
REMEMBER IT'S
waterproof
RIW

Specification Guide:

# RIW WATERPROOFING SYSTEMS

REMEMBER IT'S waterproof RIW

May 2014

# Technical Expertise

**RIW has been a generic term for waterproofing products for over 90 years; our name even stands for 'Remember It's Waterproof', taken from an old ad slogan in 1921.**

The RIW product range has expanded and evolved over the years, to suit the ever changing needs of our customer's projects. Now incorporating a wide range of diverse waterproofing solutions that are suitable for use above, below and at ground level, offering complete waterproofing assurance to architects, engineers and contractors. Innovative fast track waterproofing solutions, such as RIW Tilesafe and RIW Cement Based Coatings have been added to the range to complement classic systems such as RIW LAC; known throughout the industry as 'two coats of RIW'.

We are well known for our expert Technical Advisory Service, with both in-house and field Technical Advisors offering a full consultation and design service. Our Technical Advisors take care of your waterproofing strategy from start to finish, including technical advice and guidance, preparation of sectional details, approval of drawings, site inspections and ongoing site support.

**Our CPD Programme**

RIW's technical seminar programme provides step-by-step guidance on a range of waterproofing issues. Put our Technical Advisors to the test by booking an in-house CPD session

**Request a Sample**

Want a closer look? We're happy to provide free applied samples of our products.

**Visit our Website**

Our website is crammed full of application and product detail. Visit us at riw.co.uk for data sheets, typical drawings and more.

## Contact us:

**01344 397777**
**technical@riw.co.uk**
**www.riw.co.uk**



# How to Specify Waterproofing

**This guide has been designed to simplify the process of specifying the correct waterproofing system for your project. Simply turn to the product guide overleaf and identify the most suitable waterproofing system for your application. Remember that we are only a phone call away if you need advice: Call Technical on 01344 397777**

- **Identify the different waterproofing systems that can be used in your application.**
- **Select the most appropriate system(s) for the specific needs of your project.**
- **Review the mini data sheets for technical details and guidance on how the system should be incorporated into your design. For full data sheets, please contact RIW or visit riw.co.uk.**

# Contents

page

7 **SPECIFICATION GUIDE**

9 SECTION **1** **LIQUID APPLIED SYSTEMS**
11 **FLEXISEAL**
13 **HEVISEAL**
15 **LAC**
17 **TOUGHSEAL**
19 **LIQUID GM**
20 **FWM**

21 SECTION **2** **SHEET APPLIED SYSTEMS**
23 **SHEETSEAL 226**
25 **SHEETSEAL GR**
27 **TILESAFE**
28 **SCREEDSAFE**

29 SECTION **3** **SODIUM BENTONITE SYSTEMS**
31 **STRUCTURESEAL**
33 **WATERSTOP**
34 **SEALING COMPOUND & GRANULES**

35 SECTION **4** **CEMENT BASED SYSTEMS**
37 **CEMENTSEAL**
39 **CEMENTFLEX**
41 **CEMENTFILL FC, CEMENTFILL HB & CEMENTFILL WP**
42 **CEMENTJOINT & REPEL AC**

43 SECTION **5** **STRUCTURAL DRAINAGE SYSTEMS**
45 **CAVITY DRAIN**
47 **SUMP PUMPS & AQUA CHANNEL**
48 **PLASTER DRAIN**
49 **DOUBLE DRAIN**

51 SECTION **6** **DPC/CAVITY TRAY**
53 **SHEETSEAL 9000**

55 SECTION **7** **MOVEMENT JOINT**
57 **MULTIJOINT**

# SPECIFICATION GUIDE

REMEMBER IT'S waterproof RIW

## Identify the Different Waterproofing Systems that can be Used in your Application

### EXTERNAL TANKING

External tanking is the application of a waterproof membrane to the outside of a basement or sub-structure. Generally, waterproof membranes are installed horizontally onto a concrete blinding layer and vertically onto reinforced concrete or masonry sub-structures. Sub-soil drainage systems should be incorporated in to the design where required.

- FLEXISEAL
- LAC
- STRUCTURESEAL
- SHEETSEAL 226
- SHEETSEAL GR

### INTERNAL TANKIING

Internal tanking is the application of a waterproof membrane to the inside of a basement or sub-structure. When selecting a suitable system, consider the form of construction, ground water level, ground drainage, soil type and ground contamination.

- FLEXISEAL
- LAC
- SHEETSEAL 226
- SHEETSEAL GR
- CEMENTSEAL
- CEMENTFLEX

### DAMP PROOF MEMBRANE

A DPM is a continuous and impervious membrane applied above or below ground floor slabs to prevent water ingress into a structure. The membrane should be linked to the DPC/cavity tray. A DPM can be applied to either the top of the slab or beneath onto a concrete blinding.

- FLEXISEAL
- LAC
- TOUGHSEAL
- SHEETSEAL 226
- SHEETSEAL GR
- CEMENTSEAL

### RAISED ACCESS FLOOR

A tough waterproof membrane should be applied directly under a raised access floor to act as a water containment system preventing the passage of water through to other areas. Its compatibility with epoxy adhesives used to fix the pedestal to the sub floor, eliminates the necessity to puncture the water containment membrane.

- TOUGHSEAL

### PLANT ROOMS

Plant room floors are generally bunded and/or waterproofed to contain any leaks or spillages from faulty tanks, plant or pipe work. Plant rooms in basement areas also need a containment system to prevent contamination of the ground. The system's resistance to chemicals and abrasion, allows it to be applied as an exposed system to both concrete and masonry.

- TOUGHSEAL
- CEMENTSEAL

### SUPERSTRUCTURE

RIW liquid membranes can be applied onto superstructures as an effective vapour barrier prior to the installation of rainscreen and other forms of cladding systems. The membrane is designed to protect reinforced concrete, steel or masonry against attack and prevent moisture ingress from water vapour that may become trapped within the cavity.

- HEVISEAL
- LAC

### DRAINED CAVITY SYSTEMS

Drained Cavity Systems within the basement or sub-structure form a continuous pre-formed cavity, which intercepts and drains away water ingress. They also provide a vapour barrier to enable this low risk form of construction to be used for the highest grade of basement usage (BS8102: 2009, grade 3) without ventilating the cavity.

- CAVITY DRAIN
- SUMP PUMPS
- AQUA CHANNEL
- PLASTER DRAIN

### RETAINING WALLS

Retaining walls can be external walls forming part of the landscape design or walls that form part of a property. Landscape walls are much less critical but often require a membrane to prevent ground dampness spoiling the aesthetic nature of the design. Walls that protect habitable areas must be considered as high risk and tanked accordingly.

- FLEXISEAL
- HEVISEAL
- LAC
- SHEESTSEAL 226
- STRUCTURESEAL
- DOUBLE DRAIN

### WET AREAS

Designs incorporating wet rooms require a watertight containment system to be installed behind the ceramic tiles and finishes to prevent water penetration through the tile due to commissioning leaks, substrate movement and grout failure. A flexible system should be considered on modular construction products such as plywood and plasterboard.

- TOUGHSEAL
- FWM
- TILESAFE
- SCREEDSAFE

### LIFT PITS

Often situated below the floor slab, lift pits can be subject to hydrostatic pressure. They are usually externally tanked in difficult, wet and confined working conditions making waterproofing installation challenging. Consider incorporating a small sump or low point in the base of the pit from which water can be pumped in extreme weather conditions.

- FLEXISEAL
- LAC
- TOUGHSEAL
- SHEETSEAL 226
- STRUCTURESEAL
- CEMENTSEAL
- CEMENTFLEX
- DOUBLE DRAIN

### PODIUM DECKS

Landscaped basement roofs, commonly known as plazas or podiums, can vary from habitable space to car parking. Consider deck movement, waterproofing continuity at expansion joints, drainage outlets, landscaping and most importantly what is below the deck. Other evelated concrete decks, such as balconies and terraced areas, are influenced by the same factors.

- FLEXISEAL
- TOUGHSEAL
- CEMENTSEAL
- CEMENTFLEX
- DOUBLE DRAIN

### PLANTERS

Waterproofing a planter is no less critical than other areas, as leaks can be damaging and costly. Planters also require a membrane to prevent dampness spoiling the aesthetic nature of the design. If irrigation pipes are required, consider waterproofing the detailing of these junctions carefully.

- FLEXISEAL
- HEVISEAL
- LAC
- TOUGHSEAL
- SHEETSEAL 226
- CEMENTSEAL
- CEMENTFLEX

### GAS/RADON RESISTANT

Ground contaminants and gases such as radon, methane and carbon dioxide must be considered when deciding upon a waterproofing design. Gases can enter the building via cracks and joints that form within the structure. Therefore a flexible membrane, capable of accomodating movements in the structure without fracturing, should be considered.

- FLEXISEAL
- LAC
- LIQUID GM
- SHEETSEAL 226
- SHEETSEAL GR

### DPC/CAVITY TRAY

Damp proof courses are used to prevent moisture from the ground rising into the internal fabric of the structure. Cavity trays divert water within cavity wall construction through to the outside. It is especially important to ensure cavity trays above basements are carefully installed with fully taped and sealed joints to prevent water bypassing the waterproofing system.

- SHEETSEAL 9000 DPC

### CONSTRUCTION JOINTS

Construction joints within a reinforced concrete structure below ground are perhaps the weakest part of the structure. These should be protected from ground water ingress with the installation of a Bentonite Hydrophilic waterstop to form a permanent pressure seal to exclude water ingress through the joint.

- WATERSTOP
- CEMENTJOINT

### MOVEMENT JOINTS

Construction joints are designed to relieve or absorb anticipated movement between structural elements generally caused by thermal expansion/contraction, settlement, load transfer, dead loads and at times seismic activity. Movement joints are dynamic, and will be subject to horizontal, vertical and shear movement.

- MULTIJOINT

### TEMPORARY WATERPROOFING

Multi-phased contemporary buildings and existing structures may require temporary protection against water ingress to individual floors or walls as construction progresses. Ease of installation, UV stability, impact resistance and durability of the membrane should be considered.

- HEVISEAL
- TOUGHSEAL
- CEMENTSEAL
- CEMENTFLEX

## **Select** the most appropriate system for the specific needs of your project

**LIQUID APPLIED SYSTEMS**

- FLEXISEAL
- HEVISEAL
- LAC
- TOUGHSEAL
- LIQUID GM
- FWM

**SHEET APPLIED SYSTEM**

- SHEETSEAL 226
- SHEETSEAL GR
- TILESAFE
- SCREEDSAFE

**SODIUM BENTONITE SYTEMS**

- STRUCTURESEAL
- WATERSTOP
- SEALING COMPOUND
- GRANULES

**CEMENT BASED SYSTEMS**

- CEMENTSEAL
- CEMENTFLEX
- CEMENTFILL FC
- CEMENTFILL HB
- CEMENTJOINT
- REPEL AC

**STRUCTURAL DRAINAGE SYSTEMS**

- CAVITY DRAIN
- DOUBLE DRAIN
- PLASTER DRAIN
- SUMP PUMPS
- AQUA CHANNEL

**DPC/CAVITY TRAY**

- SHEETSEAL 9000 DPC

**MOVEMENT JOINT**

- MULTIJOINT

## KEY

- CHEMICAL RESISTANT
- COLOUR CODED
- FLEXIBLE
- RADON RESISTANT
- SULPHATE RESISTANT
- UV STABLE
- PLASTERBOND
- CLASS 1 FIRE RATING
- IMPACT RESISTANT
- FACTORY CONTROLLED THICKNESS
- C02 BARRIER
- METHANE RESISTANT
- SELF HEALING
- COIL OR ROLL
- DAMP SUBSTRATE
- LOW TEMPERATURE APPLICATION
- ABRASION
- BRUSH
- ROLLER
- SHEET
- SLIP RESISTANT
- SPRAY

You can find out more about the products on the mini data sheets within this guide.

For in depth technical details and guidance on how the system should be incorporated into your design, please visit **riw.co.uk** or contact **technical@riw.co.uk**



# LIQUID APPLIED SYSTEMS

- RIW FLEXISEAL
- RIW HEVISEAL
- RIW LIQUID ASPHALTIC COMPOSITION (LAC)
- RIW TOUGHSEAL
- RIW LIQUID GM
- RIW FWM

## DURABILITY

Subject to normal conditions of use, the coating will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure or the finishes applied to it.
In addition, Liquid GM will also provide a barrier to methane and carbon dioxide.

## SPECIFICATION

Flexiseal, Heviseal, LAC & Liquid GM
J30 – Liquid Applied Tanking/Damp Proofing in accordance with NBS Specification Clauses.
Clause 110 Cold Applied Tanking.

Flexiseal, Heviseal, LAC, Liquid GM & Toughseal
J30 – Liquid Applied Tanking/Damp Proofing in accordance with NBS Specification Clauses.
Clause 130 Cold Applied Damp Proofing.

FWM
M40 – Stone/Concrete/Quarry/Ceramic tiling/Mosaic in accordance with NBS Specification Clauses.
Clause 470 Intermediate substrate

For further information please consult RIW.

## ANCILLARY PRODUCTS

RIW produce a range of Ancillary Products for use with our liquid applied systems, which includes:

- Cement based waterproof fairing coat and repair mortars for profiling and providing fillets etc.
- Tapes and scrims for reinforcing the coatings where subjected to movement.
- Drainage boards to promote drainage of water away from the structure.
- Protection boards to prevent damage of applied membranes from following works.
- Damp proof courses and cavity trays.

## CONSTRUCTION

General: All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS 8102: 2009 Code of practice for protection of below ground structures against water from the ground.

PREPARATION: Flexiseal, Heviseal, LAC & Toughseal
All surfaces should be smooth, clean, dry, sound and free from other contamination. If any surfaces are very rough, they may require rendering or screeding. Voids or hollows must be made good with suitable fillers eg Cementfill FC. Any sharp edges or high points must be eliminated. Powdery or flaking surfaces must be removed.

Horizontal concrete surfaces should preferably be smooth, however lightly tamped, brushed or floated surfaces may also be acceptable.

Masonry should be sound with joints flush pointed or 'bagged out', and open texture surfaces should be sealed as necessary.

PREPARATION: Liquid GM
Generally as for Flexiseal above, but the surface must be pre-dampened before applying the first coat.

PREPARATION: FWM
As for Tilesafe: see Sheet Applied Systems

## APPLICATION

General: Liquid applied systems should not be attempted in temperatures below 5°C. However, and if necessary, please consult RIW's Technical Department for advice on cold weather working.

Manual: Liquid systems are best applied by using a stiff brush, or medium pile roller, unless noted otherwise.

Spray: Some liquid applied systems are suitable for spraying: for further information please contact RIW's Technical Department.

System Primers should be applied to all surfaces, when required.

## SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

## SUPPLY

RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists, and/or experienced applicators is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.

# RIW FLEXISEAL

## TYPICAL USES

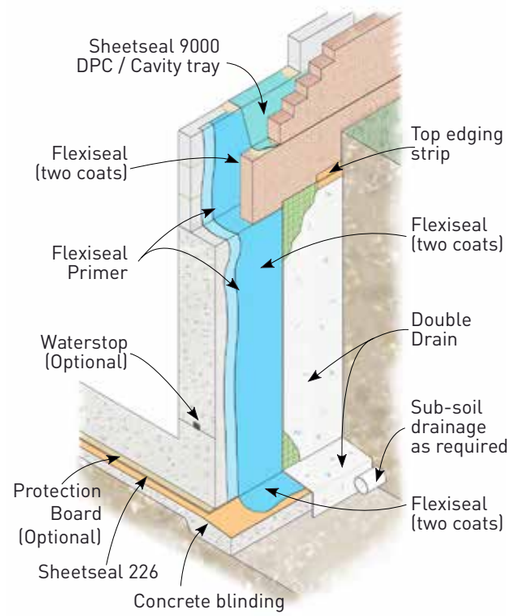
When designing Type A (barrier) protection as Classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grades 1, 2 & 3 basements.

Flexiseal is used in all situations, where a high performance tanking material or damp proof membrane is required.

Suitable substrates include concrete, masonry, steel, asbestos cement, timber, sprayed polyurethane foams and expanded polystyrene such as ICF systems.

## INDEPENDENT AUTHORITY

Tests carried out by the PRA Coatings Technology Centre show that Flexiseal will provide an effective barrier to passage of water and water vapour.

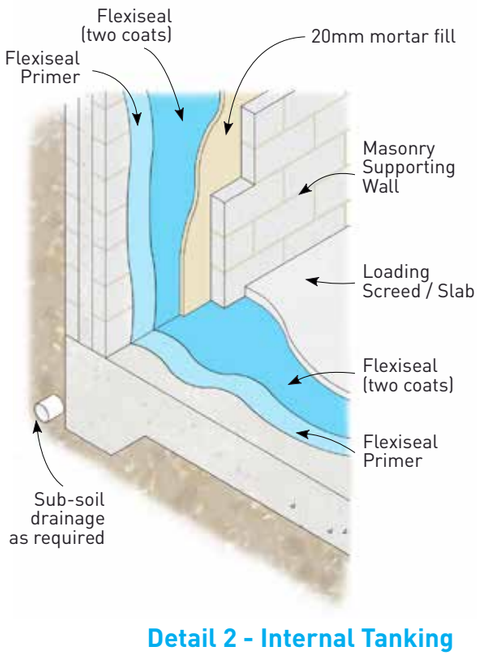



**Detail 1 - External Tanking**

# RIW FLEXISEAL

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| Seamless coating | No vulnerable joints or overlaps |
| Fully bonded | Prevents water tracking behind the coating |
| Elastic & flexible | Accommodates some differential movement in the substrate |
| Easily applied to difficult substrates | Simplifies the installation over irregular profiles |
| Applied in colour coded coats | In built quality control system during installation |
| Measurable dry film thickness | Ensures coating is applied at the correct thickness |




**Detail 2 - Internal Tanking**

## SPECIFIC USES

External tanking should be carried out as illustrated in Detail 1 of this literature. The membrane should then be protected from backfilling as necessary.

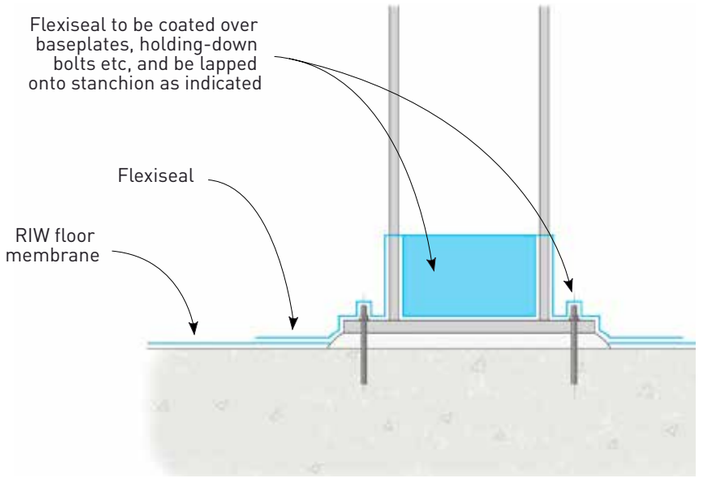
Internal tanking should be carried out in accordance with Detail 2 of this literature.

The product must always be fully supported to resist hydrostatic pressure, therefore, a loading coat of brick, block or concrete should be constructed immediately after the membrane has cured.

Deck areas should be laid to falls as necessary. The membrane must be covered and protected as soon as possible after application.

## APPLICATION

Flexiseal should be applied onto a primed surface, in two coats at a minimum application rate of 2m²/kg/coat. Flexiseal Primer should be applied to all surfaces unless noted otherwise.




**Typical Detail at Stanchions. (Pipes etc are similar)**



# RIW HEVISEAL

## TYPICAL USES

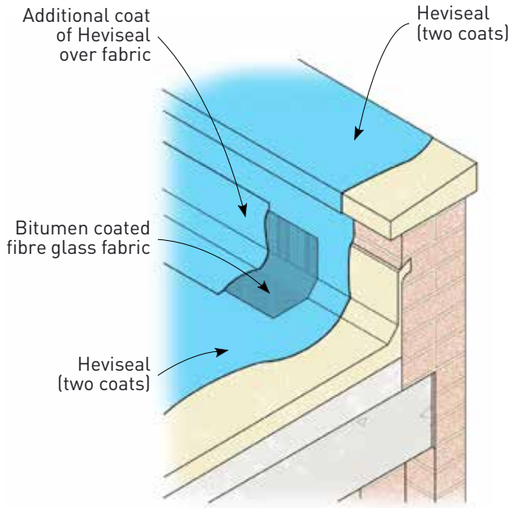
Heviseal is typically used to provide protection to concrete, masonry or steel superstructures, when the membrane is to be left exposed for a long period of time.

The product may also be applied to the internal face of planters, etc, above ground level to prevent the egress of moisture.

The material is also used to prolong the life expectancy of flat roofs, prior to repair.

## DURABILITY

Subject to normal conditions of use, Heviseal will provide an effective barrier to the transmission of water and water vapour for a minimum of five years when used in an exposed situation, and for the life of the structure once covered.




**Detail 1 - Roof Refurbishment**

# RIW HEVISEAL

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| U.V. resistance | Exposure to direct sunlight is not detrimental to the coating performance |
| Easily applied to difficult substrates | Simplifies the installation over irregular substrate profiles |
| Easily maintained | Can be over coated easily, reducing maintenance costs |

## SPECIFIC USES

Superstructures: the product should be coated onto all surfaces as required, where waterproofing is necessary.

Flat roof refurbishment: the product can be applied to a new or existing roof, to provide a temporary waterproof membrane or to prolong the life expectancy of an existing membrane, eg. mastic asphalt or roofing felts. See Detail 1.

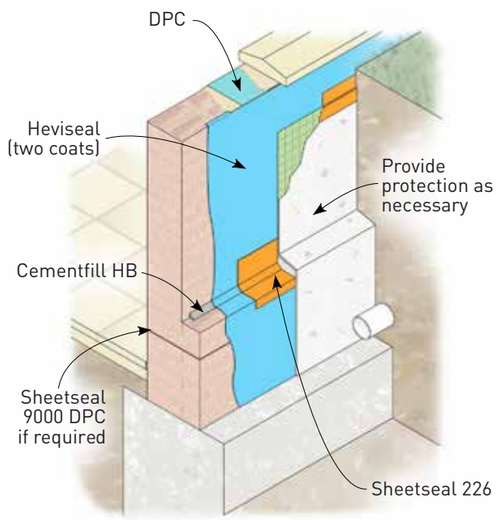
Planters: waterproofing should be carried out as illustrated in Detail 2 of this literature.

Pond lining: Heviseal is suitable for use as a pond lining and will not harm pond life. Please consult the RIW Technical Department for more details.

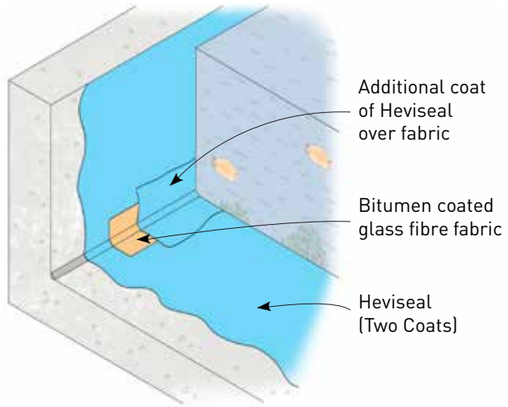
Gutter repairs: Heviseal may be applied to existing gutters, constructed of galvanised steel, concrete sections etc, to provide a new waterproof lining.

## APPLICATION

Heviseal should be applied in two coats at a minimum application rate of 1.5m²/litre per coat.




**Detail 2 - Planter/Retaining Wall**




**Pond Detail**



# RIW LIQUID ASPHALTIC COMPOSITION (LAC)

## TYPICAL USES

When designing Type A (barrier) protection as classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grade 1, 2 & 3 basements.

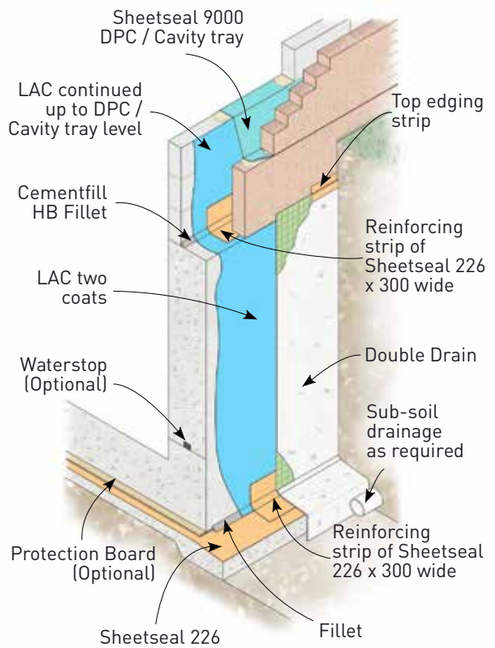
Liquid Asphaltic Composition (LAC) is typically used for tanking, and to provide a damp proof membrane to ground floors and as a vapour barrier behind cladding. LAC is often used on superstructures vertically, prior to cladding.

The product may also be applied to the internal face of external walls above ground level to prevent the penetration of moisture. The membrane can then be plastered or covered when dry.

## INDEPENDENT AUTHORITY

LAC has been awarded British Board of Agrément Certificate No. 89/2278, covering its use for the tanking of basements and as a damp proof membrane for solid floors.

Tests carried out by the National Radiological Board show that the product will provide a barrier to the passage of Radon by diffusion.




**Detail 1 - External Tanking**

# RIW LAC

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| Seamless coating | No vulnerable joints or overlaps |
| Fully bonded | Prevents water tracking behind the coating |
| Radon barrier | Creates a safe internal environment |
| Easily applied to difficult substrates | Simplifies the installation over irregular profiles |
| Sulphate resistant | Protects concrete from degradation |

## SPECIFIC USES

External tanking should be carried out as illustrated in Detail 1 of this literature. The membrane should then be protected from backfilling as necessary.

Internal tanking should be carried out in accordance with Detail 2 of this literature. The product must always be fully supported to resist hydrostatic pressure, therefore, a loading coat of brick, block or concrete should be constructed immediately after the membrane has cured.

Floating floor construction: LAC can be used under a floating floor system at ground level; see Detail 3.

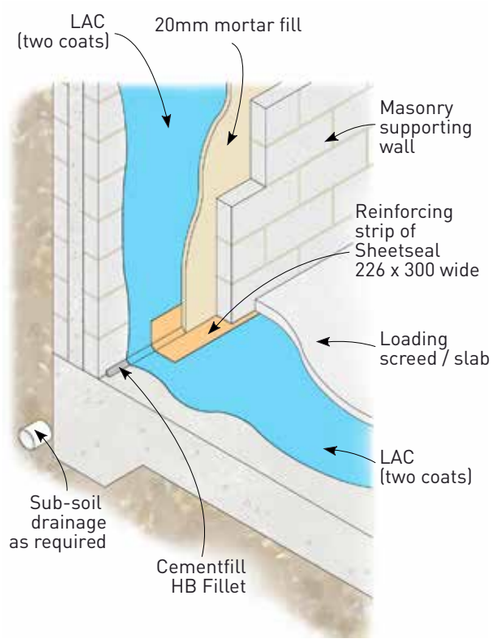
Vapour barrier behind plastering: LAC is suitable for use under the following plasters: Thistle Bonding or Thistle Universal One Coat.

## APPLICATION

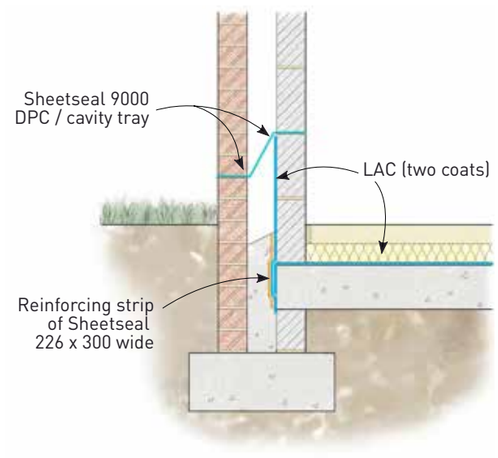
LAC should be applied in two coats at a minimum application rate of 1.7m²/litre for the first coat, and 2.5m²/litre for the second coat, unless noted otherwise.

Construction joints subject to movement must be reinforced using Sheetseal 226.

The applied coating must be protected from the effects of U.V. light within 28 days of application.




**Detail 2 - Internal Tanking**




**Detail 3 - Ground Floor DPM**



# RIW TOUGHSEAL

## TYPICAL USES

Toughseal is typically used as a surface applied damp proof membrane under raised access floors, in plant rooms and bunded areas, and other similar locations requiring resistance to chemicals etc.

The product is also used in swimming pool environments, including changing rooms, shower areas and pool surrounds.

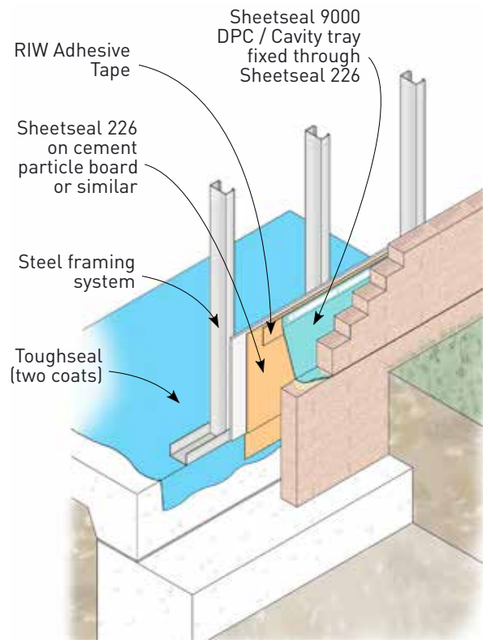
The material when dressed with a suitable aggregate can provide a slip retardant surface, or a waterproof key beneath renders, levelling compounds, and tile adhesives etc.

## INDEPENDENT AUTHORITY

Toughseal has been tested in accordance with BS476: Part 7:1997. Fire tests on building materials and structures, method of classification of the surface spread of flame of products and is classified as Class 1.

Tests carried out by the PRA Coatings Technology Centre show that Toughseal will provide an effective barrier to the passage of water and water vapour.

Toughseal is registered under the CE Marking Scheme, in compliance with EN1504.

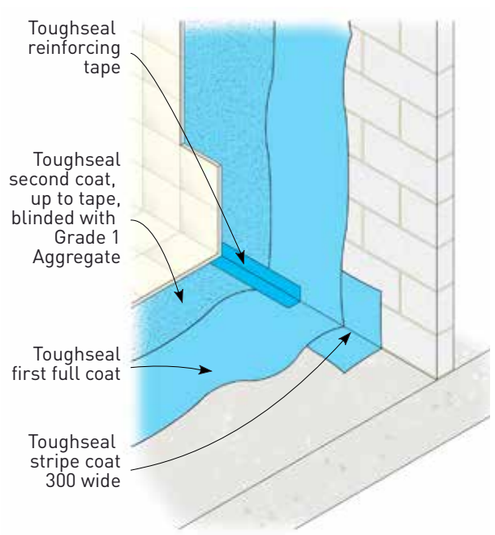



**Ground Floor DPM**

# RIW TOUGHSEAL

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| Abrasion resistant | Maintains waterproofing integrity in aggressive environments |
| Seamless coating | No vulnerable joints or overlaps |
| Easily applied to difficult substrates | Simplifies the installation over irregular profiles |
| Fully bonded | Prevents water tracking behind the coating |
| High substrate adhesion | Increases resistance to impact & allows finishes to be bonded to it |
| Chemical resistant | Protects substrate from harmful chemicals |
| Class 1 fire rating | Does not readily ignite |
| U.V. resistance | Exposure to direct sunlight is not detrimental to the coating performance |




Tile Bedding/Render Key

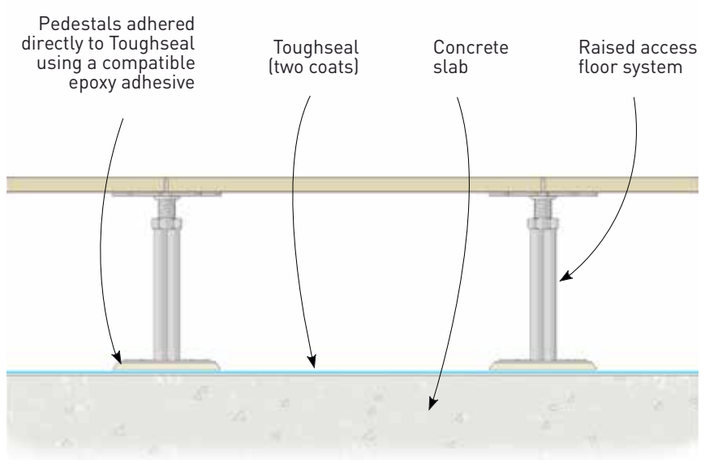
## SPECIFIC USES

Raised access floors: Toughseal can be used to provide a waterproof layer, onto which the pedestals etc, can be directly adhered.

Wearing surface: the waterproof coating is applied to the required area, and can be finished with Grade 2 Aggregate for a slip retardant surface.

Tile bedding/render key: the waterproof coating is applied to the required area, and must be finished with Grade 1 Aggregate, to provide a key beneath finishes.

Surface applied damp proof membrane: the waterproof coating is applied beneath raised access floors, and/or other floor finishes at ground level.




Raised Access Floor

## APPLICATION

Toughseal should be applied in two coats at a rate of 4m²/litre per coat. Construction joints subject to movement must be reinforced using Toughseal Reinforcing Tape or Flexiseal as appropriate.



# RIW LIQUID GM

## TYPICAL USES

Liquid GM is typically used to reduce the passage of methane gas or carbon dioxide. Liquid GM also provides a water and water vapour barrier.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Resistant to harmful gases | Protects the structure from harmful gases |
| Water & water vapour barrier | Creates a totally dry environment |
| Seamless coating | No vulnerable joints or overlaps |
| Fully bonded | Prevents water tracking behind the coating |
| Easily applied to difficult substrates | Simplifies the installation over irregular profiles |
| Can be applied to a damp substrate | Can be applied all year round |

## INDEPENDENT AUTHORITY

Tests carried out by the Technology Centre show that Liquid GM will provide a barrier to methane, carbon dioxide and hydrocarbon vapour.

## SPECIFIC USES

The product is primarily used where a barrier to methane and carbon dioxide is required.

When used for internal tanking, the product must be adequately supported to resist hydrostatic pressure.

When used as a 'gas barrier', the product may be left unsupported but must always be covered.

## APPLICATION

Liquid GM should be applied in two coats at a minimum application rate of 0.5 litres/m² for the first coat, and 0.7 litres/m² for the second coat, unless noted otherwise.

# RIW FWM

## TYPICAL USES

FWM is a waterproof coating for use on walls, beneath tiled or stone finishes.

The product is suitable for vertical applications in wet rooms, shower areas, changing rooms and bathrooms, etc. It may also be applied to walls in domestic kitchens and commercial type applications.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Protects sensitive substrates from water ingress | Retains the integrity of ceramic tiles on moisture sensitive backgrounds |
| Suitable for most commonly used backgrounds | Product versatility helps simplify the installation |
| Quick & easy to apply | Helps maintain a fast track construction programme |
| Solvent free | Suitable for use in poorly ventilated areas such as wetrooms |

## SPECIFIC USES

The coating is to be used in conjunction with Tilesafe and Screedsafe.

Substrates that can be treated include: Plaster, Plasterboard, Plywood, Timber, Blockwork, Brickwork, Cement board, Cement-based render/coating.

The product is not suitable for use in areas of continuous immersion, such as swimming pools etc.

## APPLICATIONS

FWM should be applied in two coats at a minimum application rate of 2m$^2$/kg per coat.

Tilesafe Reinforcing Tape must be used under the product, to reinforce areas where movement may occur.

2

# SHEET APPLIED SYSTEMS

- RIW SHEETSEAL 226
- RIW SHEETSEAL GR
- RIW TILESAFE
- RIW SCREEDSAFE

## DURABILITY

Subject to normal conditions of use, the system will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure, or the finishes applied onto it. In addition, Sheetseal GR will also provide a barrier to methane and carbon dioxide gases.

## SPECIFICATION

Sheetseal GR

J40 – Flexible Sheet Tanking/Damp Proofing in accordance with NBS Specification Clauses.
Clause 180 Self-adhesive bitumen gas retardant damp proofing/tanking.

Sheetseal 226

J40 – Flexible Sheet Tanking/Damp Proofing in accordance with NBS Specification Clauses.

Clause 190 Self-adhesive bitumen damp proofing/ tanking.

RIW Tilesafe & RIW Screedsafe
M40 – Stone/Concrete/Quarry/Ceramic tiling/Mosaic in accordance with NBS Specification Clauses.
Clause 470 Intermediate substrate.

For further information please consult RIW.

## ANCILLARY PRODUCTS

For use with our Sheetseal systems:

- Cement based waterproof fairing coat and repair mortars for profiling and providing fillets.
- Drainage boards to promote drainage of water away from the structure.
- Protection boards to prevent damage to the membrane from following works.
- Damp proof courses and cavity trays.

We also produce a range of Ancillary Products for use with Tilesafe and Screedsafe.

## CONSTRUCTION

General: All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS 8102:2009 Code of practice for protection of below ground structures against water from the ground.

PREPARATION: Sheetseal 226 & Sheetseal GR:

All surfaces should be smooth, clean, dry, sound and free from other contamination.
If existing surfaces are very rough, they may require rendering or screeding. Voids or hollows must be made good with suitable fillers. Any sharp edges or high points must be eliminated. Powdery or flaking surfaces must be removed.

Sheetseal Primer should be applied to all vertical or inclined surfaces, prior to application of the membrane.

PREPARATION: Tilesafe & Screedsafe

All surfaces should be clean, dry, free from dust, grease, oil etc. Surfaces must be smooth, sound and flat, without indentations or protrusions. Existing coatings etc, should be removed unless they are compatible with the primer and membrane.

## APPLICATION

Sheetseal 226 & Sheetseal GR

These systems should not be attempted in temperatures below 5°C. Conditioning of the membrane in a warm area, prior to use, will enhance its adhesion properties during application.

Vertical work must be supported immediately after application, or temporary supports provided as necessary. Maximum unsupported height of membrane must not exceed 200mm.

Tilesafe & Screedsafe

These systems should not be attempted in temperatures below 10°C. Conditioning of the membrane in a warm area, prior to use, will enhance its adhesion properties during application.

## SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

## SUPPLY

RIW products can be obtained through Builders Merchants or approved stockists.

A list of approved stockists, and/or experienced applicators is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.

# RIW SHEETSEAL 226

## TYPICAL USES

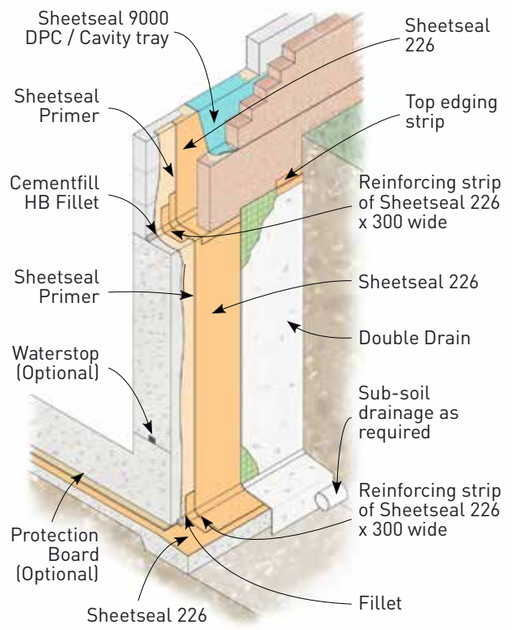
When designing Type A (barrier) protection as Classified in BS8102: 2009, the product correctly applied is capable of providing the levels of protection required for Grades 1, 2 & 3 basements.

Sheetseal 226 is typically used to provide a water and water vapour barrier in all forms of construction, particularly where large unobstructed areas are to be treated. Typical installations include floors, retaining walls, and similar uncluttered surfaces.

## INDEPENDENT AUTHORITY

Sheetseal 226 has been awarded British Board of Agrément Certificate No. 92/2817, covering its use for waterproofing above, at or below ground level.

Sheetseal 226 is registered under the CE Marking Scheme, in compliance with EN13967.




**Detail 1 - External Tanking**

# RIW SHEETSEAL 226

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| Factory controlled thickness | Ensures application at the correct thickness |
| Elastic & flexible | Will accommodate differential movement in the substrate |
| No drying time | Will not delay following trades |
| Selvedge strip | Improves sealing of laps |

## APPLICATION

Internal corners should be eased with a cement-based fillet, minimum 40mm high. External corners should be chamfered or rounded.

Horizontal concrete surfaces should preferably be smooth, however lightly tamped, brushed or floated surfaces may also be acceptable.

Masonry should be sound with joints flush pointed or 'bagged out' and open texture surfaces should be sealed as necessary.

Sheetseal Primer should be applied to all vertical or inclined surfaces, at an application rate of approximately 7 $m^2$/litre, to aid adhesion of the membrane.

Sheetseal 226 should be applied by removing the separating paper and pressing the adhesive coated surface firmly onto the prepared substrate.

Internal and external corners etc, must be reinforced with additional strips of the product, as required and detailed in the main data sheet.

The applied membrane must be protected from the effects of U.V. light within 28 days of application.

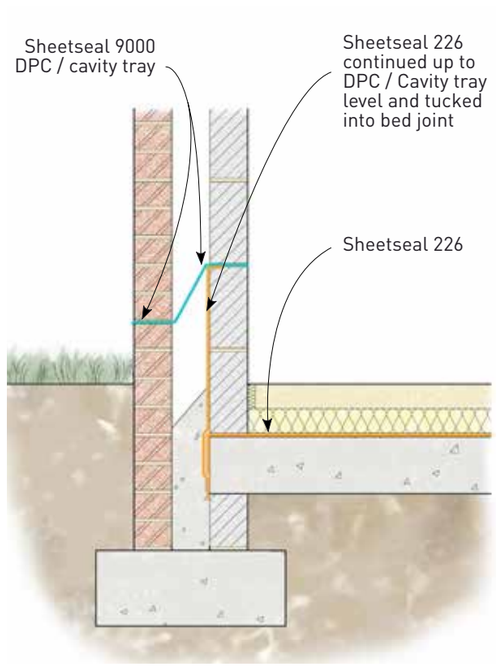
## SPECIFIC USES

External tanking should be carried out as illustrated in Detail 1 of this literature.

The membrane should then be protected from following works using Double Drain or Protection Board to suit.

Floating floor construction: Sheetseal 226 can be used under a floating floor system at ground level.

If used for internal tanking, the product must be fully supported to resist hydrostatic pressure. Consult RIW for more information.




**Ground Floor DPM**



# RIW SHEETSEAL GR

## TYPICAL USES

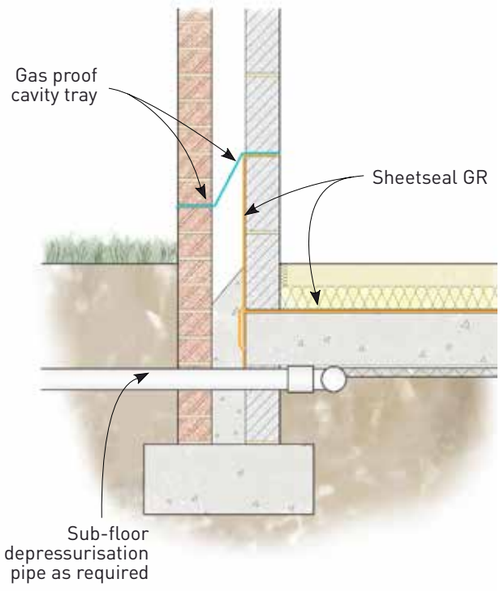
When designing Type A (barrier) protection as Classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grades 1, 2 & 3 basements.

Sheetseal GR is typically used to reduce the passage of methane gas or carbon dioxide. Sheetseal GR also provides a water and water vapour barrier.

## INDEPENDENT AUTHORITY

Sheetseal GR has been tested by Wimpey Laboratories for methane gas resistance.

Sheetseal GR is registered under the CE Marking Scheme, in compliance with EN13967.




**Ground Floor DPM/Gas Barrier**

# SHEETSEAL GR

## FEATURES AND BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Methane & carbon dioxide barrier | Protects the structure from harmful gases |
| Water & water vapour barrier | Creates a totally dry environment |
| Factory controlled thickness | Ensures application at the correct thickness |
| Elastic & flexible | Will accommodate differential movement in the substrate |
| No drying time | Will not delay following trades |
| Selvedge strip | Improves sealing of laps |

## SPECIFIC USES

External tanking should be carried out as illustrated in Detail 1 of this literature.

The membrane should then be protected from backfilling as necessary.

Internal tanking should be carried out in accordance with Detail 2 of this literature.

The product must always be fully supported to resist hydrostatic pressure; therefore, a loading coat of brick, block or concrete should be constructed immediately after the membrane has cured.

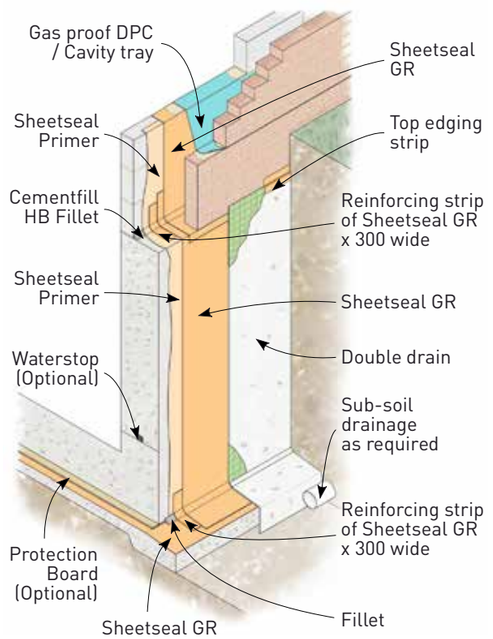
Floating floor construction: Sheetseal GR can be used to provide a methane and carbon dioxide barrier under a floating floor system at ground level.

## APPLICATION

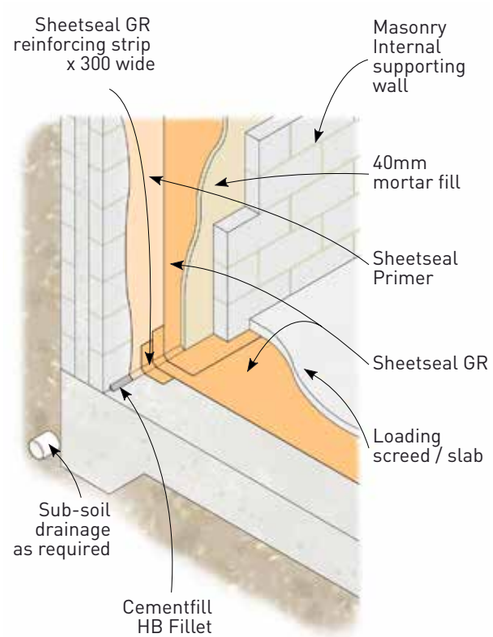
Sheetseal Primer should be applied to all vertical or inclined surfaces, at an application rate of approximately 7 $m^2$/litre, to aid adhesion of the membrane.

Sheetseal GR should be applied by removing the separating paper and pressing the adhesive coated surface firmly onto the prepared substrate.

The applied membrane must be protected from the effects of U.V. light within 28 days of application.



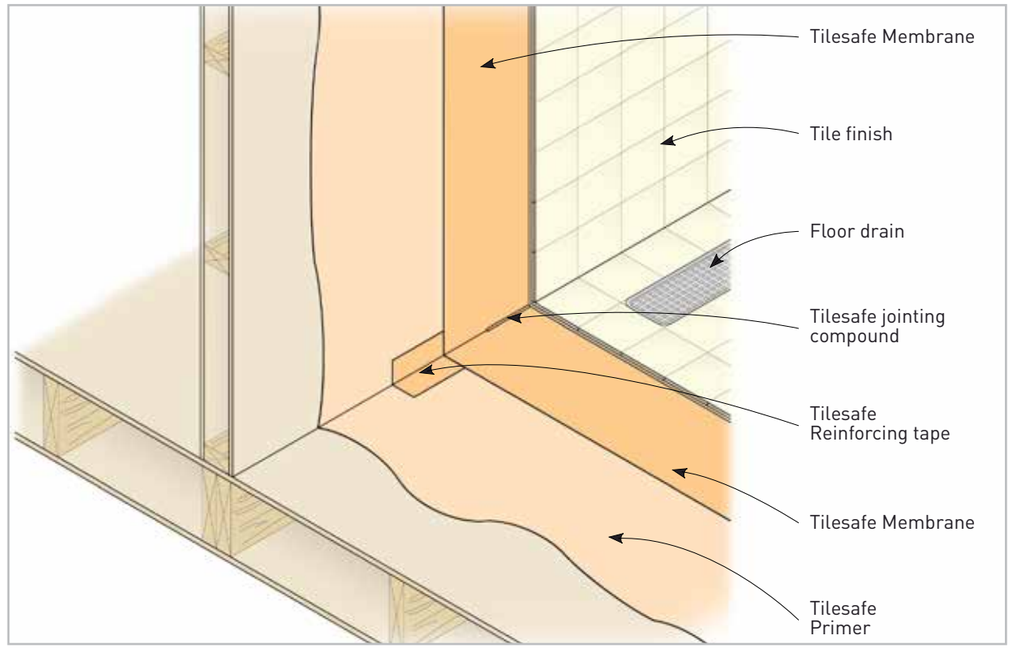

**Detail 1 - External Tanking**




**Detail 2 - Internal Tanking**



# RIW TILESAFE




## TYPICAL USES

Tilesafe provides a waterproofing layer beneath ceramic, granite, marble, slate and porcelain tiles, and other finishes in bath/shower rooms and other wet areas.

## FEATURES AND BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Anti-fracture/ de-coupling membrane | Tiled finishes unaffected by substrate movement |
| Water & water vapour barrier | Creates a totally dry environment |
| Factory controlled thickness | Ensures application at the correct thickness |
| No drying time | Tile adhesive & tiles can be laid immediately |

## INDEPENDENT AUTHORITY

BRE tests have proven that Tilesafe improves the sound impact insulation value of a wet room floor assembly. CERAM testing shows that the product is an effective anti-fracture/de-coupling membrane.

## SPECIFIC USES

The product can be applied to masonry, concrete or screed, as well as plywood, plasterboard etc.

## APPLICATION

Tilesafe Primer is used on all surfaces at an application rate of 10$m^2$/litre, to aid adhesion of the membrane.

Tilesafe Putty is used to fill small gaps or voids around pipe entries etc, prior to application of the membrane.

Tilesafe Reinforcing Tape is used to reinforce joints and other detail work in the membrane.

Tilesafe should be applied by removing the separating paper and pressing the adhesive coated surface firmly onto the prepared substrate.

Tilesafe Jointing Compound is gun applied, and used to seal joints in the membrane.

Top release film to be removed from the Tilesafe immediately prior to tiling.

# RIW SCREEDSAFE

## TYPICAL USES

Screedsafe provides a waterproofing layer beneath ceramic, granite, marble, slate and porcelain tiles when applied onto concrete or screeded floors in wet areas.

## FEATURES AND BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| Factory controlled thickness | Ensures application at the correct thickness |
| Elastic & flexible | Will accommodate differential movement in the substrate |
| No drying time | Tile adhesive & tiles can be laid immediately |

## SPECIFIC USES

The product can be applied to concrete or screeded floors only. Timber floors etc, should be waterproofed with Tilesafe.

## APPLICATION

Screedsafe Primer is used on all surfaces at an application rate of 7m$^2$/litre, to aid adhesion of the membrane.

Screedsafe Putty is used to fill small gaps or voids around pipe entries etc, prior to application of the membrane.

Screedsafe Reinforcing Tape is used to reinforce joints and other detail work in the membrane.

Screedsafe should be applied by removing the separating paper and pressing the adhesive coated surface firmly onto the prepared substrate.

Screedsafe Jointing Compound is gun applied, and used to seal joints in the membrane.

Top release film to be removed from the Screedsafe immediately prior to tiling.

3

# SODIUM BENTONITE SYSTEMS

RIW STRUCTURESEAL

RIW WATERSTOP

RIW SEALING COMPOUND

RIW GRANULES

## DURABILITY

Subject to normal conditions of use, the system will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure.

## SPECIFICATION

**Structureseal**

J40 – Flexible Sheet Tanking/Damp Proofing in accordance with NBS Specification Clauses.

Clause 285 Loose laid bentonite damp proofing/ tanking.

**Waterstop**

E40 – Designed joints in insitu concrete in accordance with NBS Specification Clauses.

Clause 320 Hydrophilic waterstops.

For further information please consult RIW.

## ANCILLARY PRODUCTS

RIW produce a range of Ancillary Products for use with our sodium bentonite systems, which includes:

- Flexible, bentonite-based waterstops for non-moving joints.
- Trowel grade sodium bentonite compound for detailing work.
- Chemically treated sodium bentonite granules for void filling.
- Soft-washer fasteners for fixing.
- Stapler for fixing sheets of Structureseal together horizontally.
- Cement-based waterproof coating used for continuity through load-bearing elements.

## CONSTRUCTION

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS 8102:2009 Code of practice for protection of below ground structures against water from the ground.

PREPARATION

Floors: substrate should be smooth and compacted.

Concrete surfaces should be free of voids and sharp projections. Surface irregularities should be removed before installation.

Walls: honeycombing and other surface voids must be filled.

## APPLICATION

**Structureseal**

Install in accordance with RIW's recommendations using ancillary products as and where recommended. Structureseal should be applied with the lighter face toward the concrete to be waterproofed. Overlap all adjoining edges, a minimum of 100mm, and stagger rolls to avoid multiple layers.

**Waterstop**

Install in all horizontal and vertical construction joints, as necessary. The product should be tightly butt jointed together where it meets, and be covered with Mesh, nailed in place.

**Sealing Compound** should be applied by trowel, to the areas as required.

**Granules** are used to fill cavities and voids in the substrate, prior to installation of the membrane. They may also be mixed with water to create a paste similar to Sealing Compound.

## SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

## SUPPLY

RIW products can be obtained through Builders Merchants or approved stockists.

A list of approved stockists, and/or experienced applicators, is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.



# RIW STRUCTURESEAL

## TYPICAL USES

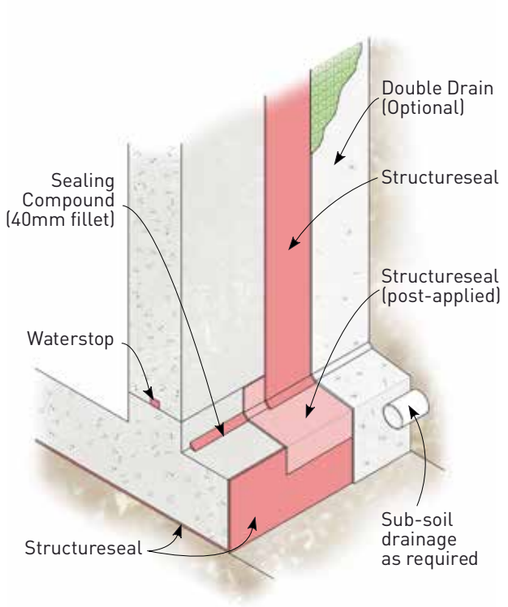
When designing Type A (barrier) protection as classified in BS8102: 2009, the product correctly applied is capable of providing the levels of protection required for Grade 1, 2 & 3 basements.

Structureseal is designed for below ground vertical and horizontal structural foundation surfaces. Typical applications include backfilled reinforced concrete walls, slabs and boundary line construction.

## INDEPENDENT AUTHORITY

Structureseal has been awarded British Board of Agrément Certificate No. 02/3953, covering its use for waterproofing and damp-proofing underground structures.

Structureseal is registered under the CE Marking Scheme, in compliance with EN13491 & EN15382.




**Detail 1 - External Tanking**

# RIW STRUCTURESEAL

## SPECIFIC USES

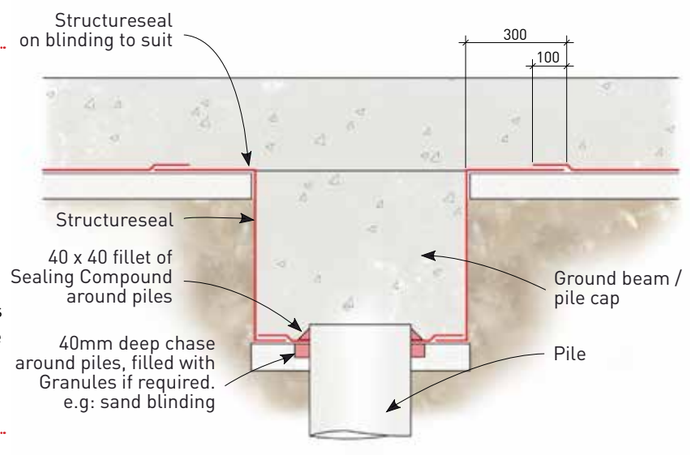
External tanking should be carried out as illustrated in Detail 1 of this literature.

Floor slabs should be carried out similar to Detail 1 of this literature, with a minimum concrete slab thickness of 150mm.

Concrete retaining walls should be carried out similar to Detail 1 of this literature, with a minimum concrete thickness of 150mm.

## APPLICATION

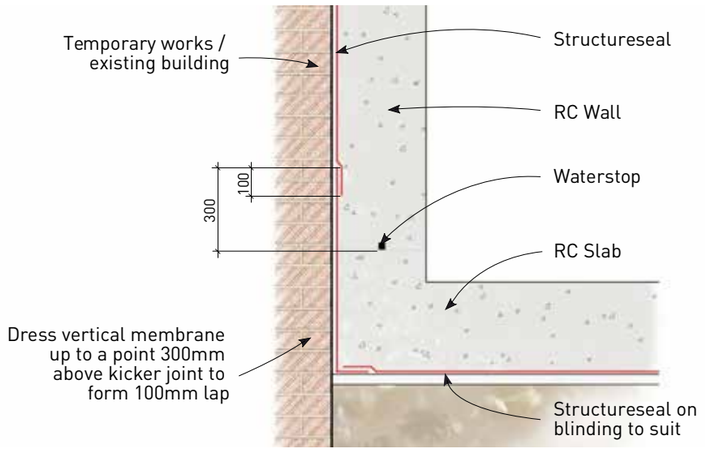
Structureseal should be applied over the properly prepared substrate, with the lighter side facing the concrete to be waterproofed.




**Typical Slab Detail at Foundations**

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Water & water vapour barrier | Creates a totally dry environment |
| Self healing properties | Self heals around minor defects or penetrations |
| Suitable for wet weather applications | Can be applied in inclement weather |
| Unaffected by low temperature installations | Suits fast track programmes all year round |
| Factory controlled thickness | Ensures application at the correct thickness |




**Boundary Line Construction**



# RIW WATERSTOP

## TYPICAL USES

When designing Type A (barrier) protection as classified in BS8102:2009, the product is used within construction joints in reinforced concrete, as part of the Structureseal system.

When designing Type B (structurally integral) protection as classified in BS8102:2009, the product is used in construction joints within the reinforced concrete structure.

## SPECIFIC USES

Waterstop is designed for use in structural concrete. The product should only be used where it is completely encapsulated within the concrete; as the product requires a minimum of 75mm concrete cover to all sides.

Waterstop is not designed, nor intended to function, as an expansion joint sealant.

## INDEPENDENT AUTHORITY

Waterstop has been awarded British Board of Agrément Certificate No. 02/3953, covering its use.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| High swelling waterproof barrier | Forms a permanent barrier to water through concrete joints |
| Flexible & mouldable | Adaptable to irregular surface profiles |
| Self healing properties | Self heals around minor defects or penetrations |
| Unaffected by low temperature installations | Suits fast track programmes all year round |

## APPLICATION

Install in all applicable horizontal and vertical construction joints, as necessary. The product should be tightly butt jointed together where it meets, and be covered with Mesh, nailed in place.

# RIW SEALING COMPOUND

## TYPICAL USES

Sealing Compound is a trowel grade sodium bentonite/butyl rubber based sealant, and is used with Structureseal for a variety of surface preparation and waterproofing detail work.

## INDEPENDENT AUTHORITY

Sealing Compound is included in British Board of Agrément Certificate No. 02/3953, covering the use of Structureseal for waterproofing and damp-proofing underground structures.

## SPECIFIC USES

Sealing Compound is normally used to provide fillets at internal corners, and to seal around penetrations etc, when using Structureseal.

It can also be used at waterproofing terminations and continuity details etc, for sealing purposes.

The material is also used for filling/levelling extremely irregular substrate surfaces etc.

## APPLICATION

40 x 40mm fillets of the material are used in conjunction with Structureseal at internal corners, penetrations etc, where required.

50 x 5mm beads of the material are used at laps between Structureseal and other materials.

# RIW GRANULES

## TYPICAL USES

Granules are used with Structureseal for a variety of surface preparation and waterproofing detail work.

## INDEPENDENT AUTHORITY

Granules are included in British Board of Agrément Certificate No. 02/3953, covering the use of Structureseal for waterproofing and damp-proofing underground structures.

## SPECIFIC USES

Granules are used loose to fill cavities and voids in the substrate, or to detail critical areas that may require additional protection.

The product may also be mixed with water to provide a 'paste', which can then be used on horizontal surfaces for similar applications to the Sealing Compound.

# CEMENT BASED SYSTEMS

4

RIW CEMENTSEAL

RIW CEMENTFLEX

RIW CEMENTFILL FC

RIW CEMENTFILL HB

RIW CEMENTFILL WP

RIW CEMENTJOINT

RIW REPEL AC

# RIW CEMENTSEAL

## TYPICAL USES

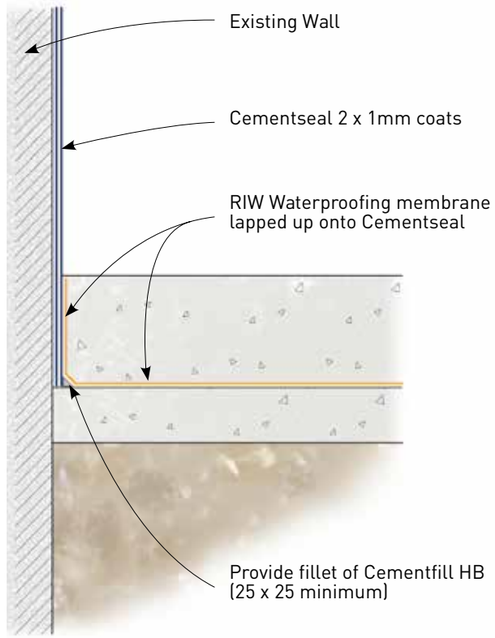
When designing Type A (barrier) protection as classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grade 1, 2 & 3 basements.

Cementseal is typically used to prevent water ingress into basements, cellars and other below ground structures. It will resist up to 100m head of negative water pressure.

The product is also suitable for use on exposed or inverted roofing, and for podium waterproofing, balconies, terrace areas etc.

## INDEPENDENT AUTHORITY

Cementseal is registered under the CE Marking Scheme, in compliance with EN1504.




**Detail 1 - Internal Tanking**

## DURABILITY

Subject to normal conditions of use, the system will provide an effective barrier to the transmission of liquid water for the life of the structure, with the exception of Repel AC (see main Data Sheet).

## SPECIFICATION

Cementflex
J10 – Cementitious Mortar Tanking/Damp Proofing in accordance with NBS Specification Clauses.
Clause 110A Cementitious modified polymer rich coating.
C42 – Repairing/Renovating/Conserving concrete
Clause 310A Cementitious modified polymer rich coating.

Cementseal
J10 – Cementitious Mortar Tanking/Damp Proofing in accordance with NBS Specification Clauses.
Clause 110A Polymer modified cementitious slurry coating.

Cementfill FC
C42 – Repairing/Renovating/Conserving concrete.
Clause 310A Cementitious repair mortar.
Clause 320 levelling/Smoothing coats.
M10 – Cement based levelling/Repairing screeds.
Clause 140 Proprietary polymer modified levelling screeds.

Cementfill HB
C42 – Repairing/Renovating/Conserving concrete.
Clause 310A Copolymer cementitious mortar.

Repel AC
M60 Painting/Clear finishing.
Clause 175 Protective coating.

For further information please consult RIW.

## ANCILLARY PRODUCTS

RIW produce a range of Ancillary Products for use with our cement based systems, which includes:

- Cement based 'plug' for arresting water seepage under pressure.
- Flexible tapes for embedding into the cement based products, to seal across joints etc.
- Waterproof sheet membranes and coatings.
- Damp proof courses and cavity trays.

## CONSTRUCTION

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS 8102:2009 Code of practice for protection of below ground structures against water from the ground.

PREPARATION

Existing substrates and structural elements should be assessed for suitability to withstand any increase in applied loads from water pressure.

All surfaces must be free from all unsound material, rust and organic growth. All loose material and surface laitance must be removed.

Masonry should be sound with joints flush pointed or 'bagged out', and open texture surfaces sealed, with Cementfill to provide a suitable surface.

The prepared substrate must be thoroughly soaked with clean water, until uniformly saturated without standing water. Horizontal concrete surfaces must be primed using Cementseal Primer.

For full preparation details of Repel AC, please see main data sheet.

## APPLICATION

General: Do not use frozen materials or apply coatings to frozen or frost-bound substrates. Do not apply coatings at or below 5°C and falling, or below 3°C and rising.

Maintain above 5°C until coatings have hardened sufficiently. Normal curing for cementitious products should be strictly adhered to.

Manual: Apply mixed material by brush, trowel or squeegee etc, as appropriate.

Spray: Some cement based systems are suitable for spraying; for further information please contact RIW's Technical Department.

## SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

## SUPPLY

RIW products can be obtained through Builders Merchants or approved stockists.

A list of approved stockists, and/or experienced applicators is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.

# RIW CEMENTSEAL

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Resists up to 100m head of negative water pressure | No need to counter water pressure with an internal supporting wall |
| Applied to a damp surface | Reduces surface preparation requirements |
| Seamless & fully bonded | No vulnerable laps & does not allow water to track behind |
| Good abrasion & impact resistance | Can be left exposed following installation |

## SPECIFIC USES

Internal tanking should be carried out as indicated in Detail 1 of this literature.

Temporary waterproofing: Cementseal may be applied 1mm thick over the area as required, to limit water ingress during construction.

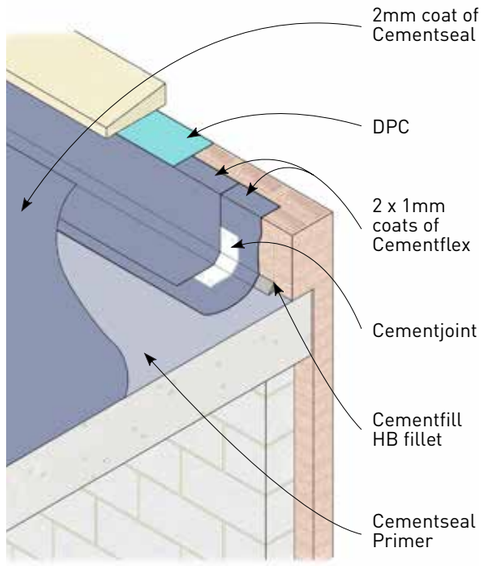
## APPLICATION

The prepared substrate must be thoroughly soaked with clean water until uniformly saturated without standing water.

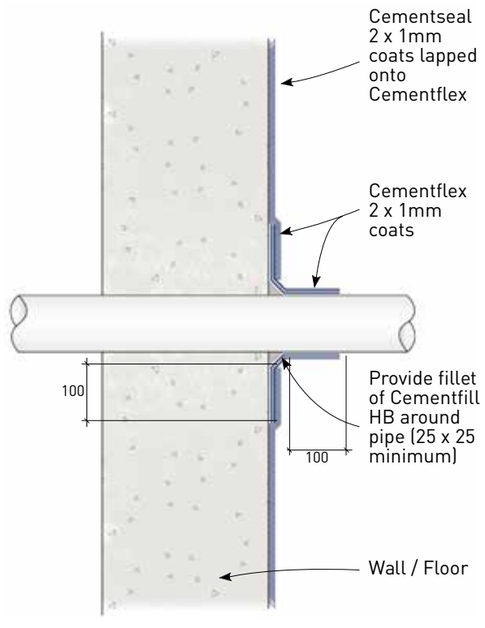
Cementseal Primer should be applied to all horizontal and/or porous vertical surfaces, at a rate of approximately 6m²/litre, prior to application of Cementseal.

Cementseal is to be mixed and then applied at a rate of 1.9kg m²/mm.

The product is applied in two 1mm thick coats vertically, and one 2mm thick coat horizontally.




**Roof/Balcony Detail. (Floor similar)**




**Pipe Entry Detail**



# RIW CEMENTFLEX

## TYPICAL USES

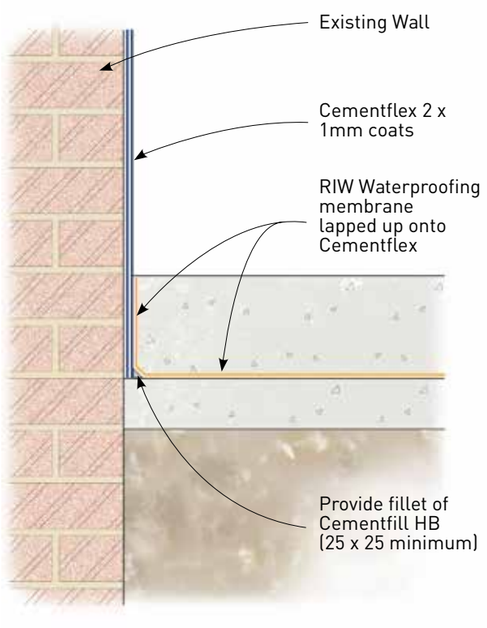
When designing Type A (barrier) protection as Classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grade 1, 2 & 3 basements.

Cementflex is typically used to prevent water ingress into basements, cellars and other below ground structures. It will resist up to 100m head of negative water pressure.

The product is also suitable for use on exposed or inverted roofing, along with podium decks, balconies, terrace areas etc.

## INDEPENDENT AUTHORITY

Cementflex is registered under the CE Marking Scheme in compliance with EN1504.




**Detail 1 - Internal Tanking**

# RIW CEMENTFLEX

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Elastic & flexible | Will accomodate differential movement in the substrate |
| Applied to a damp surface | Reduces surface preparation requirements |
| Seamless & fully bonded | No vulnerable laps & does not allow water to track behind |
| Resists up to 100m head of negative water pressure | No need to counter water pressure with an internal supporting wall |

## SPECIFIC USES

Internal tanking should be carried out as indicated in Detail 1 of this literature.

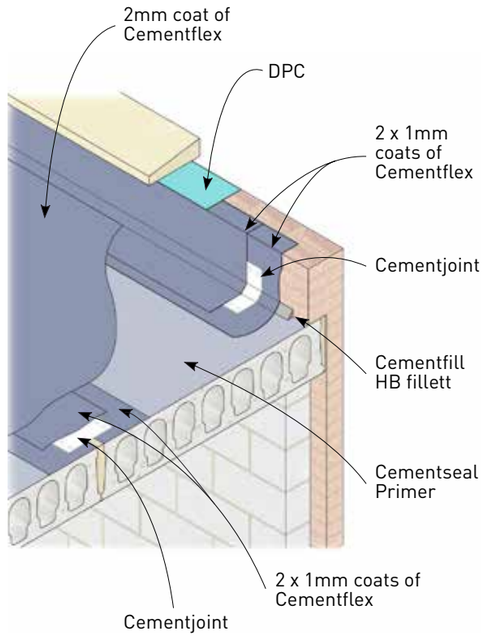
## APPLICATION

The prepared substrate must be thoroughly soaked with clean water until uniformly saturated without standing water.

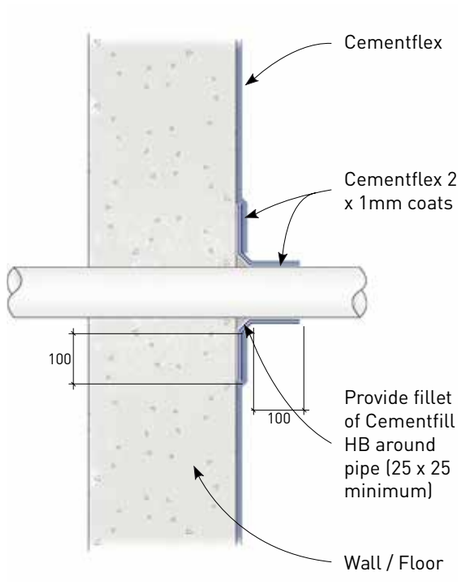
Cementseal Primer should be applied to all horizontal and/or porous vertical surfaces, at a rate of approximately 6m²/litre, prior to application of Cementflex.

Cementflex is to be mixed and then applied at a rate of 1.6kg/m²/mm.

The product is applied in two 1mm thick coats vertically, and one 2mm thick coat horizontally.




**Roof/Balcony Detail**




**Pipe Entry Detail**



# RIW CEMENTFILL FC, RIW CEMENTFILL HB, RIW CEMENTFILL WP

## CEMENTFILL FC: TYPICAL USES

Cementfill FC is a robust, structural, engineering quality fairing coat with high compressive strength; used for filling minor blow holes and defects, and for repairing surface cavities and honeycombed concrete. The product is also used as a thin screed, to waterproof and/or level both vertical and horizontal surfaces.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Fills minor blow holes & defects | Provides a smooth, defect-free concrete & masonry surface for waterproof coatings |
| Suitable for horizontal, vertical & overhead applications | All surfaces can be prepared, including soffits |
| Resists up to 100m head of negative water pressure | No need to counter water pressure with an internal supporting wall |
| Applied to a damp surface | Limits surface preparation requirements |

## CEMENTFILL HB: TYPICAL USES

Cementfill HB is a structural grade, high build mortar; used for structural repairs, rendering and profiling of vertical, horizontal and overhead surfaces, when necessary.

The product is also used to provide fillets at internal corners, prior to application of other RIW products.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| 5-80mm build up in horizontal, vertical or overhead applications | High build mortar to repair deep defects in concrete & masonry in a single application |
| Excellent low sag properties | Essential when forming 45° angle fillets |
| Resists up to 100m head of negative water pressure | No need to counter water pressure with an internal supporting wall |
| Applied to a damp surface | Limits surface preparation requirements |

## INDEPENDENT AUTHORITY FOR CEMENTFILL FC & HB

Cementfill FC & HB are registered under the CE Marking Scheme, in compliance with EN1504.

## CEMENTFILL WP: TYPICAL USES

Cementfill WP is used for arresting water seepage and infiltration under pressure.

The product is also used for rapid sealing and jointing around pipework, and can be used when providing mechanical fixings through waterproof renders and coatings.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Rapid setting | Prevents water seepage within minutes |
| Non-shrink mortar | Maintains bond to substrate |
| Easily mixed on site | User friendly & quick to use |

# RIW CEMENTJOINT

## TYPICAL USES

Cementjoint is an advanced, elastomeric, tear resistant waterproof tape. Used in conjunction with Cementseal and Cementflex to provide a highly durable and flexible seal over live cracks and expansion/construction joints.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Impermeable to water under 100m head of water pressure | Can be used in below ground applications with cement based coatings |
| Highly flexible, 600% elongation | Will accommodate structural, thermal & differential movement |
| Suitable for use over construction & expansion joints | Will bridge & isolate movement within the substrate |
| Good UV & weather resistance | Can be used in locations that are exposed to the elements |

## APPLICATION

Cementjoint is to be embedded between two 1mm thick layers of Cementseal or Cementflex, extending a minimum of 20mm beyond the edges of the product.

# RIW REPEL AC

## TYPICAL USES

Repel AC is used to provide protection against carbonation and water ingress, without trapping moisture in damp substrates. The product also resists the growth of mould and fungi, making it an ideal low-maintenance protective coating. Repel AC is registered under the CE Marking Scheme, in compliance with EN1504.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Breathable coating | Allows damp substrates to breathe & dry out |
| Anti-carbonation coating | Protects reinforced concrete structures from carbon dioxide |
| Elastomeric properties | To facilitate movement in substrate & bridge hairline cracks |
| Contains an active fungicide | Inhibits the growth of mould and lichen |
| Available in a range of attractive shades | Versatile decorative coating |

## APPLICATION

Repel AC should be applied onto a primed surface in two coats at a minimum application rate of 5m$^{2}$/litre/coat. Repel AC Primer should be applied to all surfaces as required, prior to application of the main coating.

# STRUCTURAL DRAINAGE SYSTEMS

RIW CAVITY DRAIN R20 & R7

RIW SUMP, PUMPS & RIW AQUA CHANNEL

RIW PLASTER DRAIN

RIW DOUBLE DRAIN

5

## DURABILITY

Subject to normal conditions of use, Cavity Drain systems will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure.

## SPECIFICATION

Cavity Drain R20, Cavity Drain R7 & Plaster Drain
J40 – Flexible Sheet Tanking/Damp Proofing in accordance with NBS Specification Clauses.

Clause 290 High density polyethylene/polypropylene studded damp proofing.

Double Drain
J40 – Flexible Sheet Tanking/Damp Proofing in accordance with NBS Specification Clauses.

Clause 295 Geocomposite drainage/venting membrane.

For further information please consult RIW.

## ANCILLARY PRODUCTS

RIW produce a range of Ancillary Products for use with our structural drainage systems, which includes:

- Drainage conduits for channelling water to outlets/sumps.
- Sump and pumps for collecting and removing water ingress.
- Self-adhesive ropes for sealing laps and around services etc.
- Fixing plugs for fixing the material vertically.
- Self-adhesive tapes to seal accessories.
- Anti-lime coating for application onto concrete surfaces.
- Damp proof courses and cavity trays.

We also produce a range of Ancillary Products for use with our Double Drain system, which includes:

- Double-sided tapes, to adhere the Double Drain onto the primary membrane or prepared substrate.
- Fixing aids for locating and mechanically securing the product directly to the structure.
- Top edge strips to prevent clogging.

## CONSTRUCTION

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS 8102:2009 Code of practice for protection of below ground structures against water from the ground.

### PREPARATION

Unacceptable leaks should be remedied using suitable RIW materials before the system is installed. All surfaces should be firm, and free from obstructions, which would hamper free drainage.

Concrete surfaces should be treated with an anti-lime coating (such as Cementseal Primer).

Horizontal surfaces should ideally be laid to falls.

Plaster Drain must not be used on floors.

For full application details of Plaster Drain, see data sheet.

## APPLICATION

Cavity Drain should be installed internally, generally as a 'sealed' system. The domes being positioned facing outwards onto the structure, before any internal finishes are installed. Water ingress must be collected and disposed of as necessary, via gravity fed or pumped drainage systems to suit.

Double Drain should be installed externally, with the geotextile surface facing outwards. A suitable sub-soil drain should also be installed at the base of the walls, below any horizontal membranes, to relieve hydrostatic pressure build-up.

## SUPPLY

RIW products can be obtained through Builders Merchants or approved stockists.

A list of approved stockists, and/or specialist applicators is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.

# RIW CAVITY DRAIN R20 & R7

## TYPICAL USES

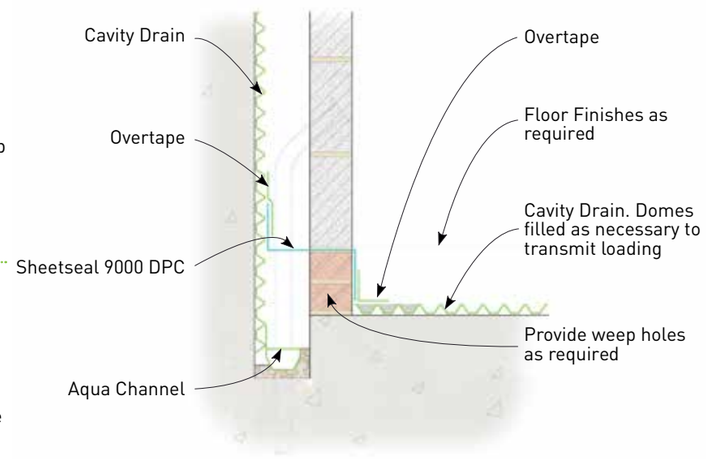
When designing Type C (drained) protection as classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grade 1, 2 & 3 basements.

The product can also be used in conjunction with Type A (barrier) protection or Type B (structurally integral) protection when additional protection is required.

Cavity Drain is used in situations where site conditions or structural design make it difficult or impossible to use traditional tanking methods. Cavity Drain is used to collect water entering the structure and channel it to a sump or collection point for disposal.

## INDEPENDENT AUTHORITY

Cavity Drain Systems have been awarded British Board of Agrément Certificate No. 05/4232, covering their use on walls and floors above and below ground. Cavity Drain R20 & R7 are registered under the CE Marking Scheme, in compliance with EN13967 & EN13984.




**Wall Floor Junction with Masonry Lining Wall**

# RIW CAVITY DRAIN R20 & R7

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Quick & easy to install | Supports fast track construction |
| Applied to wet substrates | Requires minimal preparation time, saving time & money |
| High drainage capacity | Can accommodate high volumes of water |

## SPECIFIC USES

Cavity Drain is used to collect water entering the structure and channel it to a sump or collection point for disposal via gravity fed or pumped drainage systems.

Whilst Cavity Drain R20 may be used vertically and horizontally, Cavity Drain R7 is generally only used vertically.

The system should be designed to be maintainable, with access points incorporated where necessary.

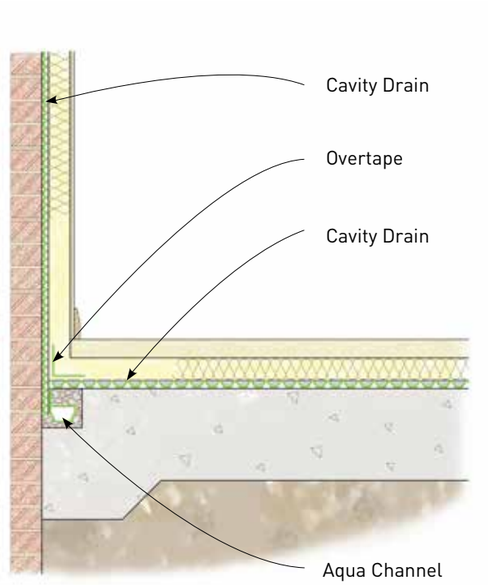
## APPLICATION

Horizontal: The product is laid out domes down over the floor, with consecutive rolls interlocked and sealed as necessary.

Vertical: The product is positioned against the wall, with the domes facing outwards, and consecutive rolls interlocked and sealed as necessary.

The material is fixed to the wall with Brick Plugs, at one metre centres, which should be staggered.

Drainage: Drainage system of suitable capacity should be provided to collect and dispose of infiltrating water. The system must be maintainable and inspected at regular intervals.




**Wall Floor Junction with Dry Lining System**

**Cavity Drain R7 In Situ**



# RIW SUMP PUMPS

## TYPICAL USES

Effective mechanical drainage solution for below ground structures, designed to compliment Cavity Drain membranes. See full data sheets for more information.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| High pump capacity | Suitable for use in high risk areas |
| Fully maintainable | Can be inspected regularly to ensure functionality |
| Range of pumps, alarms & control panels available | Can be adapted to provide project specific solutions |

# RIW AQUA CHANNEL

## TYPICAL USES

Aqua Channel is used in conjunction with Cavity Drain systems to control water ingress in below ground structures. The product provides a drainage conduit, and is generally used around the perimeter of the structure at the wall floor junction. This provides a maintainable access point to enable flushing and clearing of any blockages.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Controls water ingress in critical areas | Collects & discharges water at vulnerable wall to floor junction |
| High drainage capacity | Disperses water in high volumes to suitable discharge points |
| Good compressive strength | Can be built in to the floor construction |
| Range of outlet accessories available | Essential for discharging water, maintenance & inspection of the system |

## SPECIFIC USES

Water entering the building through floors and walls is chanelled via the Cavity Drain, and is then diverted into the Aqua Channel.

Water enters the Aqua Channel through pre-drilled drainage holes and is then diverted to suitable drainage points; either gravity fed, or a pumped drainage system to suit.

## APPLICATION

The product is normally set in a rebate at the wall floor junction, with outlets and inspection ports/rodding eyes provided where necessary. It is recommended that cleaning ports be fitted every 12 linear metres of Aqua Channel installed, and at change in directions etc. As a general rule, it is recommended that at least one sump/discharge point is used for every 50 linear metres of Aqua Channel.

# RIW PLASTER DRAIN

## TYPICAL USES

When designing Type C (drained) protection as classified in BS8102:2009, the product correctly applied is capable of providing the levels of protection required for Grade 1, 2 & 3 basements.

The product can also be used in conjunction with Type A (barrier) protection or Type B (structurally integral) protection when additional protection is required.

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Undercut/dovetail studs formation | Forms a key for plaster/ render finishes |
| Quick & easy to install | Supports fast track construction |
| Applied to wet substrates | Requires minimal preparation time, saving time & money |
| High drainage capacity | Can accommodate high volumes of water |

## SPECIFIC USES

Plaster Drain is used to separate damp walls from new plaster/render finishes etc, applied onto them.

The product will also collect water entering the structure and channel it to a sump or collection point for disposal via gravity fed or pumped drainage systems.

Plaster Drain is only used vertically and generally inside a building. As part of a complete cavity drainage system, it should be designed to be maintainable, with access points incorporated where necessary.

## APPLICATION

General: Plaster Drain may be applied onto existing wall finishes if required, eliminating the need for extensive preparation works. All surfaces must be sound, firm in nature, and any loose areas must be removed prior to application.

Plaster Drain is positioned against the wall, with the domes facing outwards. The product is fixed to the wall using Plaster Plugs, at a minimum of 13 No. per square metre, in a diamond pattern.

Consecutive rolls are lapped as necessary, and sealed using Plaster Drain Overtape.

Drainage: where 'free water' is present, provision must be allowed for collecting and removing it from the building; see Cavity Drain data for additional information.

Finishes: Plasters/Renders should be applied in a minimum of two coats.

Minimum overall thickness should be 15mm.

Maximum overall thickness for sand/cement renders should be 30mm, and 40mm for lightweight plasters.



# RIW DOUBLE DRAIN

## TYPICAL USES

Double Drain is used to isolate the structure from the surrounding soil and relieve hydrostatic pressure by promoting the flow of ground water away from the face of the structure.

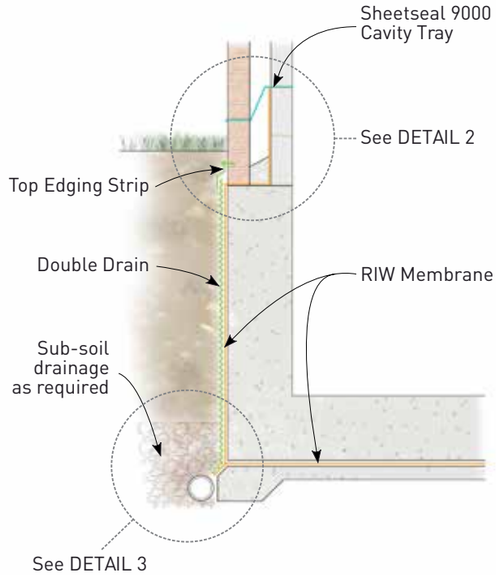
The product also provides excellent protection to any externally applied primary membrane, against backfilling and root penetration.

The product can be linked to a sub-soil drainage system and as such forms an essential part of the overall waterproofing strategy, enhancing the performance of the primary membrane.

Sub-soil drainage systems must be maintainable and able to discharge water away from the structure, as described in BS8102:2009.

## INDEPENDENT AUTHORITY

Double Drain is registered under the CE Marking Scheme, in compliance with EN13252.




**Detail 1 - External Drainage**

# RIW DOUBLE DRAIN

## FEATURES & BENEFITS

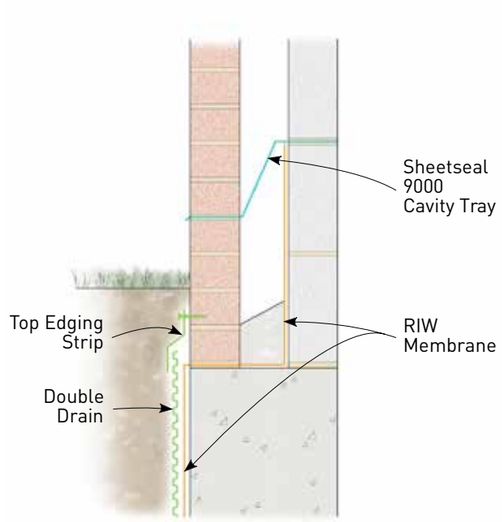
| FEATURES | WHY THIS MATTERS |
|---|---|
| Prevents ground water reaching the structure | Enhances performance of primary membrane |
| Isolates structure from surrounding earth | Encourages water flow to sub-soil drainage |
| High impact resistance | Protects the primary membrane from drainage puncture/ damage |
| Eliminates necessity for granular backfill | Reduces amount of spoil to be removed from site |

## SPECIFIC USES

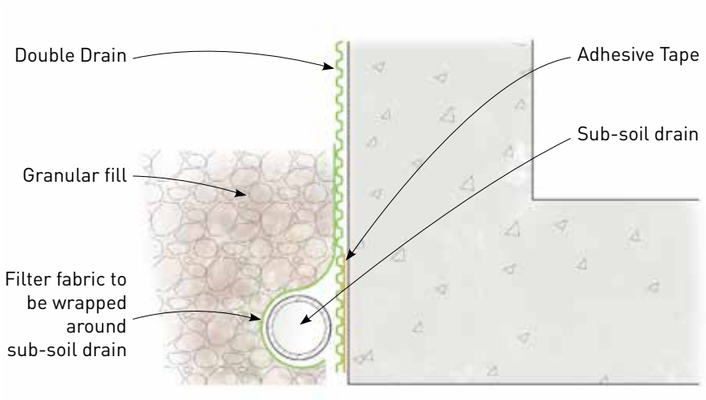
Typical installations include external tanking, retaining walls, reservoirs and podium deck/terrace areas.

## APPLICATION

Double Drain should be applied to the outer face of the structure, with the geotextile filter fabric facing outwards.




Detail 2 - Top of Wall




Detail 3 - Bottom of Wall

# DPC/CAVITY TRAY

## RIW SHEETSEAL 9000 DPC

# RIW SHEETSEAL 9000 DPC

## DURABILITY

Subject to normal conditions of use, Sheetseal 9000 DPC will remain effective for the life of the structure.

The product will not extrude under loads, up to the compressive failure of the wall, and will not extrude or bleed under high temperatures.

## SPECIFICATION

F30 – Accessories/Sundry items for brick/block/stone walling in accordance with NBS Specification Clauses.

Clause 330 Damp proof course.

Clause 345 Site formed flexible sheet cavity trays.

Clause 370 Preformed cavity trays.

Clause 380 Preformed DPC/Cavity tray junction cloaks/ Stop ends – located by description.

Clause 385 Preformed DPC/Cavity tray junction cloaks/ Stop ends – located by drawing references.

For further information please consult RIW.

## ANCILLARY PRODUCTS

RIW can produce a range of Ancillary Products for use with our Sheetseal 9000 DPC, which includes:

- Pre-formed corner units - use where a cavity tray must turn the corner of a building.
- Pre-formed change in level units - use where a cavity tray steps up or down, along its length.
- Pre-formed stop end units - use to seal off the ends of a cavity tray.
- Jointing tapes - use to seal joints in the DPC, and for sealing cavity trays onto accessories.
- Joint supports - use below lapped joints, and where required to support the cavity tray.

Special tailor-made accessories are also available to accommodate situations where standard off the shelf cavity trays and damp proof courses are not suitable.

## CONSTRUCTION

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed.

## APPLICATION

Sheetseal 9000 DPC can be installed in all weather conditions which permit normal building work to be carried out. This product should always be bedded onto fresh mortar, never dry bedded.

The masonry laid over the DPC should also be bedded on fresh mortar, such that it is approximately halfway through the mortar joint.

If joints are required in the material, they must be lapped by a minimum of 100mm, including onto any accessories, with all laps sealed using Jointing Tape.

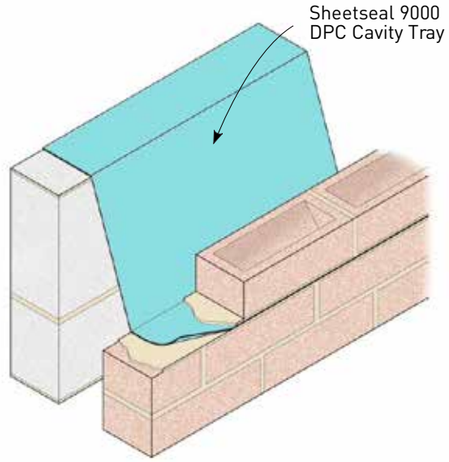
Ground floor DPCs in external walls should be laid a minimum of 150mm above the adjacent ground level.

## SUPPLY

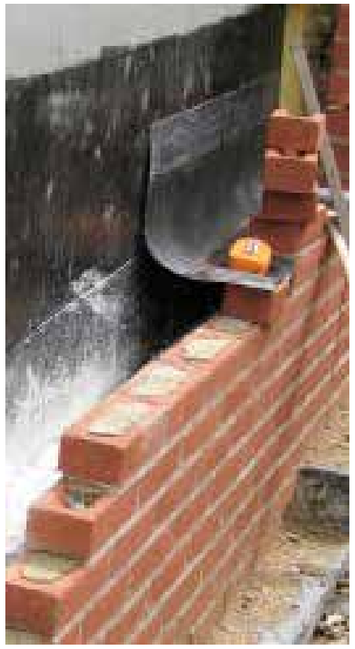
RIW products can be obtained through Builders Merchants or approved stockists.

A list of approved stockists is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.




**Detail 1 - Typical Cavity Tray**



**Typical Cavity Tray In Situ**

## TYPICAL USES

Sheetseal 9000 DPC is used to prevent the passage of moisture from the ground, up into the fabric of the building.

It can also be used at all levels as a cavity tray to prevent the downward movement of water within a cavity.

Sheetseal 9000 DPC must be at least as wide as the thickness of the wall. If the damp proof course is narrower, then full protection cannot be achieved as moisture may track up the wall and past the DPC.

The product is available in a standard range of sizes, from 100 to 1000mm wide rolls, each 20m long.

DPC accessories, including special tailor made ones, are available to order. Jointing Tape is also available for sealing laps in the product, where required, and for sealing the DPC onto any accessories used.

## INDEPENDENT AUTHORITY

Sheetseal 9000 DPC has been awarded British Board of Agrément Certificate No. 13/5046, covering its use to provide horizontal, vertical or stepped damp proof courses, in either solid or cavity masonry walls.

Sheetseal 9000 DPC is registered under the CE Marking Scheme, in compliance with EN14909.

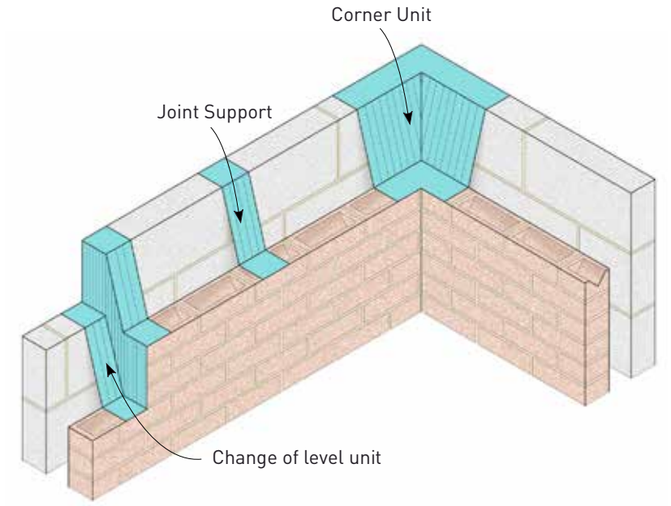
## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| High performance polymeric material | Compatible with waterproof membranes as it does not contain pitch, tar or bitumen |
| Excellent mortar bond strength | Becomes an integral element of the wall construction |
| Tough, durable & puncture resistant | Less vulnerable to damage during construction |
| Unaffected by extremes of temperature | Suits fast track programmes all year round |

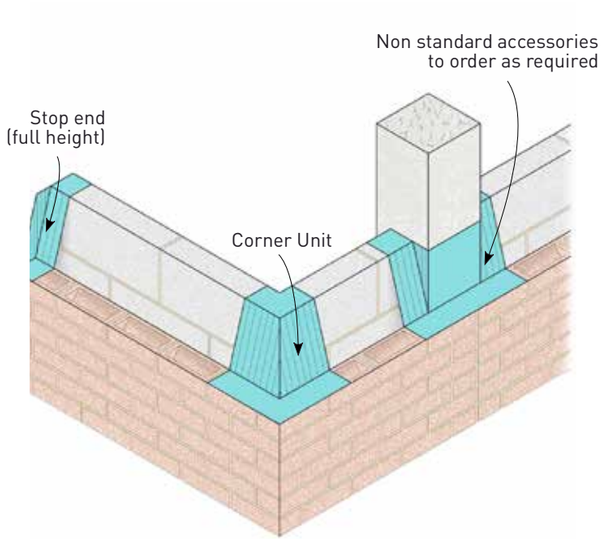
# RIW SHEETSEAL 9000 DPC

## SPECIFIC USES

Sheetseal 9000 DPC can be used throughout the structure, including heavily loaded situations, such as in multi storey buildings.




Ancillary Products (1)




Ancillary Products (2)

# MOVEMENT JOINT

## RIW MULTIJOINT

## DURABILITY

Subject to normal conditions of use, the system will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure.

## SPECIFICATION

MultiJoint is designed for use in all types of construction gaps and movement joints and therefore may be specified in numerous ways/Clauses within the NBS Specification.

For further information please consult RIW.

## ANCILLARY PRODUCTS

RIW produce a range of Ancillary Products for use with our MultiJoint which includes:

MultiJoint Adhesive – a two-part epoxy adhesive, used to bond MultiJoint to the structure.

Universal Tape – a debonding tape for use between MultiJoint and any finishing sealants required.

## CONSTRUCTION

All construction should conform to the Building Regulations, Codes of Practice and British Standards in current use at the time the building is being constructed. In particular it is recommended that reference is made to BS 8102:2009 Code of practice for protection of below ground structures against water from the ground.

## PREPARATION

For surface preparation details, please see main data sheet

## APPLICATION

MultiJoint is designed to be installed pre-compressed by 25% into the joint width.

Apply MultiJoint Adhesive to both sides of the joint, and edges of MultiJoint, then insert.

## SAFETY

Full health and safety instructions are contained on the product material safety data sheets and these must be referred to before use.

## SUPPLY

RIW products can be obtained through Builders Merchants or approved stockists.

A list of approved stockists, and/or experienced applicators, is available from RIW's Commercial Department.

Call 01344 397788 or email enquiries@riw.co.uk.

# RIW MULTIJOINT

## FEATURES & BENEFITS

| FEATURES | WHY THIS MATTERS |
|---|---|
| Effective barrier to water | Prevents the passage of water through a vulnerable movement joint |
| Resists up to 20m head of water | Can be used in below ground situations subject to hydrostatic water pressure |
| No special jointing pieces required | Simple to use at upstands & changes of angle |
| Easily cut & welded on site | Simple to create watertight junctions at corners & angles |
| Available in a wide range of sizes | Suits all sizes of joint widths & tolerances |

## TYPICAL USES

MultiJoint is used in all types of construction gaps and movement joints to provide a waterproofing system between the structural elements.

## SPECIFIC USES

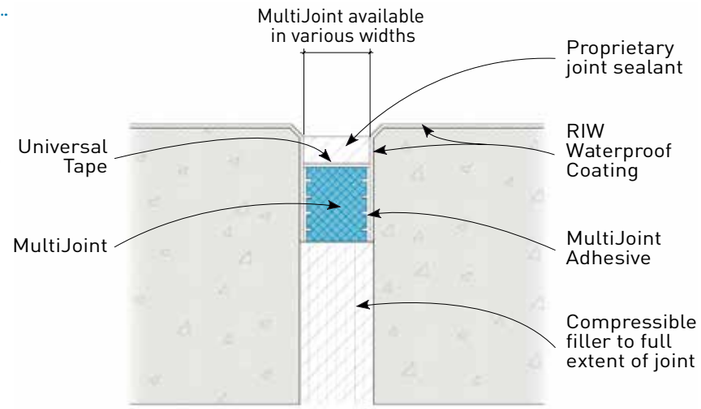
MultiJoint is used to seal joints in Podium decks, car parks, bridges, stadiums and sports arenas, shopping malls, airports, roofs and building façades.

## APPLICATION

MultiJoint is designed to be installed pre-compressed by 25% into the joint width.

Joints and directional changes are formed on site by heat welding using a heating iron.

Apply MultiJoint Adhesive to sides of joint and edges of MultiJoint then insert.




**Typical Movement Joint**

RIW Limited
Arc House
Terrace Road South
Binfield
Berkshire
RG42 4PZ

01344 397777
technical@riw.co.uk
www.riw.co.uk

REMEMBER IT'S waterproof RIW