

# RIW CEMENTFLEX

Cementflex is a two component, polymer modified, flexible, cement based, waterproof coating for concrete and masonry.

## BENEFITS

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- l Totally waterproof
- l Resists up to 100m head of positive & negative water pressure
- l Tough & flexible to accommodate differential movement
- l Seamless & fully bonded
- l Applied to damp surfaces
- l Abrasion & impact resistant
- l Quick & easy to apply by hand or spray
- l Environmentally friendly

## APPLICATIONS

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- l Basements & sub-structures
- l Podium decks
- l Balconies & terraces
- l Inverted roofs
- l Temporary waterproofing

## APPLIED TO

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- l Concrete
- l Masonry
- l Steel

# RIW CEMENTFLEX

## TYPICAL USES

Cementflex is ideally suited for waterproofing and protecting concrete and masonry structures which exhibit cracking, and where further movement is expected. Typical applications include preventing water ingress into basements, cellars and other below ground structures. The product can also be used for sealing water tanks, waterproofing of exposed or buried roofs, and as a crack isolation membrane on concrete floors or screeds.

The product when mixed exhibits a good degree of thixotropy to enable ease of application by brush or spray techniques to give an even finish with no sagging even in vertical situations. It hydrates to form a durable, highly alkaline, permanently elastomeric coating which not only protects the concrete, or other substrates, from water penetration and carbon dioxide diffusion, but also accommodates movement in cracks. The elastomeric coating maintains its flexibility under permanent immersion and when exposed externally.

## DURABILITY

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

## SPECIFICATION

J10 – Cementitious mortar tanking/damp proofing or  
C42 – Repairing/Renovating/Conserving concrete.

## INDEPENDENT AUTHORITY

	
<b>RIW Limited</b> <b>Arc House, Terrace Road South, Binfield,</b> <b>Bracknell, Berkshire, RG42 4PZ, England</b> 13 0086-CPR-597751	
EN 1504-2: Surface Protection Systems - Coating Protection against Ingress (PIC) Rigid trafficked system	
Adhesive Bond:	≥ 0.8 MPa
Permeability to water vapour:	$S_D < 5m$ Class 1
Permeability to CO <sub>2</sub> :	$S_D > 50m$ Class C <sub>1</sub>
Thermal Compatibility:	> 0.8 MPa
Capillary Absorption:	Class III < 0.1kgm <sup>-2</sup> h <sup>-0.5</sup>
Dangerous Substances:	Complies
Reaction to Fire:	Euroclass B-s1, d <sub>0</sub>
Cracking Bridging:	Class A5 (Static) > 2500µm

## PERFORMANCE & COMPOSITION

TECHNICAL DATA	
Basis	Cement based, modified styrene acrylic copolymer
Mixed colour	Concrete grey
Mixed density	1600 kg/m <sup>3</sup>
Application thickness	
Overhead & vertical	2mm; applied in 2 coats
Floors	2mm; applied in 1 coat
Application temperature	5-35° C
Working life	45 minutes at 20° C
Drying time	4-6 hours depending upon temperature

MECHANICAL CHARACTERISTICS (TYPICAL)	
Compressive Strength: BS 4551 Tested at 20°C	
28 days	8 - 10 N/mm <sup>2</sup>
Flexural Strength: BS 4551 Tested at 20°C	
28 days	3.5 - 4.0 N/mm <sup>2</sup>
Tensile Strength: 2mm film cured for 28 days	
Ambient	0.5 N/mm <sup>2</sup>
Immersed	0.4 N/mm <sup>2</sup>
Elongation: 2mm film cured for 28 days	
Ambient	120-130%
Immersed	70-80%
Water Permeability Coefficient: DIN 1048 Part 1	
5.37 x 10 <sup>-16</sup> m/sec	
2mm of RIW Cementflex = 2270mm of concrete	
Oxygen Diffusion Coefficient:	
BS EN 1062-6 Taywood Test	
DO <sub>2</sub> = 1.706 x 10 <sup>-5</sup> cm <sup>2</sup> s <sup>-1</sup>	
Permeability to CO <sub>2</sub> Equivalent to 135mm concrete	

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

## ANCILLARY PRODUCTS

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

RIW Cementseal Primer – a ‘primer’ for use on all horizontal and porous surfaces. May also be used as a curing membrane.

RIW Cementfill FC – a waterproof fairing coat and repair mortar for filling minor holes, voids and defects.

RIW Cementfill HB – a waterproof high build repair mortar for profiling and providing fillets.

RIW Cementfill WP – a rapid setting waterproof mortar plugging and sealing compound for arresting water ingress.

RIW Cementjoint – a flexible waterproof composite tape, for embedding in Cementseal, to reinforce joints etc.

## CONSTRUCTION

### IMPORTANT NOTES

1. Existing substrates and structural elements should be assessed for suitability to withstand any increase in applied loads from water pressure.
2. Apply only to clean, sound substrates which should be saturated but surface-dry and free of back water pressure.
3. Care should be taken when curing in hot, sunny or windy conditions.
4. Cementflex is not a decorative finish and may temporarily discolour until uniformly weathered.

### GENERAL

All construction should conform to the Building Regulations, Codes of Practices 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:** The areas to be treated must be free from all loose and unsound material ie: dust, oil, grease, corrosion by-products and organic growth. Roughen smooth surfaces.

The prepared substrate should be thoroughly soaked with clean water, until uniformly saturated, without standing water removed.

Internal corners should be eased with Cementfill HB as a continuous 'fillet' (minimum 25 x 25mm), prior to application of Cementflex.

Any sharp edges, ledges, holes, etc. are to be smoothed or filled as required, using Cementfill FC or Cementfill HB to suit.

Cementseal Primer should be first used on all horizontal and porous surfaces, as necessary; see separate data sheet.

**Existing Surfaces:** All existing finishes must be completely removed back to the structure.

The entire substrate should be pressure washed. This method is also the best way to saturate the surfaces, and remove soil, dust and any other loose debris from the existing wall.

Mortar joints should be checked to ensure they provide a sound a substrate, onto which the main cement-based coating can be applied.

Defective mortar joints should be raked out, and repointed using Cementfill HB.

Damaged brickwork etc, should be repaired as necessary; the area may be dubbed out if required, or deep repairs, made using Cementfill HB. If necessary, a smoothing coat of Cementfill FC may be applied.

**Masonry surfaces:** Should be sound with joints flush pointed or 'bagged out', with Cementfill FC before the Cementflex is applied.

**Concrete surfaces:** The strength of the concrete sub base must be a minimum of 20N/mm<sup>2</sup>.

All surface laitance should be removed, preferably using wet grit, power washing techniques or other equivalent approved methods.

Damaged areas should be repaired as necessary, using Cementfill HB if appropriate.

### MIXING

Shake bottle thoroughly, and pour into the tub supplied. Slowly add the powder, and mix for a minimum of 5 minutes until homogeneous.

The modules must be mechanically mixed using a slow speed drill and paddle, specially designed to entrap as little air as possible.

Bottles of liquid and bags of powder are not to be split.

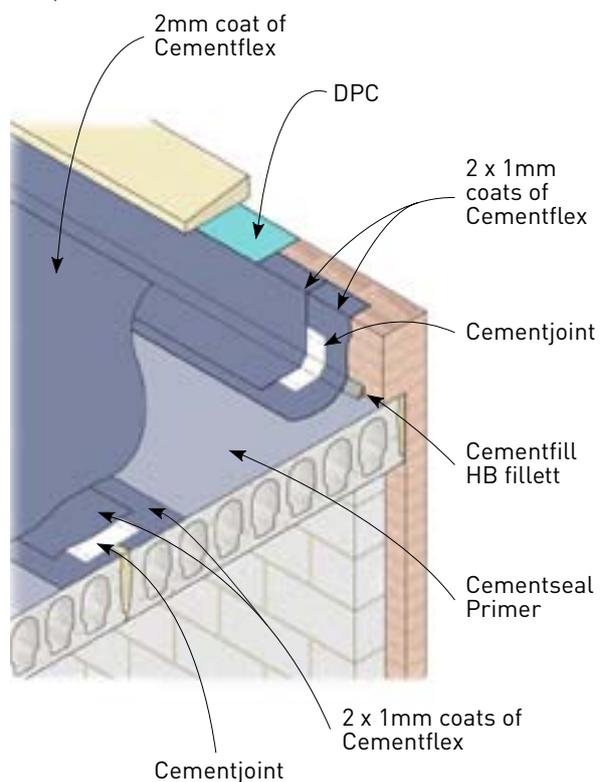
### APPLICATION

The above preparation / remedial works should be left until 'stable' before application of the Cementflex; ie:- a minimum of one (1) hour, generally 2 to 3 hours. Cementjoint should also be used when necessary, to reinforce joints subject to movement ; see separate data sheet.

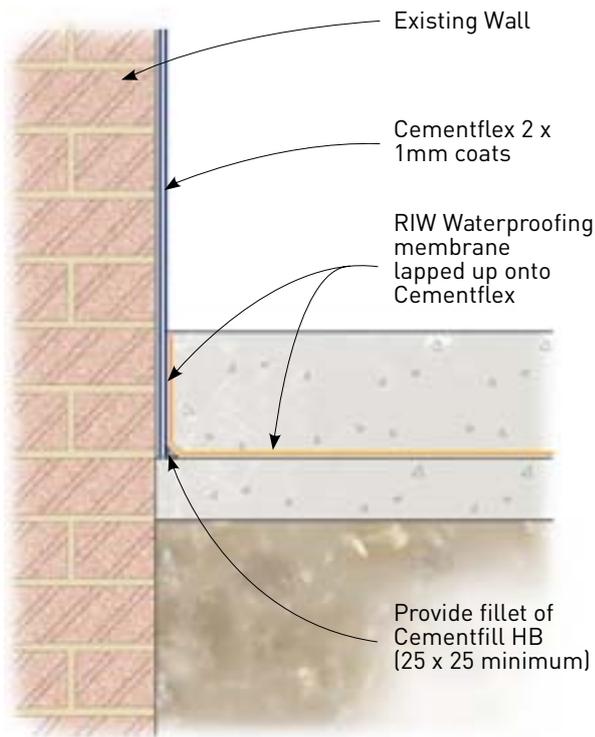
The mixed slurry can be applied by brush, trowel or spray to a pre-soaked surface. Take care to ensure that air is not entrapped into the surface.

Apply as a single 2mm layer to horizontal surfaces, spreading with a skid leveller or notched trowel, and immediately use a spiked roller to release entrapped air.

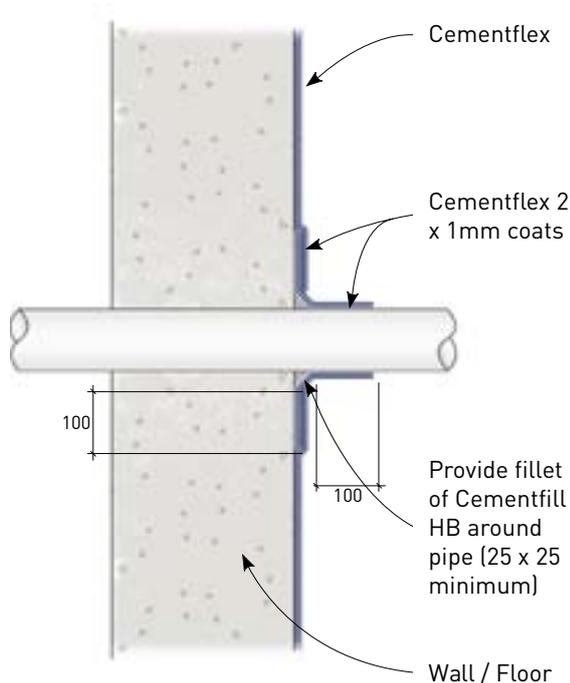
For other surfaces, the product should be applied in two 1mm coats. The second coat should be applied when the first is stable, but not fully set ie: after waiting approximately 4 to 6 hours, dependent upon temperature.



Roof/Balcony Detail



### Internal Tanking



### Pipe Entry Detail

#### CLEANING

All tools should be cleaned with water immediately after use.

#### CURING

Normal concreting procedures should be strictly adhered to. It is important the surface of the coating is protected from strong sunlight and drying winds with Cementseal Primer, polythene sheeting, damp hessian or similar. Curing must commence within 10 to 15 minutes of the completed 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

##### AVAILABILITY

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

##### PACKAGING

Pack size	15 kg in plastic tub ie: 2 No. x 7.5 kg (two part) mixes.
Yield	9.4 litres per 15 kg pack
Coverage	1.6kg/mm/m <sup>2</sup> On repaired and normal concrete surfaces, 15kg packs will cover 4.7m <sup>2</sup> at 2mm thickness.

##### STORAGE

Store the containers in dry, frost free, conditions. Shelf life in unopened containers at 20°C is 12 months.

#### TECHNICAL SERVICES

The RIW Technical Department is available to advise on individual projects and to prepare and assist in the preparation and 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.

#### RIW

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**waterproof** RIW