

Structural waterproofing

Any structure below ground should be considered to be liable to water pressure. Even if ground water is below the excavation level, capillary rise, flood water and adverse weather conditions may cause water to rise.

Structures cannot be expected to be completely rigid and even small movements can lead to cracking allowing water ingress.

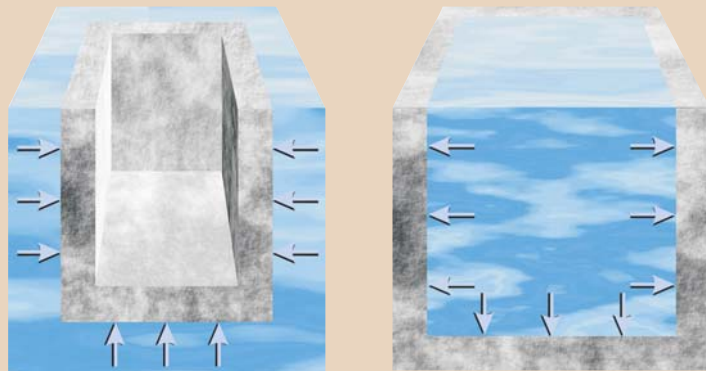
New structures can be made water resistant by good design, by integral

waterproofing (using a water resisting concrete mix with integral waterproofer), by providing waterstops or by incorporating a continuous external or internal impervious barrier.

1 Water seeping through concrete

Water exclusion (-ve)
(Negative water pressure)
Typical examples: Basements, Inspection pits, Cellars

Water containment (+ve)
(Positive water pressure)
Typical example: Swimming pools



Concrete is naturally porous and should not be considered to be a water-tight structure. Water will slowly seep through tiny pores in the concrete and this is exacerbated when the water is under pressure.

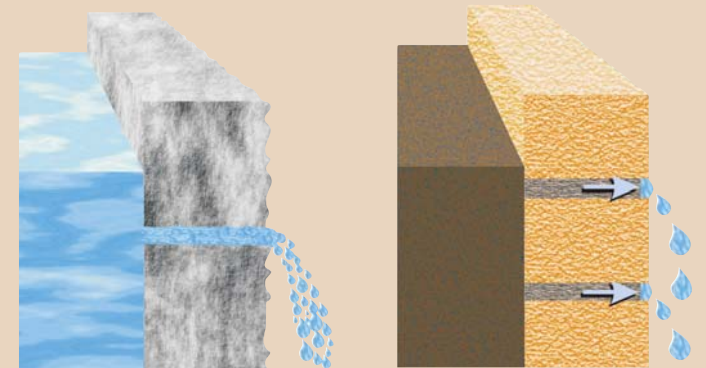
Before a structure can be used, it must be made waterproof and *tanking* is an ideal way to do this.

Tanking is a procedure for providing a waterproof or vapour-proof internal or external lining to a structure.

2 Water running or seeping through joints in concrete or masonry

Concrete substrate

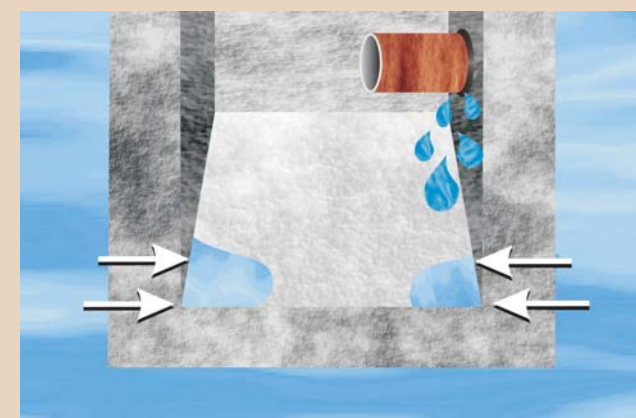
Dense blockwork/ brickwork



Before tanking can be carried out, ancillary actions such as sealing joints must be undertaken to prevent future leaks.

Joints between concrete blocks or mortar in brickwork/blockwork are weak points in a structure and therefore more likely to leak.

3 Water seeping around pipes or at the junction of floor and wall



Internal corners are subject to large stresses and this often leads to cracking allowing water ingress.

Pipes or light fittings that are cut into/through the concrete are also very likely to leak unless correctly fitted.

Use weber.cem dry structural waterproofing products

Even properly designed water retaining structures may not be totally watertight and curative measures need to be taken. Remedial waterproofing can be a risky

operation. Success or failure is visible immediately but risk can be minimised by *understanding* the causes of the problem and providing effective

solutions through the application of user-friendly high performance products by specialist applicators.

Products required

weber.cem plug 530
weber.cem dryrend 521

1: Existing joints

Concrete

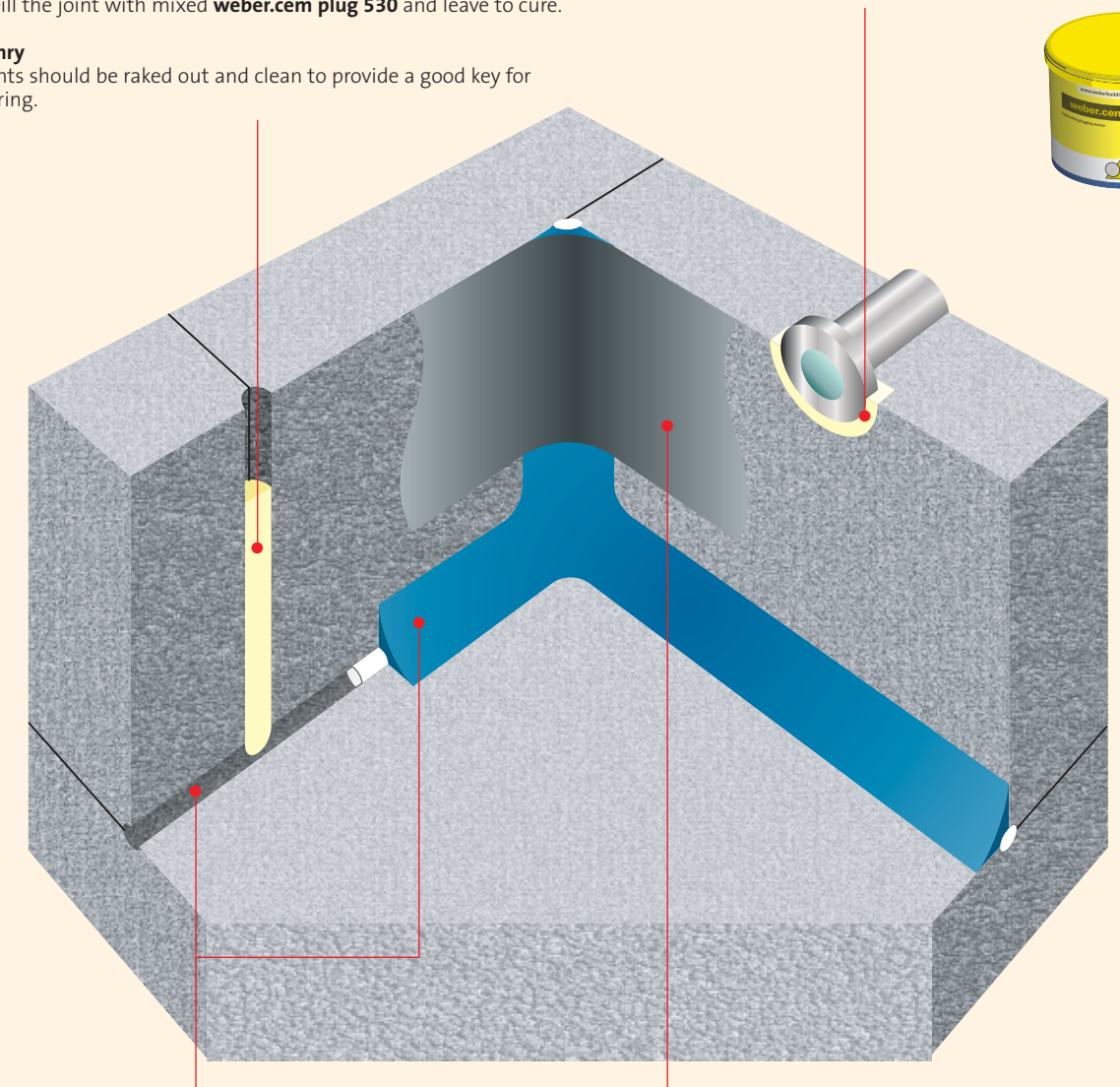
Remove any existing joint sealant, cut back to sound substrate and expose clean concrete. Cut back to achieve a minimum depth of 25 mm. Fill the joint with mixed **weber.cem plug 530** and leave to cure.

Masonry

All joints should be raked out and clean to provide a good key for rendering.

2: Pipes or light fittings

Remove any existing joint sealant to reveal clean concrete/masonry. Cut back to achieve a minimum depth of 25 mm. Fill around the fitting with mixed **weber.cem plug 530**.



3: Horizontal and vertical junctions

Remove existing mastic to reveal clean concrete/masonry.

As a precaution against structural movement, the application of mastic beneath the fillet should be considered. In practice the corner should be chased out to provide a 10 mm x 10 mm opening for the mastic to be gunned into.

Form rounded covings at all vertical junctions and rounded skirting at all horizontal junctions using **weber.cem dryrend 521**. Form a fillet 50 mm wide to prevent a sharp angle/change of direction when the waterproofing render is applied and reduce the risk of stress cracks.

4: Rendering

Once steps 1 – 3 have been carried out and materials cured, **weber.cem dryrend 521** can be used to render the structure.

Application techniques and thicknesses will vary depending on type and size of job. **weber** can provide in-depth specifications for structural waterproofing. Contact our Technical Helpline on 01525 722137 for more details.

