

# RIW FLEXISEAL PRO

Flexiseal Pro is a two-pack solvent free polymer modified epoxide coating which cures to give a continuous tough but flexible waterproof coating. Flexiseal Pro Primer is a two-pack solvent free black liquid modified epoxide surface conditioner that can be applied to damp surfaces.

## BENEFITS

- | Water and water vapour barrier
- | Colour coded for quality control
- | Seamless & fully bonded coating
- | Can be applied in one coat to horizontal areas
- | Tough & flexible, able to accommodate differential movement
- | Cold applied by hand or spray
- | Simplifies application to irregular profiles & complex details
- | Can be applied to damp surfaces
- | High substrate adhesion
- | Good chemical & UV resistance
- | Effective barrier to carbon dioxide & methane

## APPLICATIONS

- | Basement and sub-structures
- | Podium decks
- | Elevated decks (terraces & balconies)
- | Ground floor DPM
- | Plant rooms & containment bunds
- | Superstructures
- | Gas proofing

## APPLIED TO

- | Concrete
- | Masonry
- | Steel
- | Timber

# RIW FLEXISEAL PRO

## TYPICAL USES

Flexiseal Pro is used where a high performance tanking, damp proof membrane or containment system is required. The product prevents water ingress to basements, or other below ground structures as well as through buried roofs and elevated deck areas such as terraces and balconies. Flexiseal Pro can also be used as a containment system in plant rooms & other bunded areas, and will bridge static & dynamic cracks where further movement is expected. When designing Type A structures (as classified in BS 8102: 2009), the product applied correctly is capable of providing the levels of protection required for Grades 1, 2 & 3 basements. Flexiseal Pro is not to be used in contact with potable water systems. Flexiseal Pro is also available in black and grey, for reinforcing Toughseal over joints subject to movement.

## DURABILITY

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

## SPECIFICATION

J 30 – Liquid Applied Tanking/Damp Proofing in accordance with NBS Clauses.  
J 31 – Liquid applied waterproof roof coatings in accordance with NBS Clauses.  
Please consult RIW for further information.

## INDEPENDENT AUTHORITY

Tests carried out by VINCI Technology Centre show that Flexiseal Pro has excellent crack bridging capability, adhesion and resistance to negative water pressure, and can also provide a barrier to carbon dioxide and methane.

CE Marked to BS EN 1504-2. For Declaration of Performance see:

<http://www.riw.co.uk/technical-downloads/ce-marking>

## ANCILLARY PRODUCTS

RIW produce a range of ancillary products for use with Flexiseal Pro which include:

**Cementfill FC** – Cement based waterproof fairing coat and repair mortar for filling minor holes, voids and defects.

**Cementfill HB** – Cement based waterproof high build repair mortar for profiling and providing fillets.

**Cleaning Solvent** – a liquid for cleaning tools, equipment, etc. (must not be used as thinners).

**Double Drain** – a drainage board which protects the membrane during backfilling operations, and also promotes drainage of water away from the structure.

**Protection Board** – a 3mm bitumen board to prevent damage to the waterproof membrane during backfilling operations.

**Sheetseal 9000 DPC** – a range of high performance polymeric dpc's, and pre-formed cavity trays, compatible for use with all membranes.

## CONSTRUCTION

All construction should conform with 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.

### PREPARATION

**All Surfaces:** Should be smooth, clean, sound and free from frost, oil, grease, condensation and other contamination. Any voids or hollows must be made good to a flush finish, with a suitable filler. Any sharp edges or high points should be eliminated. Powdery or flaking surfaces should be removed by suitable means. All standing water should be removed. External corners should be chamfered or rounded where required, to assist application.

**Concrete Surfaces:** Horizontal surfaces should preferably be smooth, however lightly tamped (2-3mm peak to trough profile maximum), brushed or floated surfaces are preferred.

**Masonry:** Should be sound with joints flush pointed or 'bagged out' with Cementfill or similar before the membrane is applied. Open textured surfaces should be sealed with Cementfill FC or a sand/cement slurry to provide a suitable surface. If existing surfaces are very rough, they may require preparing with a Cementfill FC or a sand/cement render coat.

## PERFORMANCE & COMPOSITION

	FLEXISEAL PRO PRIMER	FLEXISEAL PRO MEMBRANE
Form	liquid	Thixotropic liquid
Colour	Black	Red
Specific Gravity		
- Base	1.16 g/ml	1.08 g/ml
- Hardener	1.03 g/ml	1.03 g/ml
Solids content	100% (w/w)	100% (w/w)
Flash point		
- Base	140°C	150°C
- Hardener	90°C	90°C
Coverage*		
Horizontal	4m <sup>2</sup> /litre	1m <sup>2</sup> /kg/coat
Vertical	4m <sup>2</sup> /litre	2m <sup>2</sup> /kg/coat
Number of coats	1, minimum	1 (Horizontal) 2 (Vertical)
DFT of coating	200 microns	0.9mm min
Minimum lap		100mm
Curing time	4-6 hours (slightly tacky).	Touch dry: 6 hours min
Full chemical cure	7 days	7 days
Overcoating time: Minimum:	4-6 hours, when tacky to the touch	6 hours
Maximum:	7 days	7 days
Elongation	N / A	97%
Tensile strength	N / A	11.6N/mm <sup>2</sup>
Application temperature limits	5 – 35°C	5 – 35°C
Preparation of liquid	Stir well by mechanical means	Stir well by mechanical means
Pot life	20mins @ 23°C	20mins @ 23°C
Shelf life: from date of manufacture	12 months	12 months
<b>PHYSICAL / CHEMICAL RESISTANCE (SPILLAGES)</b>		
Sulphate resistance	N / A	50,000 ppm
U.V. resistance	N / A	Good
Brine	N / A	Resistant
Dilute mineral acids	N / A	Resistant
Dilute alkali solutions	N / A	Resistant
Diesel/Petrol	N / A	Resistant
Anti-freeze	N / A	Resistant
Lubricating oil	N / A	Resistant
White spirit	N / A	Resistant
50% Caustic Soda	N / A	Resistant

## PREPARATION (Continued)

**Metal surfaces:** Should be wire brushed or sand blasted and pre-treated with a steel primer prior to the application of the Flexiseal Pro Primer and Flexiseal Pro. Corroded metal should also be treated with an anti-corrosive primer. Flexiseal Pro Primer is compatible with most commonly encountered steel primers including alkyd, chlorinated rubber and epoxy based paints. Consult RIW for galvanised steel and/or other treatments.

## APPLICATION

**General:** Flexiseal Pro can be applied in one single coat to horizontal areas and two coats to vertical areas. All surfaces should be sealed with one single coat of Flexiseal Pro Primer, to condition the substrate and aid adhesion of the coating.

Application of Flexiseal Pro and Flexiseal Pro Primer should not be attempted in temperatures below 5°C. Apply one coat of Flexiseal Pro Primer by brush, roller or spray to all surfaces. Flexiseal Pro Primer must be allowed to become tacky to the touch or dry before overcoating. Flexiseal Pro and Flexiseal Pro Primer should not be thinned and should be applied as supplied.

Do not apply primer onto existing membrane at overlaps, etc, unless directed otherwise.

Flexiseal Pro Primer and Flexiseal Pro are supplied as two pack systems, with a base component and a hardener. The base component should be mechanically stirred for 3 minutes, and then the hardener component added and mixed thoroughly until a uniform colour is achieved. Ensure the entire contents of the hardener component are added to the base component before mixing.

Do not split base or hardener components. Flexiseal Pro Primer and Flexiseal Pro should be applied immediately after mixing.

Apply Flexiseal Pro Primer in one coat at a minimum application rate of 4m<sup>2</sup>/litre.

Apply Flexiseal Pro in one coat to all horizontal areas at a minimum application rate of 1m<sup>2</sup>/kg, and in two coats to all vertical areas at a minimum application rate of 2m<sup>2</sup>/kg. Good ventilation is necessary to obtain a proper cure. At 23°C, Flexiseal Pro Primer will require 4 - 6 hours before overcoating with Flexiseal Pro, which at 23°C will require 6 hours to cure. Curing will stop at temperatures below 5°C. Flexiseal Pro Primer should be overcoated with Flexiseal Pro within seven (7) days of application. Where a second coat of Flexiseal Pro is required, it should be applied within 7 days of the first coat. If this is not possible advice should be sought from the RIW Technical Department.

Flexiseal Pro has been independently proven to exhibit good dynamic crack bridging capabilities. Seek advice from the RIW Technical Department.

**Manual:** Flexiseal Pro Primer and Flexiseal Pro should be applied using a brush, medium pile roller or spray. For details of specialist waterproofing contractors, please consult the Technical Department.

These performance figures are typical values and should not be considered a product specification.

\*Figures quoted are theoretical coverage rates. Actual coverage may vary depending on nature of substrate.

## QUALITY CONTROL

Flexiseal Pro is a red coating; when applied to the black Flexiseal Pro Primer it becomes a two colour system which allows for easy identification of any areas that do not have the appropriate coverage of Flexiseal Pro.

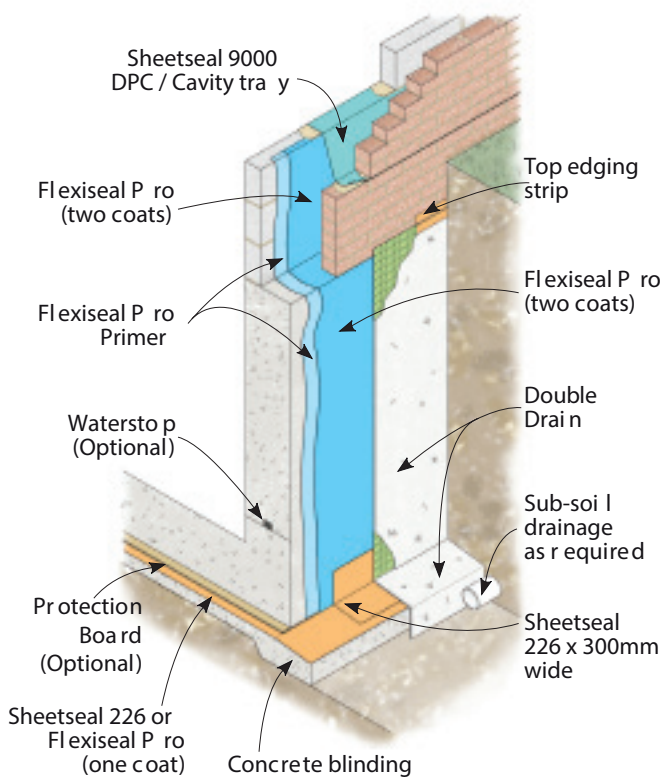
Flexiseal Pro wet film thickness can also be measured during installation with formal wet film thickness gauges whilst the coating remains wet during its application; this allows minimum thicknesses to be achieved throughout. Consult RIW Technical Department for further advice.

## SPECIFIC USES

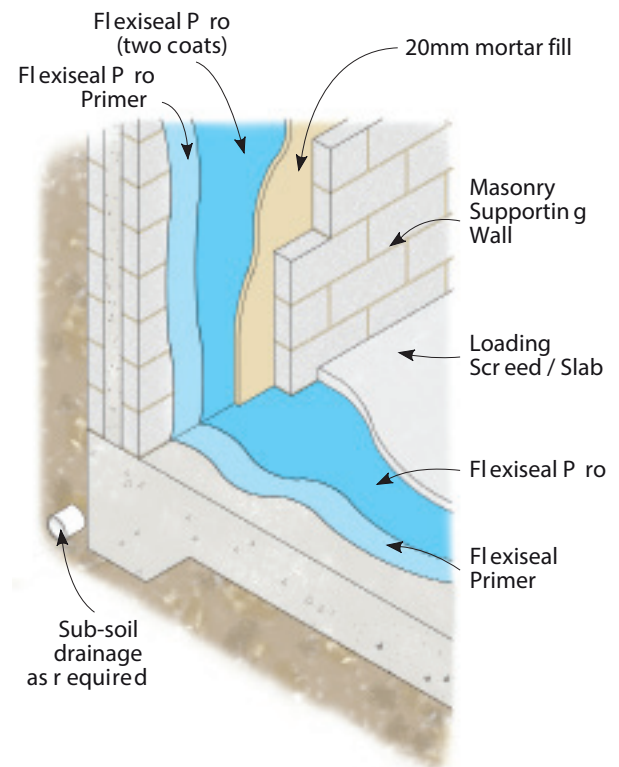
**Tanking:** In general, Flexiseal Pro should be fully supported, to resist hydrostatic pressure, when used for tanking. Independent tests show Flexiseal Pro has good resistance to negative water pressure, so in some low risk tanking situations, subject to negative water pressure, Flexiseal Pro can be used without being fully supported. However, the RIW Technical Department should always be consulted in these situations.

**External tanking:** Should be carried out as illustrated in Detail 1 of this literature. The horizontal membrane should be laid on a solid concrete blinding to project at least 150mm beyond the outer face of the structure. The base structural slabs and the walls should be formed, and the vertical Flexiseal Pro should then be applied and linked to the horizontal membrane. The membrane should then be protected from backfilling using Double Drain or Protection Board, to suit.

**Internal tanking:** Should be carried out as illustrated in Detail 2 of this literature. A loading coat of brick, block or concrete should be constructed immediately after the membrane has cured. If brick or block is used, a 20mm minimum cavity should be left between the membrane and the loading skin. This cavity must be filled with sand/cement mortar fill as work proceeds.



**Detail 1 - External Tanking**



**Detail 2 - Internal Tanking**

## SPECIFIC USES (CONTINUED)

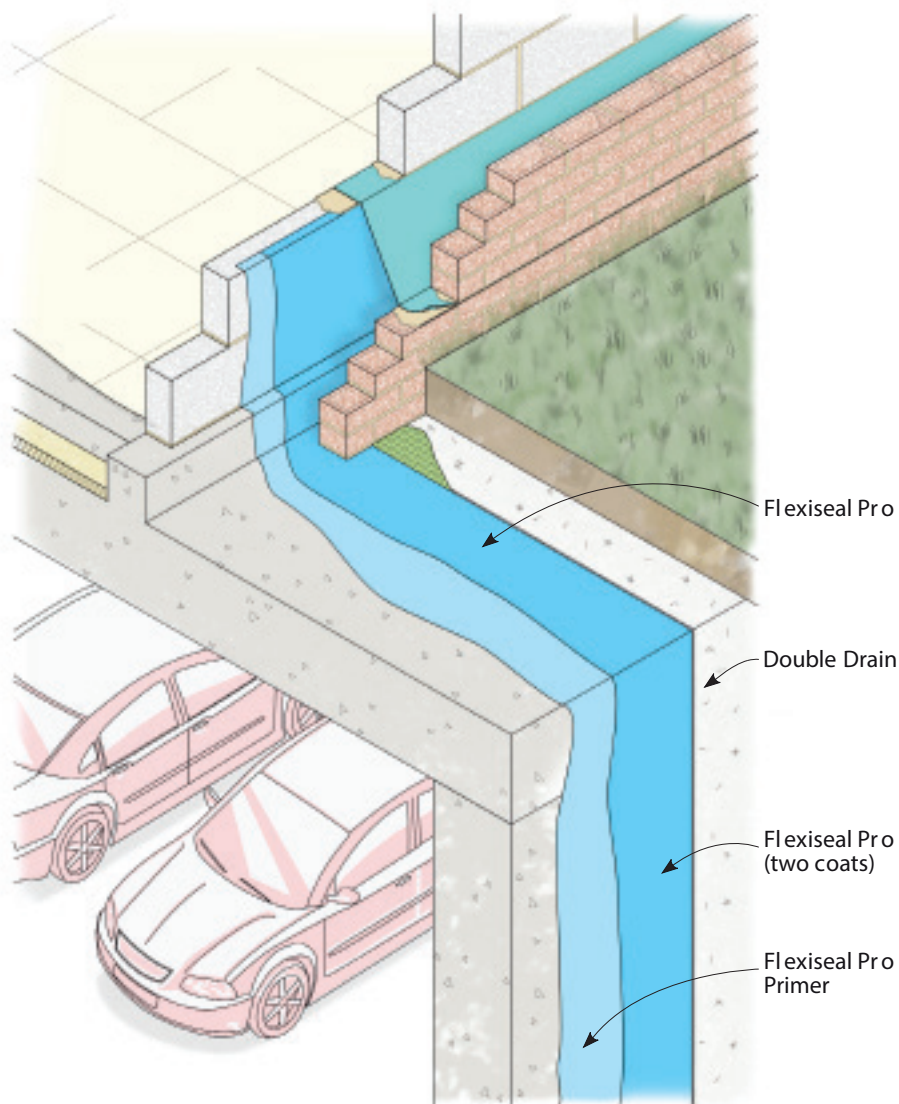
**Deck Areas:** Should be installed as shown in Detail 3, although it is good practice, where possible, to apply Flexiseal Pro on a substrate laid to falls to outlets as necessary. The membrane should be covered and protected as soon as possible after application

**Crack bridging:** Flexiseal Pro can be applied over a static / dynamic crack in the substrate as shown in Detail 4. The use of a proprietary slip tape over joints, beneath Flexiseal Pro, debonds the membrane allowing dissipation of stresses over a wider area. A 300mm wide stripe coat of Flexiseal Pro should then be used to increase crack bridging capability and tensile strength of Flexiseal Pro. When dynamic crack bridging is required, the RIW Technical Department should be consulted.

**Expansion & movement joints:** Generally, Flexiseal Pro is used in conjunction with movement jointing systems, such as Multijoint, where the joints have been designed into the structure to accommodate expansion and movement. In these circumstance, please consult the RIW Technical Department to discuss the most appropriate solution.

## SAFETY

Flexiseal Pro products can affect sensitive skins. Gloves or barrier cream should always be used by operatives and hands should be thoroughly washed at the end of each working period. Normal levels of air change are acceptable, however wear a suitable respirator if application is in an enclosed space. Do not allow the product to enter watercourses. Full health and safety instructions are contained on the product safety data sheets (SDS), and these must be referred to before use.



**Detail 3 - Deck Areas**

## SUPPLY

### AVAILABILITY

All RIW products can be obtained through Builders Merchants or approved stockists. A list of approved stockists is available from RIW's offices or via our website.

### PACKAGING

Flexiseal Pro (2 part)	5kg and 20kg packs
Flexiseal Pro Primer (2 part)	5 litre and 15 litre packs

For reinforcing Toughseal only:

Flexiseal Pro Black/Grey (2 part)	5kg packs
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### STORAGE

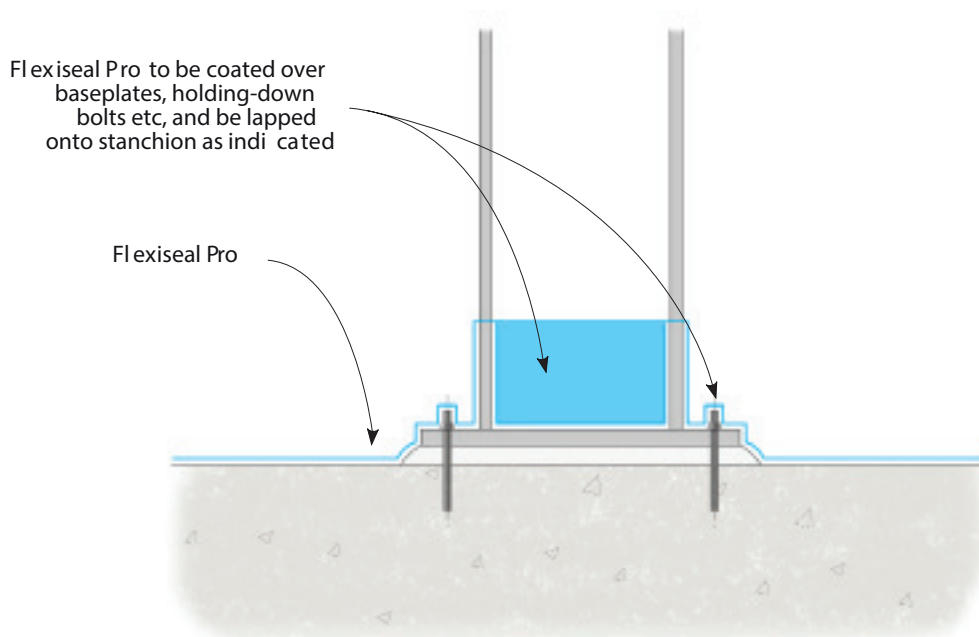
Keep in a cool, dry, well ventilated area. Keep containers tightly closed. Store in correctly labelled containers. The shelf life of the product when unopened and stored correctly is 12 months.

## TECHNICAL SERVICES

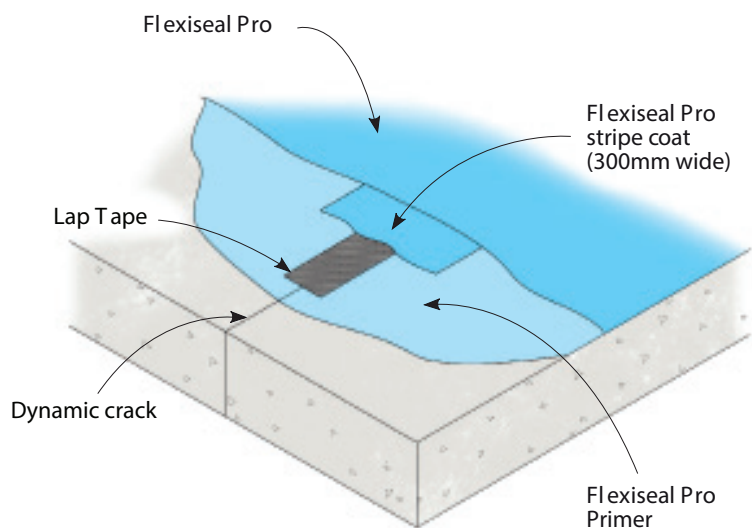
The RIW Technical Department is available to advise on individual projects and to prepare or assist in the preparation of specifications and drawings. A list of experienced applicators of RIW materials is available from RIW's offices.

The information in this literature was correct at the time of going to press. However, we are committed to continually improving our products and reserve the right to change product specifications.

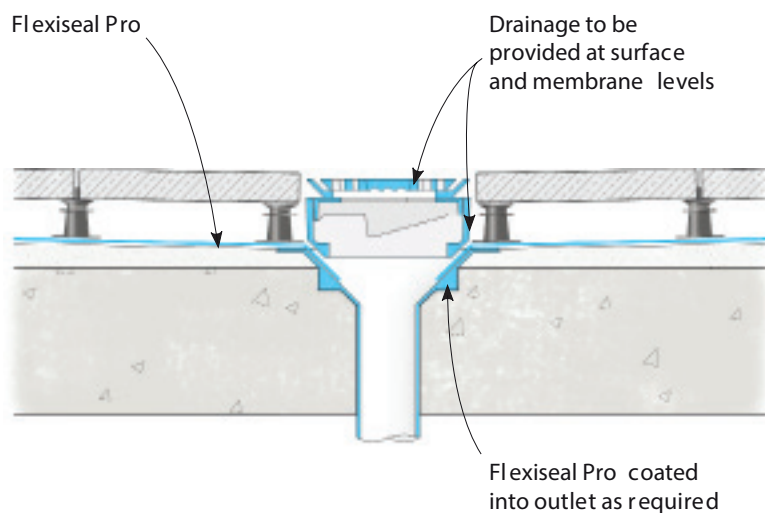
For the latest information, please consult RIW. Conditions of use are beyond our control, therefore we cannot warrant the results to be obtained.



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



### Detail 4 - Dynamic Crack Bridging



### Typical Details at Drainage Outlet

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**waterproof** RIW