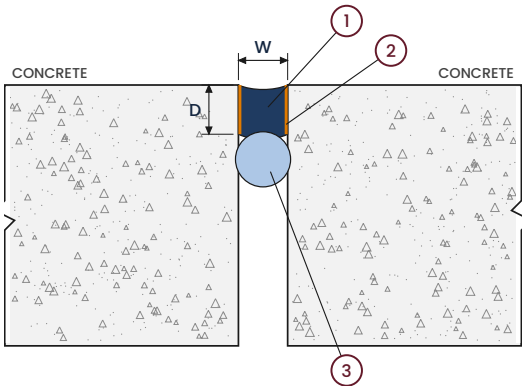
Typical Drawing & Application

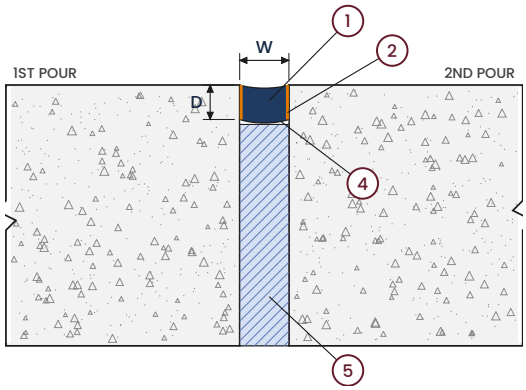
1 SEALANT ON BACKER ROD

Not to scale



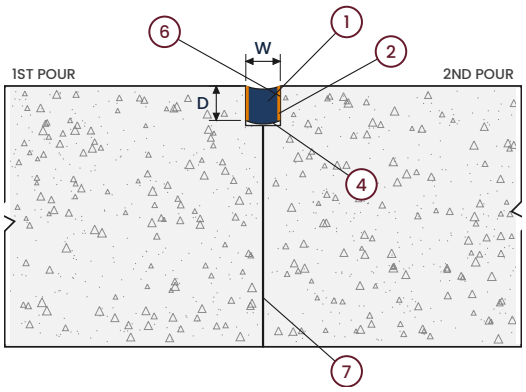
2 SEALANT OVER FILLERBOARD

Not to scale



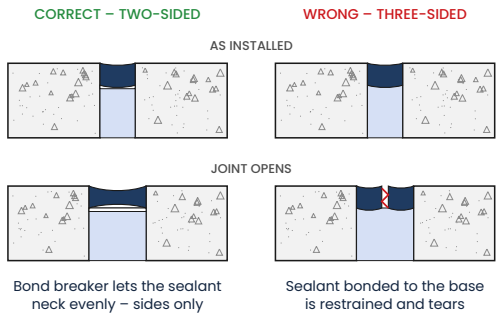
3 SEALED GROOVE

Not to scale



4 WHY A BOND BREAKER

Not to scale



LEGEND

1. UNISEAL® joint sealant
2. UNISEAL® PRIMER (porous surfaces)
3. UNIFLEX® PE backer rod
4. UNIFLEX® PE bond breaker tape
5. UNIFLEX® fillerboard
6. Formed or saw-cut groove
7. Construction joint

Illustrations only – not for construction. Refer to drawing UR-SL-01.

Accessories



UNISEAL® PRIMER



BARREL GUN



MASKING TAPE

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Installation Procedures

1 Surface Preparation	Primer (If Required)	3 Sealant Application

Step 1
SURFACE PREPARATION

UNISEAL® PU PRO should be applied when the ambient temperature is between **+5°C and +35°C**, using a hand-operated or air-powered barrel gun.

Before application, all joint surfaces must be **clean, dry and free from dust, oil, laitance, loose particles or any contaminants** that may impair adhesion. Surface preparation may include **wire brushing, grinding, sandblasting or solvent wiping**. On glazed or non-porous substrates such as ceramic, terrazzo or porcelain enamel, **abrade the surface** with sandpaper or a wire brush to promote mechanical adhesion.

Step 2
PRIMER (IF REQUIRED)

UNISEAL® PRIMER is required on porous substrates (concrete, mortar, masonry) and in joints that will be immersed in water. On dry, sound, non-porous joints it is optional, as **UNISEAL® PU PRO** has good inherent adhesion to clean, prepared surfaces. Where used, apply the primer by brush and allow it to dry (1 – 2 hours) before applying the sealant.

Step 3
SEALANT APPLICATION

Position a suitable **backer rod (e.g. UNIFLEX® PE Backer Rod)** at the bottom of the joint to set the correct depth and prevent three-sided adhesion, which can inhibit movement.

Cut the nozzle of the sausage pack to the required size and insert it into the joint, ensuring an **even and continuous bead** and **avoiding air entrapment**. Tool the surface immediately with a spatula or jointing tool to ensure **full contact with the joint sides** and a neat finish. Remove any masking tape before the sealant skins over.

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UNISEAL® MS POLYETHER

ADVANCED MS POLYMER WATER INDUSTRY SEALANT



Product Features

UNISEAL® MS POLYETHER is a single-component, moisture-curing MS polymer sealant specially formulated for drinking water and waterworks projects – potable water tanks, reservoirs, water treatment plants (WTP), sewage treatment plants (STP), dams and other water-retaining structures. It is designed to stay permanently submerged without losing adhesion or elasticity.

UNISEAL® MS POLYETHER has been tested to **MS 1583 : Part 1 : 2003** for non-metallic products in contact with water intended for human consumption – covering odour and flavour, appearance of water, growth of aquatic microorganisms and extraction of metals – and has passed the **cytotoxicity test** under MS 1583 : Part 2.

It bonds strongly to concrete, metals, plastics and most construction materials, and cures even on damp or wet surfaces. With a movement capability of ±25% (50% total), it accommodates thermal expansion, vibration and settlement while staying watertight under hydrostatic pressure. It is UV and weather resistant, low in odour and VOC, and paintable once fully cured.

SUITABLE FOR DRINKING WATER CONTACT
Tested to MS 1583 and cytotoxicity test

Advantages

Drinking Water Contact Tested (MS 1583)
Watertight & Leakproof Protection
Superior Water Resistance
High Hydrostatic Water Pressure Resistance
Long-Term Flexibility & Durability
Low VOC Content

Fields of Application

Water Treatment Plant	Swimming Pools & Spas
Sewerage Treatment Plant	Dams & Water-Retaining Structures
Bathrooms & Kitchen Installation	Rainwater Harvesting System
Water Tanks	Water-based Industrial Application
Reservoirs	Concrete Panels & Underground Tunnels

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Paintability

UNISEAL® MS POLYETHER can be painted after fully cured. Paints and coatings containing solvents may cause the sealant to react and become tacky. Some coatings may crack or craze as a direct result of the environmental cyclical movement. It is always recommended to conduct field tests to ensure compatibility with the desired coating.

Technical Properties

Property	Values
Appearance	Thixotropic Paste
Cure Method	Moisture Curing
Specific Gravity (ASTM D792)	1.55 ± 0.03
Curing Rate	> 3mm / 24 hours
Skin Formation	60 to 180 minutes
Shore A Hardness (ASTM D2240)	40-45
Tensile Strength (ASTM D412)	> 1.5 MPa
Elongation at Break (ASTM D412)	> 450%
Movement Capability	±25%
Total Joint Movement	50%
Resistance to UV Radiation & Weatherability	Good
Service Temperature	-40°C to +80°C
Application Temperature	+5°C to +35°C
VOC Rating - g/L (USEPA Method 24)	<10g/L
Suitability for Contact with Drinking Water (MS 1583 : Part 1 : 2003) Cytotoxicity Test (MS 1583 : Part 2 : Section 5 : 2003)	Complies Pass

Typical properties after cured at 23°C and 50% Relative Humidity Conditions and Environment

Physical Properties

Material	:	MS Polymer (Polyether Sealant)
Colour	:	Grey
Size & Packing	:	**UNISEAL® MS POLYETHER** - 600ml per sausage / 20 sausages per carton

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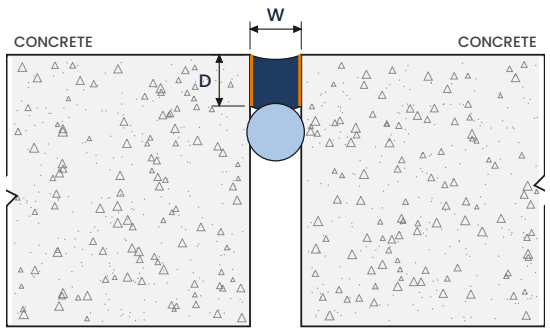
Joint Design Geometry

To ensure that the correct joint width to depth ratio is achieved and to prevent the sealant from adhering to the bottom of the joint, use a tight-fitting backing material such as **UNIFLEX® PE Backer Rod**. Do not puncture the skin of the backer rod during installation, as this can cause bubbling in the uncured sealant as the temperature rises. Do not use oil or tar impregnated backing materials.

Minimum joint depth 6mm : maximum joint width 35mm for vertical installation

1 JOINTS UP TO 12MM WIDE Not to scale



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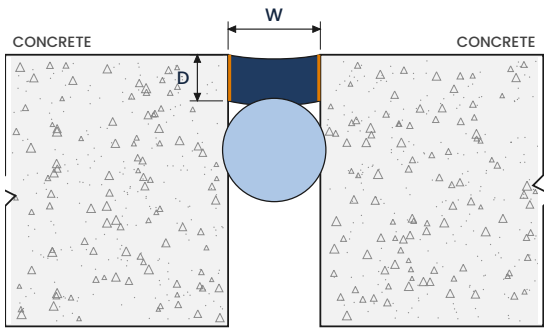

Width : Depth = 2 : 1

Coverage

Theoretical calculation formula as below :-

Width (mm) x Depth (mm) x Length (m) / 1000 = Volume (litres)

Length of joint in metres filled per sausage of 600ml of **UNISEAL® MS POLYETHER**

Depth (mm)	Width (mm)					
	5	10	15	20	25	30
5	24	12	8	6	4.8	4
10	12	6	4	3	2.4	2
15	8	4	2.67	2	1.6	1.33
20	6	3	2	1.5	1.2	1
25	4.8	2.4	1.6	1.2	0.96	0.8

*Calculation based on theoretical coverage. Actual material consumption at site will vary depending on the wastage.

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Typical Drawing & Application

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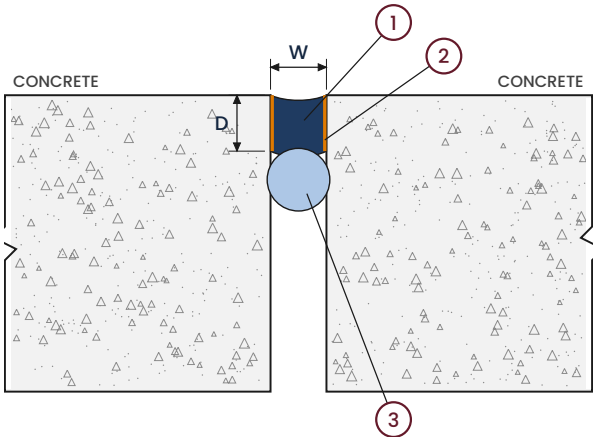
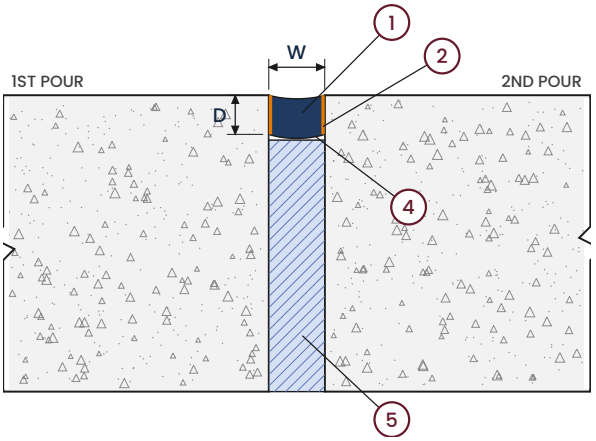
Not to scale



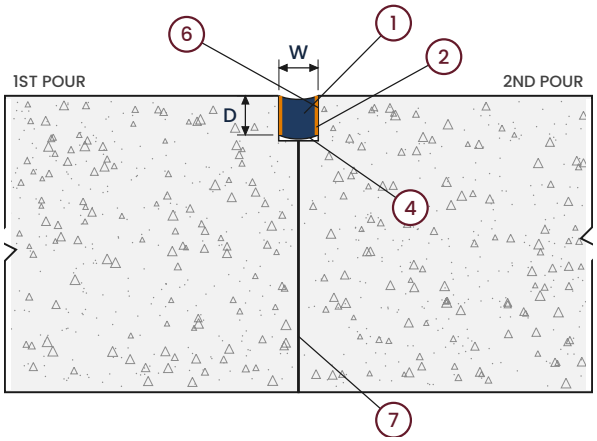
2 SEALANT OVER FILLERBOARD

Not to scale



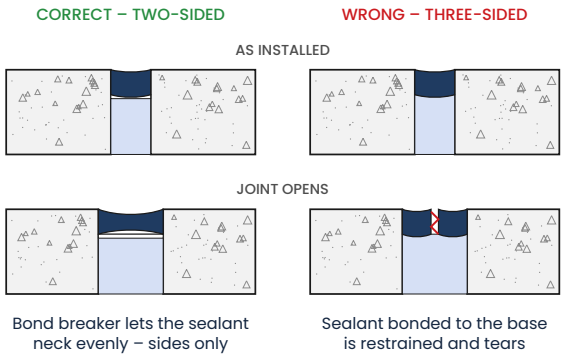
3 SEALED GROOVE

Not to scale



4 WHY A BOND BREAKER

Not to scale



LEGEND

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2. UNISEAL® PRIMER (porous surfaces)
3. UNIFLEX® PE backer rod
4. UNIFLEX® PE bond breaker tape
5. UNIFLEX® fillerboard
6. Formed or saw-cut groove
7. Construction joint

Illustrations only – not for construction. Refer to drawing UR-SL-01.

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Installation Procedures

1 Surface Preparation | Primer (If Required) | 3 Sealant Application | 4 Finishing & Cleaning

Step 1
SURFACE PREPARATION

Before application, all joint surfaces must be **clean, sound and free from dust, oil, laitance, loose particles** or any contaminants that may impair adhesion. The sealant **cures even on damp or wet surfaces**. Surface preparation may include **wire brushing, grinding, sandblasting, or solvent wiping**.

On glazed or non-porous substrates such as ceramic, terrazzo, or porcelain enamel, it is recommended to **abrade the surface** with sandpaper or wire brush to promote mechanical adhesion.

Step 2
PRIMER

(IF REQUIRED)

UNISEAL® PRIMER is required on porous substrates (concrete, mortar, masonry) and in joints that will be immersed in water. On dry, sound, non-porous joints it is optional, as **UNISEAL® MS POLYETHER** has good inherent adhesion to clean, prepared surfaces.

Where used, apply the primer by brush, ensuring full coverage of the bonding surface, and allow it to dry (1 – 2 hours) before applying the sealant.

Step 3
SEALANT APPLICATION

Position a suitable **backer rod (e.g. UNIFLEX® PE Backer Rod)** at the bottom of the joint to ensure the correct depth and to prevent three-sided adhesion, which can inhibit proper movement.

Apply **UNISEAL® MS POLYETHER** with a hand-operated or air-powered barrel gun. Cut the nozzle of the sausage pack to the desired size and insert it into the joint, **ensuring an even and continuous bead** and **avoiding air entrapment**. Tool the surface immediately with a spatula or jointing tool to ensure **full contact with the joint sides** and a neat finish.

Step 4
FINISHING & CLEANING

Remove any masking tape before the sealant skins over. Excess uncured sealant can be cleaned with xylene or a suitable solvent. **Cured sealant must be removed mechanically.**

UNISEAL® MS POLYETHER should be applied when the ambient temperature is between +5°C and +35°C.

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Accessories



BARREL GUN



MASKING TAPE

Shelf Life & Storage

Store in a cool, dry place and keep away from all sources of heat and sunlight. In tropical or hot climates, store in air-conditioned rooms. The shelf life is up to 12 months in un-opened condition and if stored as per recommendations.

Excessive exposure to sunlight, heat, and humidity, will result in the deterioration of the quality of the product and reduce its shelf life.

Application Photos





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UNISEAL® VT-629

MS FIRE RATED HYBRID SEALANT



Product Features

UNISEAL® VT-629 is a single-component, moisture-curing joint sealant based on advanced MS polymer technology, providing movement capability in fire-rated joints. Sealed on both faces, it achieves a fire rating of up to 4 hours to BS EN 1366-4.

It is isocyanate- and solvent-free, so it can be applied to damp surfaces without bubbling or shrinkage, bonds to most substrates and can be painted with common industrial paints. Low VOC and halogen-free. Manufactured by Vital Technical Sdn Bhd (V-TECH) and supplied by Unity Reliance (M) Sdn Bhd.

Advantages

Up to 4 Hours Fire Rating (BS EN 1366-4)
JBPM (Bomba) Firestop Certified
ASTM C920 Compliant – ±25% Movement Capability
Good UV Resistance
Low Static Charge – Less Dirt Streaking
Paintable with Common Industrial Paints
Isocyanate-Free – No Air Bubbling
Solvent-Free – No Shrinkage
Halogen-Free, Low VOC Formulation

Fields of Application

Fire-Rated Movement Joints	Precast & In-Situ Concrete
Expansion & Construction Joints	Tilt-Up Construction
Interior & Exterior Fire Compartments	Brick & Blockwork
Fibre Cement Board & Plasterboard	Underground Tunnels

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UNISEAL® VT-629

Technical Properties

Property	Value
Appearance	Non-sag thixotropic paste
Cure Method	Moisture curing
Specific Gravity	1.62
Tack-Free Time (25°C, 50% RH)	20 – 60 minutes
Cure Depth (24 hrs, 23°C, 50% RH)	Approx. 3 mm
Full Cure	7 days
Shore 'A' Hardness (ASTM C661)	≥ 25
Tensile Strength (ASTM D412)	≥ 1.0 N/mm²
Elongation at Break (ASTM D412)	≥ 200%
Movement Capability (ASTM C719)	±25%
Fire Resistance (BS EN 1366-4)	Up to 4 hours – both faces sealed*
Service Temperature	-20°C to +90°C
Application Temperature	+5°C to +40°C
VOC Content (USEPA Method 24)	< 50 g/L (SCAQMD Rule 1168)

Typical properties after curing at 23°C and 50% RH.
*Tested system: 20 – 50 mm joints, walls / floors ≥ 150 mm, both faces sealed with UNISEAL® PRIMER over UNIFLEX® PE FR.

Physical Properties

Material	MS polymer (hybrid)
Colour	Grey (supplied in black sausage foil)
Size & Packing	UNISEAL® VT-629 – 600 ml sausage, 20 per carton UNISEAL® PRIMER – 1 litre tin
Primer Coverage	Approximately 30 – 50 litres sealant per litre

Applicable Standards

- BS EN 1366-4:2021 – linear joint seals
- AS 1530.4:2014 – fire-resistance test
- ASTM C920 – elastomeric joint sealants
- USEPA Method 24 / SCAQMD Rule 1168 – low VOC
- RoHS I, RoHS II & SVHC

Limitations

- Not for joints below the waterline or under permanent water immersion.
- Not for trafficable joints.
- Limit exposure to solvents, oils and other chemicals.
- Not paintable with alkyd resin paints.

Storage & Shelf Life

Store in a dry, cool place at around 25°C, away from direct sunlight. Shelf life: 12 months in unopened condition.

Cleaning

Remove masking tape within the working time. Clean uncured sealant with solvent; cured sealant can only be removed mechanically.

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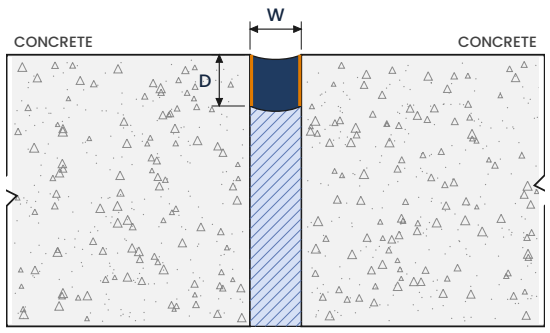
Joint Design Geometry

For the fire rating, fill the joint core with **UNIFLEX® PE FR** fire retardant board, set back from each face by the sealant depth. **No backer rod is used** – standard backer rods are not fire rated; the PE FR fillerboard forms the base of the sealant. Seal **both faces** of the joint – the 4-hour rating applies only to joints sealed on both faces.

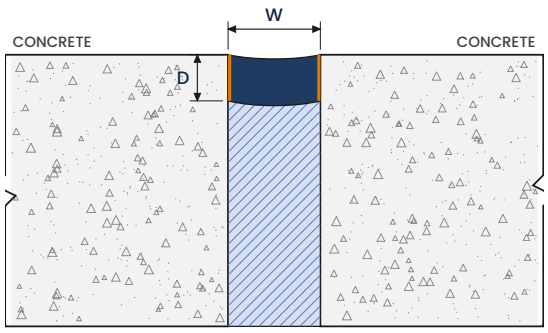
Fire-rated joint width 20 – 50 mm : wall / floor thickness ≥ 150 mm (as tested)

1 JOINTS UP TO 12MM WIDE Not to scale



Width : Depth = 1 : 1

2 JOINTS OVER 12MM WIDE Not to scale



Width : Depth = 2 : 1

Coverage

Theoretical calculation formula as below :-

Width (mm) x Depth (mm) x Length (m) / 1000 = Volume (litres)

Length of joint in metres filled per sausage of 600ml of **UNISEAL® VT-629**

Depth (mm)	Width (mm)					
	5	10	15	20	25	30
5	24	12	8	–	–	–
10	–	6	4	3	–	–
15	–	–	2.67	2	1.6	1.33
20	–	–	–	1.5	1.2	1
25	–	–	–	–	0.96	0.8

*Per sealed face. A both-faces fire-rated joint uses twice the quantity. Actual consumption on site will vary with wastage.

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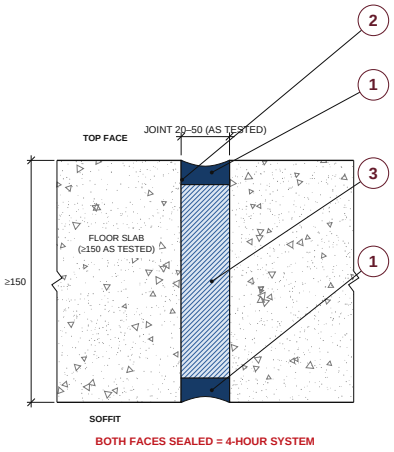
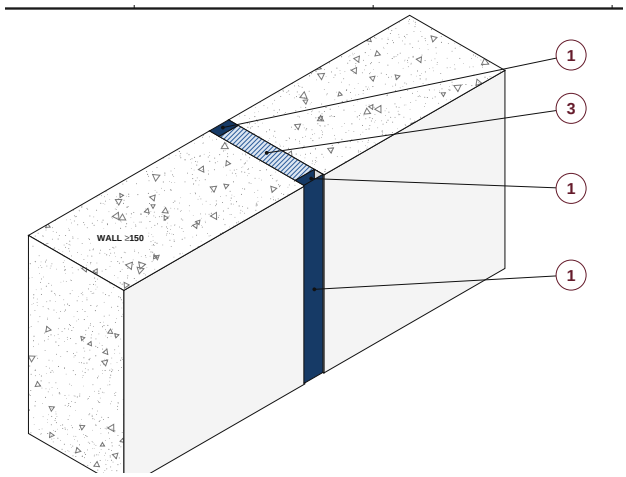
Typical Drawing & Application

1 FIRE RATED FLOOR JOINT — Both faces sealed

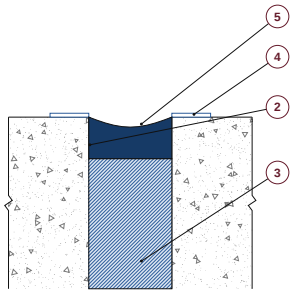


BOTH FACES SEALED = 4-HOUR SYSTEM

2 FIRE RATED WALL JOINT — 3D view



3 SEALANT FACE — Enlarged



NO BACKER ROD: SEALANT IS PLACED DIRECTLY ON THE UNIFLEX PE FR FIRE RETARDANT FILLERBOARD

LEGEND

- (1) UNISEAL® VT-629 sealant
- (2) UNISEAL® PRIMER
- (3) UNIFLEX® PE FR fillerboard
- (4) Masking tape
- (5) Concave tooled profile

Illustrations only – not for construction. 4-hour rating: joints 20 – 50 mm, both faces sealed, no backer rod. Refer to drawing UR-SL-03.

Accessories



UNISEAL® PRIMER



BARREL GUN



MASKING TAPE

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Installation Procedures

1 Surface Preparation | Primer | 3 Sealant Application | 4 Finishing & Cleaning

Step 1
SURFACE PREPARATION

Apply **UNISEAL® VT-629** when the ambient temperature is between **+5°C and +40°C**, using a hand-operated or air-powered barrel gun.

Joint faces must be **sound, clean and dry, free from dirt, grease, oil and standing water**. Wire brush or grind as needed and use the two-cloth method to clean dirty surfaces. Mask both edges of the joint for a neat finish.

Step 2
PRIMER

Brush **UNISEAL® PRIMER** onto both joint faces and allow it to become tack-free before sealing. Primer is required on porous substrates such as concrete, and the fire rating was achieved on primed joints. Re-prime if the joint is not sealed within 3 hours.

Step 3
SEALANT APPLICATION

Fill the joint core with **UNIFLEX® PE FR** fire retardant board, set back from each face by the required sealant depth. **Do not use backer rod** – it is not fire rated; the PE FR fillerboard forms the base of the sealant.

Cut the nozzle at 45° – 60° and extrude the sealant in a single, continuous bead with even pressure; on vertical joints work from the bottom up. Tool the bead to a slightly concave (hourglass) profile within the working time. **Seal both faces of the joint** for the 4-hour fire rating.

Step 4
FINISHING & CLEANING

Remove the masking tape within the working time, before the sealant skins. Clean uncured sealant with solvent; **cured sealant must be removed mechanically**. Protect the joint until fully cured (7 days).

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UNISEAL® PS

CHEMICAL RESISTANCE POLYSULPHIDE JOINT SEALANT



Product Features

UNISEAL® PS is a non-slumping, two-component, chemically curing polysulphide joint sealant, designed as a watertight seal for moderate-movement and control joints. Based on a liquid polysulphide polymer, it cures after mixing with the hardener to form a tough, flexible, non-staining, rubber-like seal.

Its resistance to chemicals, oils and fuels makes it the preferred sealant for sewage treatment plants, chemical plants, oil & gas facilities and any joint exposed to oil or chemicals. It bonds well to concrete, stone, metals and other common building substrates and resists deterioration on prolonged exposure to UV.

Suitable for both vertical and horizontal joints, with a movement accommodation factor (MAF) of ±25%.

Advantages

- High Elasticity & Resilience
- Permanent Watertight Seal
- Non-Staining Formulation
- Superior UV & Fatigue Resistance
- Thermal Movement Accommodation
- Multi-Substrate Adhesion
- Long-Term Ageing Resistance
- Chemical & Hydrocarbon Resistance
- Ideal for Sewage, Chemical & Oil-Exposed Joints

Fields of Application

Swimming Pools	Airport Runways & Apron Pavements
Factories & Warehouses	Parapet Walls
Metal & Concrete Sea Walls	Sewage & Wastewater Plants
Bridge Decks & Highway Pavements	Garages & Workshops
Chemical Plants	Oil & Gas Plants

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Technical Properties

Property	Value
Specific Gravity (ASTM D792)	1.55 ± 0.05
Consistency	Thixotropic paste
Shrinkage	Negligible
Application Life (min)	> 120
Shore 'A' Hardness (ASTM D2240)	20 – 35
Tack Free Time (hrs)	5
Tensile Strength at Break (ASTM D412)	> 2.0 MPa
Elongation at Break (ASTM D412)	> 500%
UV Resistance @ 300 hrs	No deterioration
Chemical Resistance	pH 2.5 – 11.5, hydrocarbon fuels, vegetable oil, urea, seawater
Cracking & Chalking after Heat Ageing @ 70°C	No deterioration
Initial Cure @ Standard Condition (hrs)	24
Final Cure @ Standard Condition (days)	7
Application Temperature (°C)	+5 to +40
Service Temperature (°C)	-20 to +80

All values given are subject to 5 – 10% tolerance.

Physical Properties

Material	Polysulphide (PS)
Colour	Grey
Size & Packing	UNISEAL® PS – 2.5 litre set / 4 sets per carton UNISEAL® PRIMER – 1 litre tin
Primer Coverage	Approximately 30 – 50 litres sealant per litre

Paintability

UNISEAL® PS can be painted after it has fully cured. Paints and coatings containing solvents may cause the sealant to react and become tacky, and some coatings may crack or craze due to the cyclic movement of the joint. Always carry out a field test to confirm compatibility with the chosen coating.

Storage & Shelf Life

Store in a cool, dry place away from heat and direct sunlight (air-conditioned storage in hot climates). Shelf life: 12 months in unopened condition.

Cleaning

Remove excess sealant with a scraper. Clean tools and spillages with solvent or xylene before curing; cured material can only be removed mechanically.

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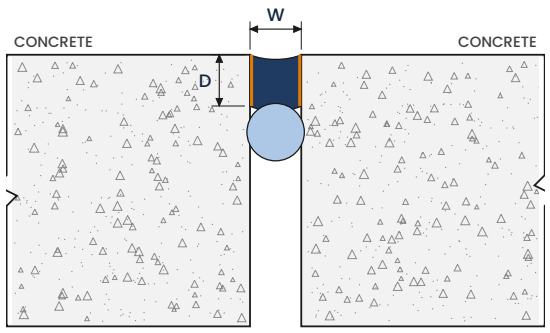
Joint Design Geometry

To ensure that the correct joint width to depth ratio is achieved and to prevent the sealant from adhering to the bottom of the joint, use a tight-fitting backing material such as **UNIFLEX® PE Backer Rod**. Do not puncture the skin of the backer rod during installation, as this can cause bubbling in the uncured sealant. Do not use oil or tar impregnated backing materials.

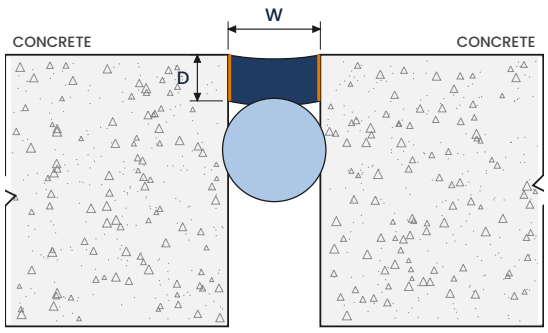
Joint width at least 4 x the anticipated movement : joint depth shall not exceed the width

1 JOINTS UP TO 12MM WIDE Not to scale



Width : Depth = 1 : 1

2 JOINTS OVER 12MM WIDE Not to scale



Width : Depth = 2 : 1

Coverage

Theoretical calculation formula as below :-

Width (mm) x Depth (mm) x Length (m) / 1000 = Volume (litres)

Length of joint in metres filled per 2.5 litre set of **UNISEAL® PS**

Depth (mm)	Width (mm)					
	6	10	15	20	25	30
6	69.4	41.7	27.8	–	–	–
10	–	25	16.7	12.5	–	–
15	–	–	11.1	8.3	6.7	5.6
20	–	–	–	6.2	5	4.2
25	–	–	–	–	4	3.3

*Calculation based on theoretical coverage. Actual material consumption at site will vary depending on the wastage.

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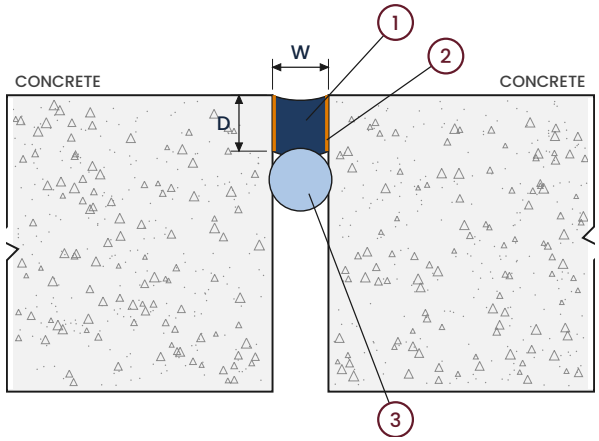
Typical Drawing & Application

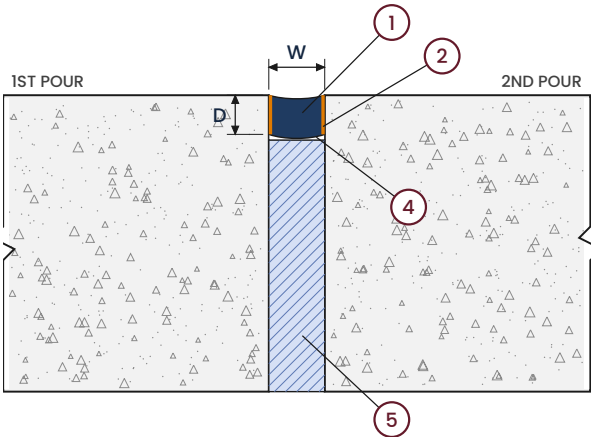
1 SEALANT ON BACKER ROD

Not to scale



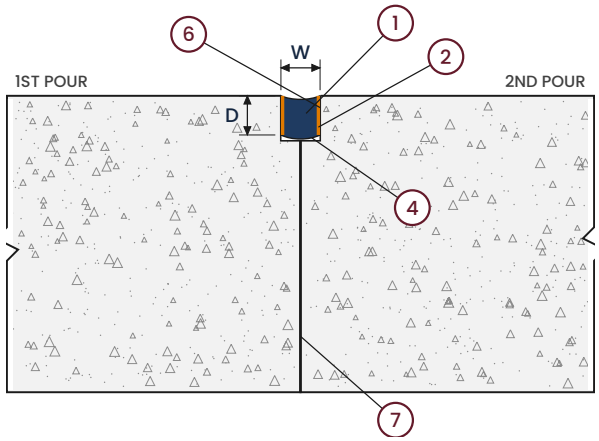
2 SEALANT OVER FILLERBOARD

Not to scale



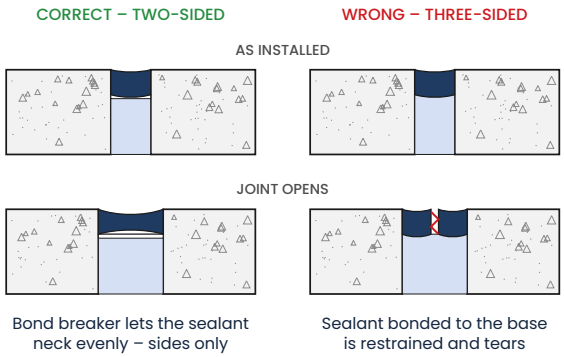
3 SEALED GROOVE

Not to scale



4 WHY A BOND BREAKER

Not to scale



LEGEND

1. UNISEAL® joint sealant
2. UNISEAL® PRIMER (porous surfaces)
3. UNIFLEX® PE backer rod
4. UNIFLEX® PE bond breaker tape
5. UNIFLEX® fillerboard
6. Formed or saw-cut groove
7. Construction joint

Illustrations only – not for construction. Refer to drawing UR-SL-01.

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Installation Procedures

1 Joint Preparation | 2 Priming | 3 Back-Up Material | 4 Mixing | 5 Apply & Tooling

Step 1
JOINT PREPARATION

The joint edges must be clean, dry and free from oil, loose particles, cement laitance and other contaminants which may affect adhesion. Thorough wire brushing, grinding, sand blasting or solvent cleaning may be required to expose a clean and sound substrate. Cut back any compressible joint filler to give a uniform joint depth.

Step 2
PRIMING

Apply masking tape along both edges of the joint for a clean, neat finish. Apply primer to the clean, dry joint faces before installing the backer rod or bond breaker tape – **UNISEAL® PRIMER** is required on porous substrates and immersed joints.

Brush the primer on in a thin coat and allow it to dry (1 – 2 hours) before applying the sealant. Re-prime the joint edges if the sealant is not installed within 3 hours of priming.

Step 3
BACK-UP MATERIAL

Insert **UNIFLEX® PE Backer Rod** into all movement joints to prevent three-sided adhesion. The backer rod sets the correct joint depth, forms the hourglass profile of the sealant and resists tooling pressure so the sealant fully wets the joint faces. Its diameter shall be 10 – 20% larger than the joint width, so it stays in compression and in place during sealant installation.

Caution : do not damage or puncture the backer rod during or after installation – this can cause air bubbles in the sealant.

Step 4
MIXING

UNISEAL® PS is supplied as a two-component kit, with the base and curing agent in a single tin. The mix ratio controls the final adhesion, durability and strength, so always mix one complete kit at a time – **do not part mix**. Mix with a slow-speed drill (300 – 400 rpm) and flat-bladed paddle for 2 – 3 minutes until the colour and consistency are uniform, scraping the sides and base of the tin so the curing agent is fully dispersed.

Step 5
APPLY & TOOLING

Load the mixed sealant immediately into the barrel gun with a heavy-duty follower plate: push the plunger fully forward, place the follower plate on the sealant in the tin, set the gun over the plate, depress the release plate and slowly pull back the plunger to fill the barrel.

Fix the nozzle and extrude the sealant firmly into the joint with even pressure. On vertical joints, start at the bottom and work upwards; fill deep vertical joints in 2 to 3 lifts to avoid air entrapment and sagging. Tool the sealant straight away with a rounded tool dipped in soapy water to give a smooth hourglass profile, then remove the masking tape.

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UNISEAL® PS SEALANT

CHEMICAL RESISTANCE CHART



Chemical Group	Examples	Resistance Level	Comments
Water	Freshwater, Saltwater	Excellent	Ideal for marine and waterproofing applications.
Dilute Acids	Sulfuric acid (low conc.), Acetic acid	Excellent	Suitable for mild acid exposure.
Concentrated Acids	Sulfuric acid (>10%), Nitric acid	Moderate to Poor	Resistance depends on concentration and exposure duration.
Dilute Alkalis	Sodium hydroxide (low conc.)	Excellent	Common in industrial applications.
Concentrated Alkalis	Sodium hydroxide (>10%)	Moderate to Poor	May cause degradation over time.
Fuels	Jet A-1 fuel, kerosene, gasoline, diesel	Excellent	No swelling or blistering observed after 28 days.
Crude Oil	Crude Oil	Excellent	No swelling or blistering observed after 28 days.
Mineral & Lubricating Oils	Mineral oil, machine oil, engine oil, lubricant oil, form oil	Excellent	No swelling or blistering observed after 28 days.
Hydraulic & Brake Fluids	Hydraulic oil, hydraulic fluid, brake fluid	Excellent	No swelling or blistering observed after 28 days.
Grease	Grease	Excellent	No swelling or blistering observed after 28 days.
Alcohols	Ethanol, Methanol	Excellent	No swelling or blistering observed after 28 days.
Aromatic Solvents	Toluene, xylene, benzene	Good	Slight discoloration observed after 28 days.
Chlorinated Paraffin	Chlorinated paraffin	Moderate	Slight discoloration and slight weight loss after 28 days. Avoid prolonged contact.
Chlorinated Solvents	Trichloroethylene, Methylene chloride	Moderate	Limited resistance; avoid prolonged contact.
Oxidizers	Hydrogen peroxide, Chlorine	Poor	Strong oxidizers can break down the sealant.
Ketones and Esters	Acetone, MEK, Ethyl acetate	Poor	Not recommended; causes rapid swelling or degradation.

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UNISEAL® PRIMER

SOLVENT BASED SEALANT PRIMER



Product Features

UNISEAL® PRIMER is a single-component, solvent-based primer that improves the adhesion of **UNISEAL®** sealants to concrete, mortar, masonry and other mineral substrates, as well as aluminium and other metals. It is required on porous substrates and in joints that will be immersed in water, and optional on dry, sound, non-porous joints.

Applicable Products

UNISEAL® PU	Polyurethane Joint Sealant
UNISEAL® PU PRO	Fast Cure Trafficable Polyurethane Joint Sealant
UNISEAL® PS	Chemical Resistance Polysulphide Joint Sealant
UNISEAL® MS Polyether	Advanced MS Polymer Water Industry Sealant

Advantages

- Superior Bonding Strength to Concrete & Metal
- Single-Component, Ready-to-Use – No Mixing or Dilution
- Good Workability – Brush Applied, Dries in 1 – 2 Hours
- Compatible with UNISEAL® PU, PU PRO, PS and MS Polyether Sealants

Fields of Application

- Concrete
- Bricks & Blockworks
- Mortar
- Mineral-like Substrates
- Aluminium and Other Metal Substrates

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UNISEAL® PRIMER

Technical Properties

Property	Values
Appearance	Clear, colourless liquid
Odour	Characteristic odour
Specific Gravity @ 25°C	Approx. 0.93
Viscosity @ 25°C	Approx. 20 sec
Drying Time	1 – 2 hours (per coat)
Adhesion Strength to Concrete	> 0.4 N/mm²
Flash Point	24°C
Boiling Point	126 – 140°C
Explosive / Flammability Limit in Air	1.1 – 7.5% (V)
Auto-ignition Temperature	425°C
Water Solubility	Insoluble
Vapour Density (air = 1)	2.1
Coverage	0.15 – 0.20 kg/m²*
Packing	1 litre / tin

*Coverage depends on substrate porosity; highly absorbent surfaces generally need two coats.
As a guide, 1 litre of primer serves approx. 30 – 50 litres of sealant, depending on application thickness.

Health & Safety

This product is highly flammable and must be kept strictly away from open flames, sparks, static discharge and all ignition sources. During application, operators must wear appropriate personal protective equipment, including neoprene gloves, protective safety goggles, a suitable respirator and safety footwear. In the event of skin contact, immediately flush the affected area with generous amounts of clean water until all irritation completely subsides.

Shelf Life & Storage

Always keep the lid of the container tightly closed for prolonged storage. Store in a dry, cool and well-ventilated place, and keep out of direct sunlight (between 5°C to 30°C). The shelf life is 12 months in unopened condition when stored as recommended.

Cleaning

Clean up uncured material and equipment with general purpose thinner immediately after use.

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Installation Procedures

1 Surface Preparation | 2 Application

Installation Procedures

Step 1

SURFACE PREPARATION

Prior to applying **UNISEAL® PRIMER**, ensure the substrate surface is clean, dry, structurally sound, and completely free from dust, oil, grease, curing compounds, laitance, loose particles, or any surface contaminants. Otherwise, clean the surfaces using a wire brush or clean cloth, followed by a thorough solvent wipe using Toluene or Methyl Ethyl Ketone (MEK) to remove remaining residue.

Newly poured concrete must be allowed to cure for a minimum of 14 days prior to primer application. To ensure sharp, clean edges and prevent over-application, affix masking tape along the outer borders of the joint groove before applying the primer.

Step 2

APPLICATION

Do not dilute **UNISEAL® PRIMER**. Apply using a clean, soft brush. Allow the applied film to dry thoroughly, which typically takes between 1 to 2 hours depending on ambient site conditions. For porous or highly absorbent substrates, applying two coats is recommended. Ensure the initial coat is completely dry prior to applying the second coat. The final primer coat must be fully dry before proceeding with sealant installation.

To ensure maximum adhesion, pour only the required quantity of primer into a clean, dry working container for use within 30 minutes. Do not dip a used brush back into the original container unless the entire contents will be applied within 30 minutes. Any unused portion should be discarded after application; never pour unused primer back into the original container.

Important Note / Special Note

- Exercise caution when applying **UNISEAL® PRIMER** to metal surfaces, as mechanical or chemical treatments (such as polishing, protective coatings, or surface finishes) can reduce surface adhesion.
- Applicators are responsible for conducting field adhesion tests on treated metal substrates and confirming proper application requirements prior to full-scale installation.

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UNISEAL® AP77 BITUMEN JOINT

HOT-APPLIED BRIDGE JOINT SEALANT
BLINDER FOR ASPHALTIC PLUG BRIDGE EXPANSION JOINT



Product Features

AP77 BITUMEN JOINT is a homogeneous mixture of synthetic rubber, chemical additive, mineral filler and special type of bitumen compound designed for use as an expansion joint sealant for horizontal joints in asphalt or concrete pavement, airfield aprons, bridges, roads, cargo terminals, warehouses, and parking areas.

AP77 BITUMEN JOINT remains solid, stable and still flexible under extreme tropical weather conditions. It possesses good adhesion to concrete and asphalt materials too. It offers a very high extension over a wide range of service temperatures, high resistance to flow, excellent pourability at temperatures well below the maximum permissible heating temperature of the material, without separation of the incorporated rubber.

AP77 BITUMEN JOINT is formulated to ASTM D1190 and BS 2499.

Advantages

- **Tropical Weather Resistance:** Remains stable and flexible under severe tropical climates.
- **Excellent Substrate Adhesion:** Bonds strongly to both concrete and asphalt pavements.
- **Easy Pourability:** Pours smoothly below maximum heating temperatures without rubber separation.
- **Homogeneous Formulation:** Uniform blend of synthetic rubber, bitumen, and chemical additives.
- **Standards Compliance:** Formulated to ASTM D1190 and BS 2499.

Fields of Application

Roads	Parking Areas
Bridges	Airfield Aprons
Pavements	Cargo Terminals
Warehouses	Floor Joints in Tunnels / Subways
Urban Infrastructure	Ports & Harbour Infrastructure

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UNISEAL® AP77 BITUMEN JOINT

Technical Properties

Property	Test Method	Unit Measurement	Value
Softening Point	ASTM D 36	°C	> 95
Flash Point	ASTM D 92	°C	Approx. 250
Flow Resistance	ASTM D 1191	mm	1, max @ 60°C, 5 h
Cone Penetration	ASTM D 217	dmm	10 - 30 @ 25°C
Extension	BS 2499 (25°C)		50%, 3 cycles
Pouring Temperature		°C	180 - 200
Application Temperature		°C	>5
Solid Content		%	100

Physical Properties

Material	:	Rubberised Bitumen
Colour	:	Black
Size & Packing	:	20kg / carton
Shelf Life	:	36 months (unopened, dry storage)

Theoretical Coverage Rates

Formula	:	kg per linear metre = Width (mm) x Depth (mm) x 0.0016
Example 1	:	10mm wide x 25mm deep joint = 0.40 kg per linear metre
Example 2	:	30mm wide x 25mm deep joint = 1.20 kg per linear metre

Theoretical values – allow for site wastage.

Health & Safety

Ensure working areas remain well ventilated and wear suitable protective clothing, including approved gloves, boots, and overalls. Do not melt contents in metal containers using localized heating at the bottom, as pressure buildup can trigger an explosion. Prevent any contact between hot AP77 BITUMEN JOINT and water to avoid a violent reaction. Above its flash point temperature of 250°C, the product will ignite upon contact with open flames. Keep a foam or dry powder fire extinguisher and sand readily accessible near the kettle; never use water to extinguish a bitumen fire.

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UNISEAL® AP77 BITUMEN JOINT

Installation Procedures

1 Surface Preparation | 2 Priming | 3 Application

Step 1
SURFACE PREPARATION

All surfaces to be applied with **AP77 BITUMEN JOINT** shall be structurally sound, clean, dry, free of dust, grease, and free from contamination. Remove any traces of curing compounds, paint coatings, laitance, organic growth or any other loose materials. This is best obtained by using high pressure water or light grit blasting. Substrate containing honeycombing, damaged or deteriorated concrete should be repaired using suitable repair mortars before sealing.

Step 2
PRIMING

Prime all joint surfaces with **UNICOAT BITUMEN 300** on concrete, stone and brick paving. Allow primer to dry completely for at least 30 minutes. The joint must be dry – never pour onto a damp surface. Pour sealant within 6 hours of priming.

Step 3
APPLICATION

It is essential that the correct equipment be used for re-melting **AP77 BITUMEN JOINT** to ensure that the subsequent performance is not impaired by damage through overheating or pouring at the wrong temperature. The heating apparatus must be equipped with a thermometer, an oil jacket and a means of stirring the molten compound. Direct heating should be limited to low flame and equipment fitted with a mechanically driven stirrer.

Heat **AP77 BITUMEN JOINT** with a kettle. Temperature control is important. The temperature of the melted sealant should not exceed 200°C. **AP77 BITUMEN JOINT** will pour satisfactorily at temperatures between 180 – 200 °C. Stir the contents of the kettle at frequent intervals during the melting process. Once melted, it should be used within 2 hours. Do not use material that has gone cold and been re-heated.

Direct flame of the LPG torch may be used to remelt applied material for levelling off. Avoid localized flame heating exceeding 10 seconds, as this may ignite the material.

NOTE :
It is recommended that the aggregate used in asphaltic expansion joint sealant is as follows:

Aggregate Abrasion Value (A.A.V.)	:	max 5.0
Polished Stone Value (P.S.V.)	:	min 62
Aggregate Impact Value (A.I.V.)	:	max 16
Aggregate Crushing Value (A.C.V.)	:	max 10 to 25%

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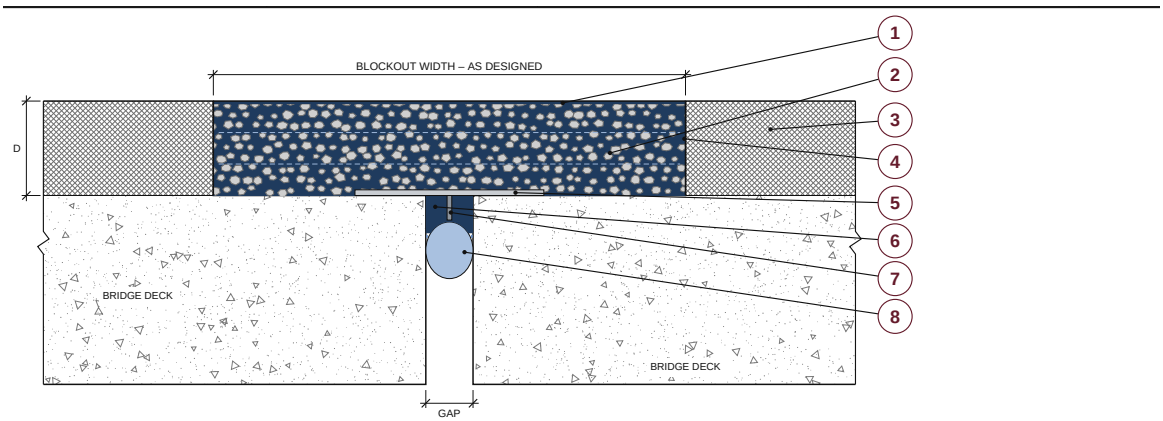
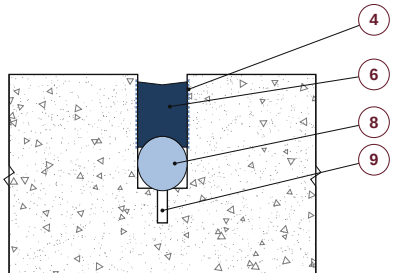
UNISEAL® AP77 BITUMEN JOINT

Typical Drawing

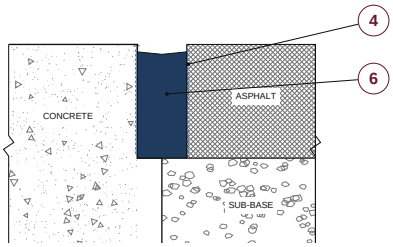
1 ASPHALTIC PLUG JOINT — Bridge expansion joint



2 PAVEMENT JOINT — Hot-poured



3 ASPHALT / CONCRETE JUNCTION — Not to scale



LEGEND

1. UNISEAL® AP77 top seal (flush)
2. UNISEAL® AP77 binder + aggregate
3. Asphalt wearing course
4. UNICOAT® BITUMEN 300 primer
5. Steel bridging plate (by others)
6. UNISEAL® AP77 poured hot
7. Locating pin (by others)
8. Heat-resistant backer rod
9. Saw cut (by others)

Illustrations only – not for construction. Refer to drawing UR-SL-04.

Site Photos





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UNISEAL® BITUFLEX

HOT-POURED RUBBER BITUMEN JOINT SEALANT



Product Features

UNISEAL® BITUFLEX is a high performance hot-applied rubberised bituminous joint sealant compound formulated to meet today's requirement for quality, cost-effective bridge expansion joint, road and runway maintenance.

UNISEAL® BITUFLEX is designed to provide a resilient, flexible and watertight seal throughout repeated cycles of expansion and contraction of the joint. The material exhibits superior flow resistance throughout a wide range of temperatures, whilst its low viscosity ensures ease of installation. Additional adhesion-promoting agents obviate the requirement for a primer under all normal circumstances.

Advantages

- No primer required
- Resistant to weathering
- Low viscosity for easy installation
- Prevents entry of water and foreign bodies
- Superior flow resistance with improved and sustained low and high temperature flexibility

Fields of Application

Ideal for installation of bridge expansion joint and the sealing of horizontal and gently sloping construction, expansion and contraction joints in concrete and asphalt roads, runways and thoroughfares.

- Roads
- Bridges
- Toll plaza
- Floor joints in tunnel / subway
- Pavements, roads and traffic surfaces
- Runways and airfield pavements

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Technical Properties

Property	Test Method	Unit Measurement	Values
Cone Penetration (25°C)	ASTM D5329	dmm	< 40
Flow Resistance (60°C, 5 h)	ASTM D5329	mm	< 1
Softening Point (Ring & Ball)	ASTM D36	°C	> 95
Bond, 3 cycles to 100% at -7°C	ASTM D5329	-	Pass

Physical Properties

Material	:	Rubberised Bitumen
Colour	:	Black
Form	:	Solid
Density	:	1.4
Packing	:	17 kg / can
Shelf Life	:	24 months (unopened, dry storage)

Theoretical Coverage Rates

Joint depth (mm)	Joint width (mm)						
	13	15	20	25	30	35	40
20	0.30	0.35	0.47	0.59	0.70	0.82	0.94
25	–	–	–	0.76	0.91	1.06	1.22
30	–	–	–	–	1.12	1.30	1.49
35	–	–	–	–	–	1.54	1.77
40	–	–	–	–	–	–	2.04

Values in kg per linear metre of joint. Theoretical – allow for site wastage.

Site Photos



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Installation Procedures

1 Joint Preparation | 2 Backer Rod | 3 Heating | 4 Pouring

Step 1
JOINT PREPARATION

Joints to be installed or sealed should be thoroughly cleaned and dried, preferably with a hot compressed air lance, or by grit blasting or power brushing, to remove all detritus and, where applicable, old sealant. Any necessary repairs to badly spalled concrete joints should be completed before sealing. The joint must be dry when the sealant is poured.

Step 2
BACKER ROD

Caulking or a backer rod may be inserted into the joint gap before the sealant is installed, to set the depth of the sealant. No primer is required under normal circumstances, as the compound contains adhesion-promoting agents. For bridge expansion joint systems, complete installation instructions are available separately on request.

Step 3
HEATING

Heat and agitate **UNISEAL® BITUFLEX** in a purpose-built sealant pre-heater unit, ensuring that the temperature does not exceed 200°C. Keep water away from the hot material at all times.

Step 4
POURING

Pump **UNISEAL® BITUFLEX** into the joint, or pour it using a bucket and "V" mould, with the minimum loss of temperature. Joints in concrete should be sealed to a level approximately 1.5mm to 3mm below the surface, so that traffic does not pick up the sealant.

Important Notes

- Keep working areas well ventilated
- Suitable protective clothing should be worn when handling hot materials. Gloves should be worn at all times and face shields if there is a danger of splashing
- Do not allow water to contact hot materials
- Do not exceed recommended maximum temperature
- If molten material contacts skin do not attempt to remove. Seek medical advice without delay

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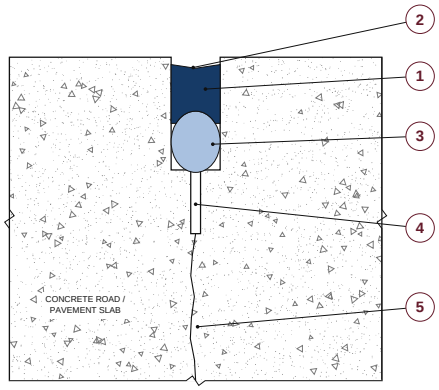
Typical Applications

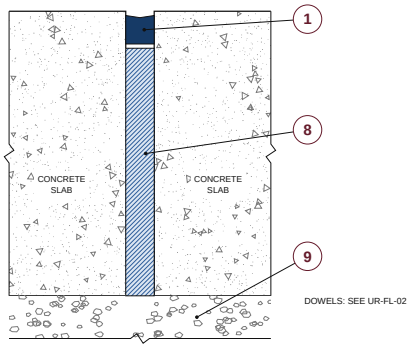
1 SAWN JOINT – RESERVOIR CUT

Contraction joint



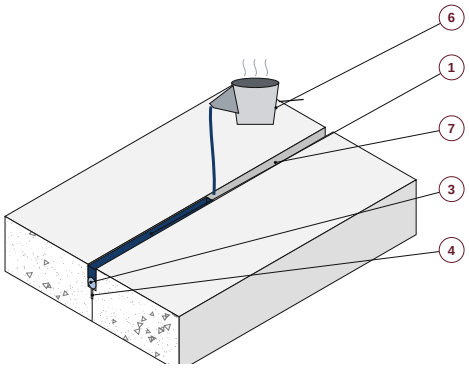
2 EXPANSION JOINT

Slab on grade



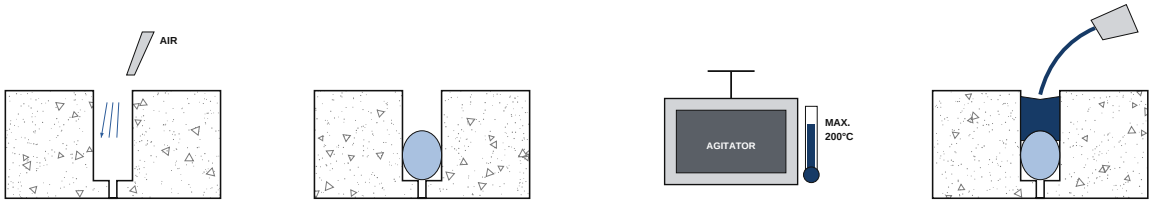
3 POURING THE JOINT

3D view



4 INSTALLATION STEPS

Not to scale



1 STEP 1 – CLEAN & DRY
Hot compressed-air lance, grit blast or power brush. Remove old sealant, repair spalled arrises.

2 STEP 2 – BACKER ROD
Insert the backer rod to the specified sealant depth. Reservoir must be dry before pouring.

3 STEP 3 – HEAT
Purpose-built pre-heater with agitator. Never exceed 200°C. Keep water away from hot material.

4 STEP 4 – POUR
Pump or pour (bucket + V mould) with minimum heat loss, to 1.5 – 3mm below the surface.

LEGEND

1. UNISEAL® BITUFLEX, poured hot
2. Top 1.5 – 3 mm below surface
3. Backer rod (sets depth)
4. Initial saw cut (by others)
5. Contraction crack
6. Pouring bucket / pump
7. Clean, dry reservoir
8. UNIFLEX® PE fillerboard
9. Sub-base (by others)

Illustrations only – not for construction. No primer required under normal conditions. Refer to drawing UR-SL-02.

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