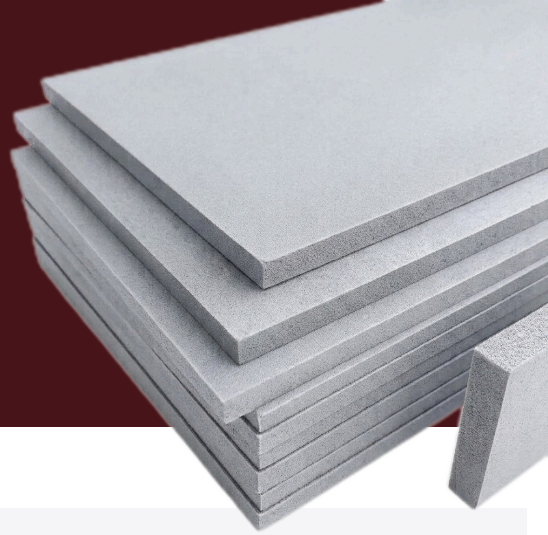
# UNIFLEX® PE FR

FIRE RETARDANT CLOSED CELL POLYETHYLENE FILLER BOARD



## Product Features

**UNIFLEX® PE FR** is a **fire retardant closed cell polyethylene filler board**. It is a joint filler for expansion and movement joints in concrete, brickwork, blockwork and masonry where a fire retardant filler is required, and it also insulates the joint thermally.

**UNIFLEX® PE FR** is non-extruding, non-absorbent, UV resistant, semi-rigid and highly resilient. It is bitumen-free and rot-proof, with high compression and recovery, so it **accommodates thermal and other structural movements** without load transfer or reflective cracking through the joint.

**UNIFLEX® PE FR** supports the joint sealant and sets the sealant depth. Sealants do not bond to it, so it acts as a natural bond breaker.

## Advantages

| | |
|---|---|
| Good Thermal Insulation Properties | Fire Retardant (Self-Extinguishing) |
| Lightweight & Easy to Install | Non-Absorbent And Non-Tainting |
| Bitumen Free And Rot Proof | Ideal For Water Retaining Structures |

## Fields Of Application

| | |
|---|---|
| Brick Works & Block Works | Masonry |
| Partition Wall Joints | Pedestrian Areas, Piers & Kerbs |
| Expansion & Movement Joints | Basements, Tunnels & Subways |
| Fire Retardant Joint Filling | Abutments & Parapet Walls |
| Dams & Reservoirs | Water & Waste Water Treatment Plants |

## Compatible Products

| |
|---|
| UNISEAL® VT-629 fire rated sealant, or PU, PU PRO, PS and MS joint sealants |
| UNISTICK® CA contact adhesive, to fix the board before the second pour |



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# Technical Properties

| Property | Unit | Result |
|---|---|---|
| Density | kg/m³ | 30 |
| Tensile Strength | kg/cm² | 2.0 (L), 1.2 (W) |
| Elongation | % | 150 (L), 130 (W) |
| Tear Strength | kg/cm | 1.2 (L), 1.0 (W) |
| Shrinkage (70°C, 22 hr) | % | < -0.2 (L), < +1.0 (W) |
| Thermal Conductivity @ 23°C | W/m.K | 0.037 |
| Compression Set | % | 7.70 |
| Compression Strength | kg/cm² | 0.30 |
| Water Absorption | g/cm² | < 0.01 |
| Flammability | - | Self-extinguishing |
| Production Process | - | Free of CFC, asbestos and fibre |

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

# Physical Properties

| | | |
|---|---|---|
| Material | : | Chemically Closed Cell Polyethylene (PE) |
| Colour | : | Grey *(other colours available upon request) |
| Size | : | 1.2m width |
| Thickness | : | 10mm, 12mm, 15mm, 20mm, 25mm *(other sizes on request) |
| Density | : | 30 kg/m³ |
| Packaging | : | 10mm x 1.2m x 60m<br>12mm x 1.2m x 60m<br>15mm x 1.2m x 60m<br>20mm x 1.2m x 40m<br>25mm x 1.2m x 30m |
| Weight | : | Dependent upon thickness |

This technical data sheet is given in good faith and does not guarantee the application work.
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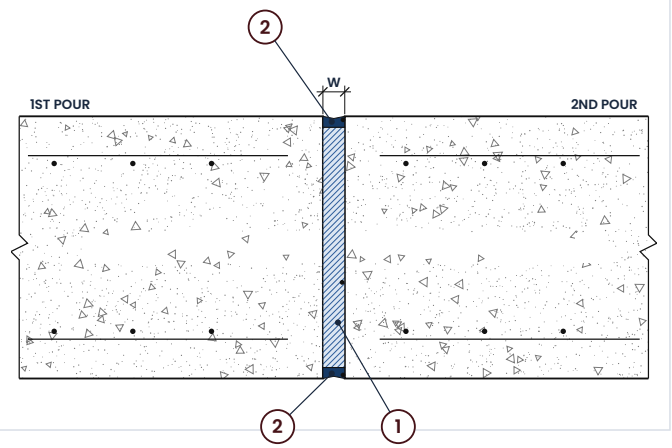
# Typical Drawings

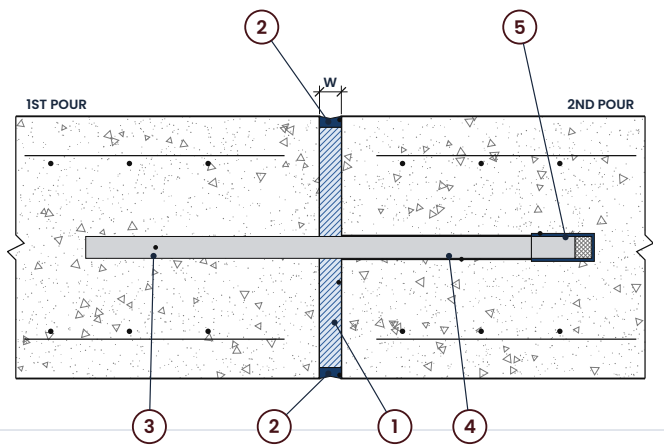
## 1 EXPANSION JOINT

Not to scale



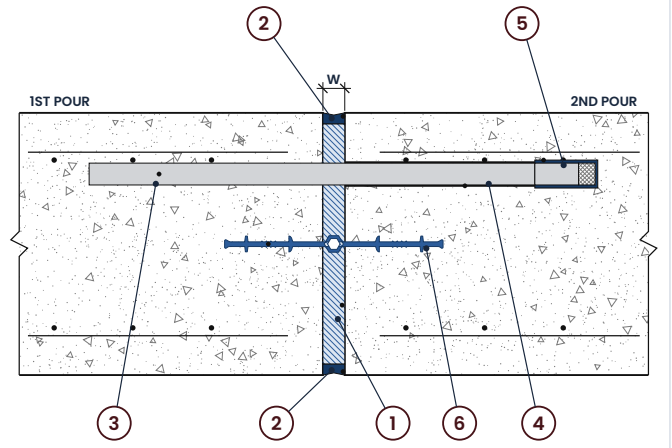

## 2 EXPANSION JOINT WITH DOWEL BAR

Not to scale



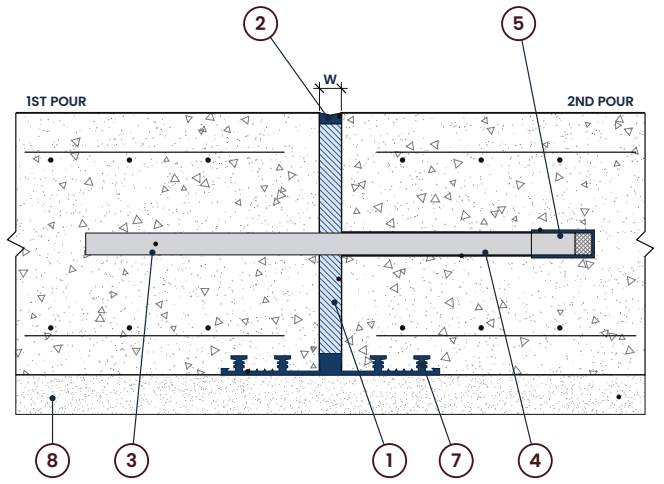

## 3 EXPANSION JOINT WITH WATERSTOP

Not to scale




## 4 SLAB ON GROUND WITH WATERSTOP

Not to scale

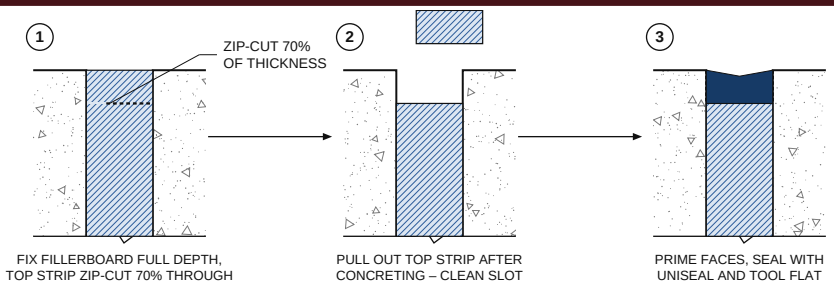



**LEGEND**

1. UNIFLEX® PE FR fillerboard
2. UNISEAL® joint sealant
3. Dowel bar, bonded in 1st pour
4. Debonded end, UNICOAT® coated
5. Dowel cap, compressible fill
6. UNISTOP® IEJ waterstop
7. UNISTOP® EEJ waterstop
8. Lean concrete / blinding

## 5 FORMING THE SEALING SLOT

Not to scale




**Zip cut through 70% of the board thickness only. The uncut 30% holds the top strip in place and keeps concrete out of the slot.**

UNIFLEX® PE FR is a natural bond breaker, so no bond breaker tape is needed under the sealant.

Illustrations only – not for construction. Refer to drawing UR-FL-01 / UR-FL-02.

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# Installation Procedures

1 First Pour | 2 Cut & Zip Cut | 3 Fix Board & Second Pour | 4 Joint Sealing

## Step 1
FIRST POUR

Cast the first side of the joint (1st pour) against the formwork. When the concrete has hardened, remove the formwork. Check that the joint face is clean, sound and free of fins, protrusions and loose material, so that **UNIFLEX® PE FR** sits flat against it.

## Step 2
CUT & ZIP CUT

Cut **UNIFLEX® PE FR** with a sharp knife to the slab thickness and to the length of the joint. Where dowel bars cross the joint, mark and punch the board for the dowels.

Then **"zip cut"** a top strip along the whole length of the board, at the depth required for the joint sealant. Cut through about **70%** of the board thickness only and leave the remaining **30%** uncut. The uncut part holds the strip in place and stops concrete slipping into the slot during the second pour.

## Step 3
FIX BOARD & SECOND POUR

Fix the board against the hardened joint face to the full slab depth, with the top strip flush with the finished surface. Hold it in place with concrete nails, or spot bond it with **UNISTICK® CA** and allow the contact adhesive to set.

Cast the second side of the joint (2nd pour) against the board.

## Step 4
JOINT SEALING

When the concrete has cured, pull the top strip out of the joint to leave a clean, uncontaminated sealing slot. Seal the joint with an appropriate sealant from the **UNISEAL®** range. Sealants do not bond to **UNIFLEX® PE FR**, so no bond breaker tape is needed.

## Storage

**UNIFLEX® PE FR** is a plastic product and keeps for a long time. Store it under cover, in a dry place away from direct sunlight, heat and sources of ignition.

## Health & Safety

**UNIFLEX® PE FR** presents no health hazard in normal handling and use. Wear gloves when cutting, and follow normal site safety practice.

## Existing Joints

**UNIFLEX® PE FR** is installed before the second pour. It cannot be pressed into a joint that is already formed; use **UNIFLEX® PE BACKER ROD** to back the sealant in existing joints.

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