



WATERPROOFING

PC-WC Solution

**FOR NEW
CONCRETE
BASEMENTS**



ADVANTAGES OF OUR SOLUTIONS



Basements and underground structures protected by PC-WC's waterproofing solutions provide better living comfort and more ways to use the space. They also help lower overall ownership costs and make the structures last longer. These solutions are designed to work together seamlessly and are made sustainably, with a history of success around the world for many years.

Our solutions undergo rigorous testing and certification to meet top national and international standards. This ensures that owners, project planners, and contractors can trust the defined performance features of all PC-WC's waterproofing solutions, which are customized to meet their specific needs.



EXTERNAL WATERPROOFING SYSTEM



INTEGRAL WATERPROOFING SYSTEM



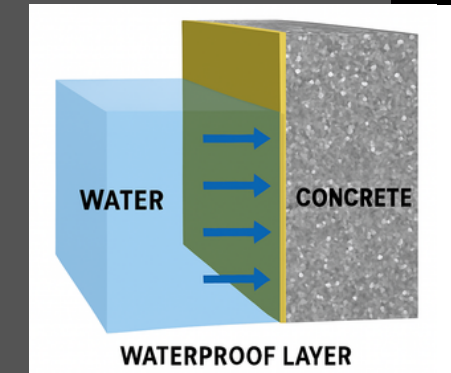
INTERNALLY APPLIED WATERPROOFING SYSTEM

BASEMENT WATERPROOFING CONCEPT AND STRATEGY

In general there are 3 different waterproofing concepts which can take all of the relevant project requirements into consideration:

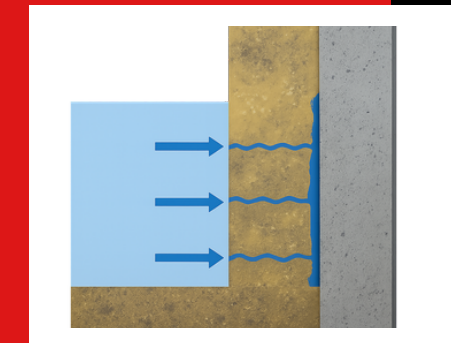
EXTERNAL WATERPROOFING SYSTEM

Waterproof barrier is put on the outside surfaces that come into contact with groundwater (positive side). This protects the structure from water entering and from any harmful substances or influences. For some materials like post-applied waterproofing mortars and coatings, you need access to the outside surfaces to apply them after the concrete is set. Grade of watertightness: Grades 1–3 plus extra requirements. Application: New construction. Protection provided: Waterproofing and concrete protection. Durability: Ranges from low to high durability, depending on the technology used.



INTEGRAL WATERPROOFING SYSTEM

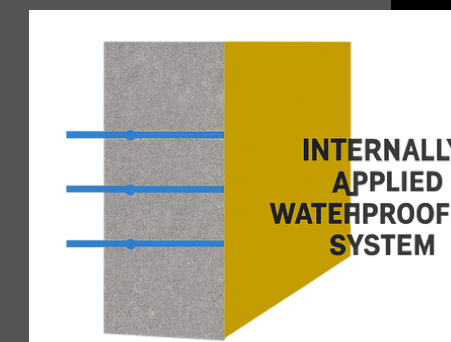
A waterproofing system is built into the concrete structure to stop water from getting in. It makes sure water can't seep into the basement. Solutions include special additives in the concrete to make it watertight and systems to seal the joints. The level of waterproofing is rated from Grades 1 to 3 and is mainly used for new building projects. This protection provides strong waterproofing with long-lasting durability, especially against groundwater that isn't too harsh.



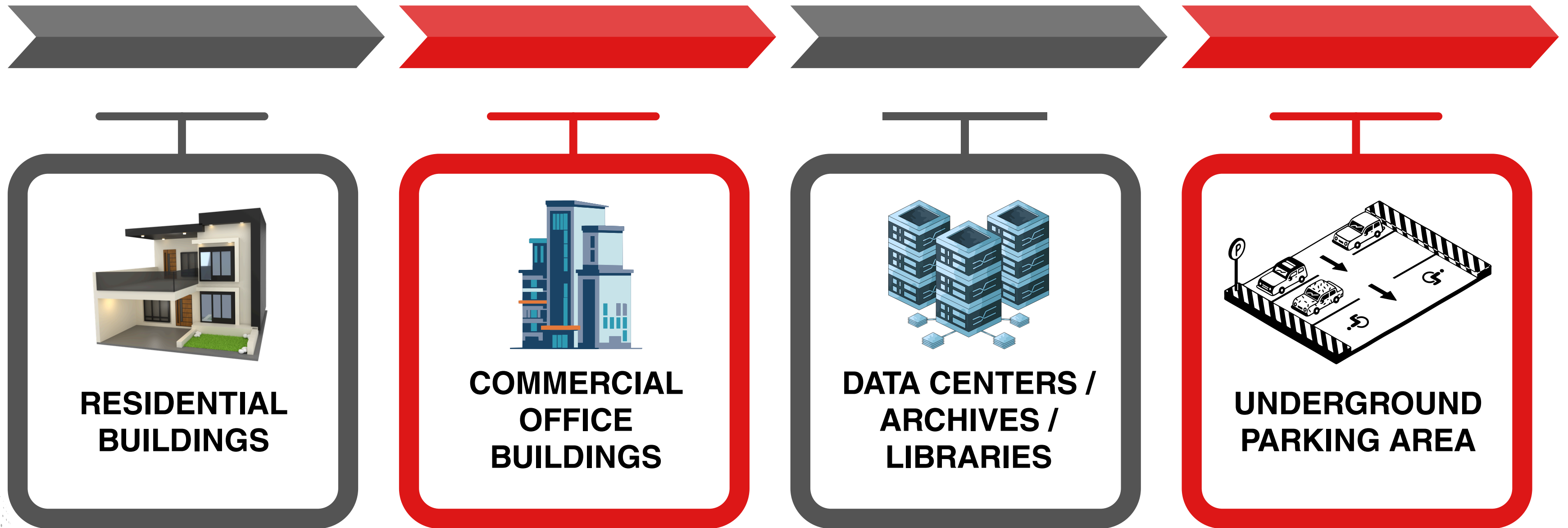
INTERNALLY APPLIED WATERPROOFING SYSTEM

A waterproof layer is added to the inside surfaces of the structure. These systems don't stop water from damaging the structure or concrete from being harmed by harsh chemicals. Usually, they are put on as coatings or sheet membranes and are suggested only for repair work when you can't reach the outside surfaces directly.

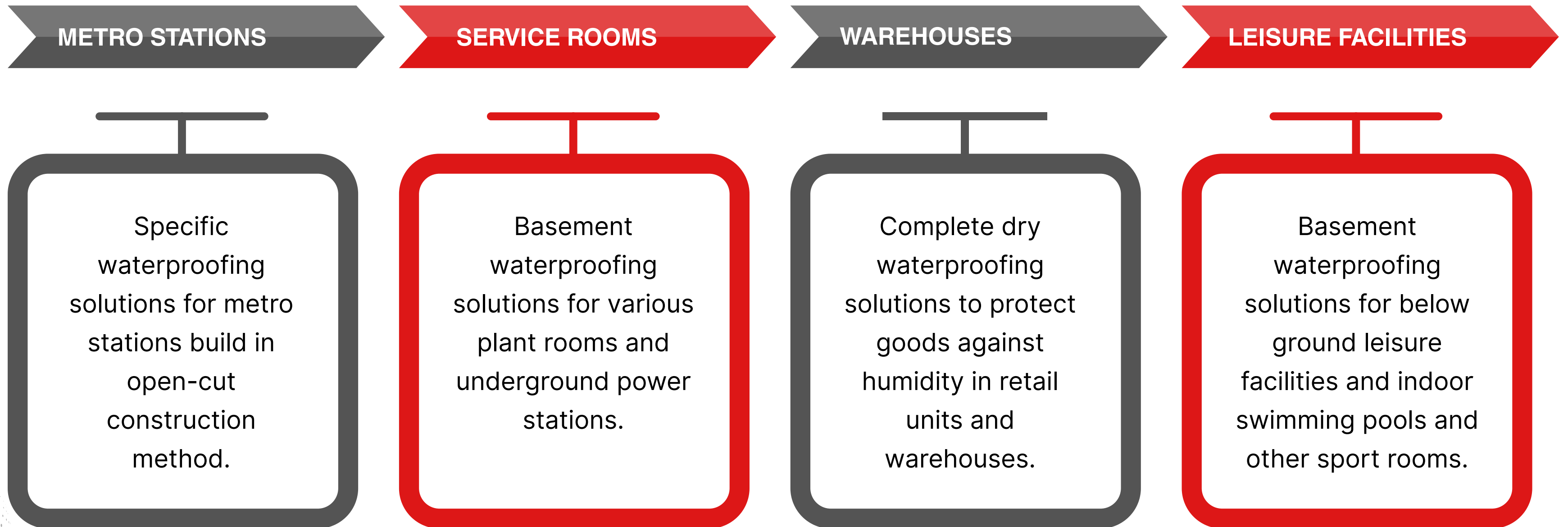
- Watertightness: Grades 1–3
- Use: Mostly for repairs
- Protection: Waterproofing



Waterproofing systems for underground structures now have tougher requirements for lasting quality, exposure, stress conditions, construction methods, ease of use, and total cost management. Sustainable solutions are also more important to conserve natural resources, energy, and water, and to cut down on CO2 emissions. As a global leader in structural waterproofing solutions, PC-WC offers the most complete range of products and systems. These are designed to be flexible enough to meet the specific needs of owners, architects, engineers, and builders on site.



A basement or below-ground structure with a base slab, walls, and top slab is exposed to soil and groundwater, leading to environmental stress. Building owners now seek a lifespan of 50–120 years. Poor watertightness harms durability, causing costly repairs and damage. Choosing the right waterproofing method is crucial for minimizing ownership costs. Waterproofing is under 1% of construction costs but can save more in maintenance over time.



BELOW GROUND STRUCTURES – EXPOSURE AND STRESS

TYPE OF EXPOSURE AND STRESS

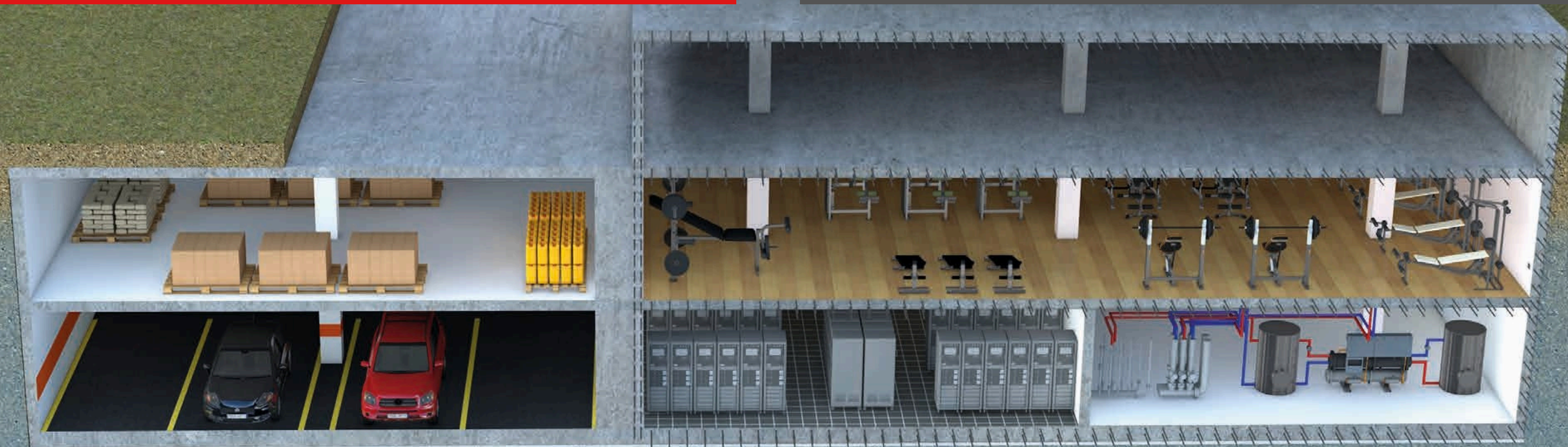
Below ground structures can be subject to many different exposure conditions including:

- Different levels of water exposure and pressure (e.g. damp soil, percolating water or water under hydrostatic pressure, and open water)
- Aggressive ground water containing chemicals (commonly sulphates and chlorides in solution)
- Unequal static forces (due to load, settlement, or uplift, etc.)
- Dynamic forces (e.g. from settlement, earthquake, explosion, etc.)
- Temperature variations (frost during the night / winter, heat during the day / summer)
- Gases in the ground (e.g. Methane and Radon)
- Aggressive biological influences (plant roots / growth, fungal or bacterial attack)

EXPOSURE IMPACT ON BELOW GROUND STRUCTURES

These different types of exposure may adversely influence the use, watertightness and durability of a basement structure, resulting in a reduced service life of the entire structure

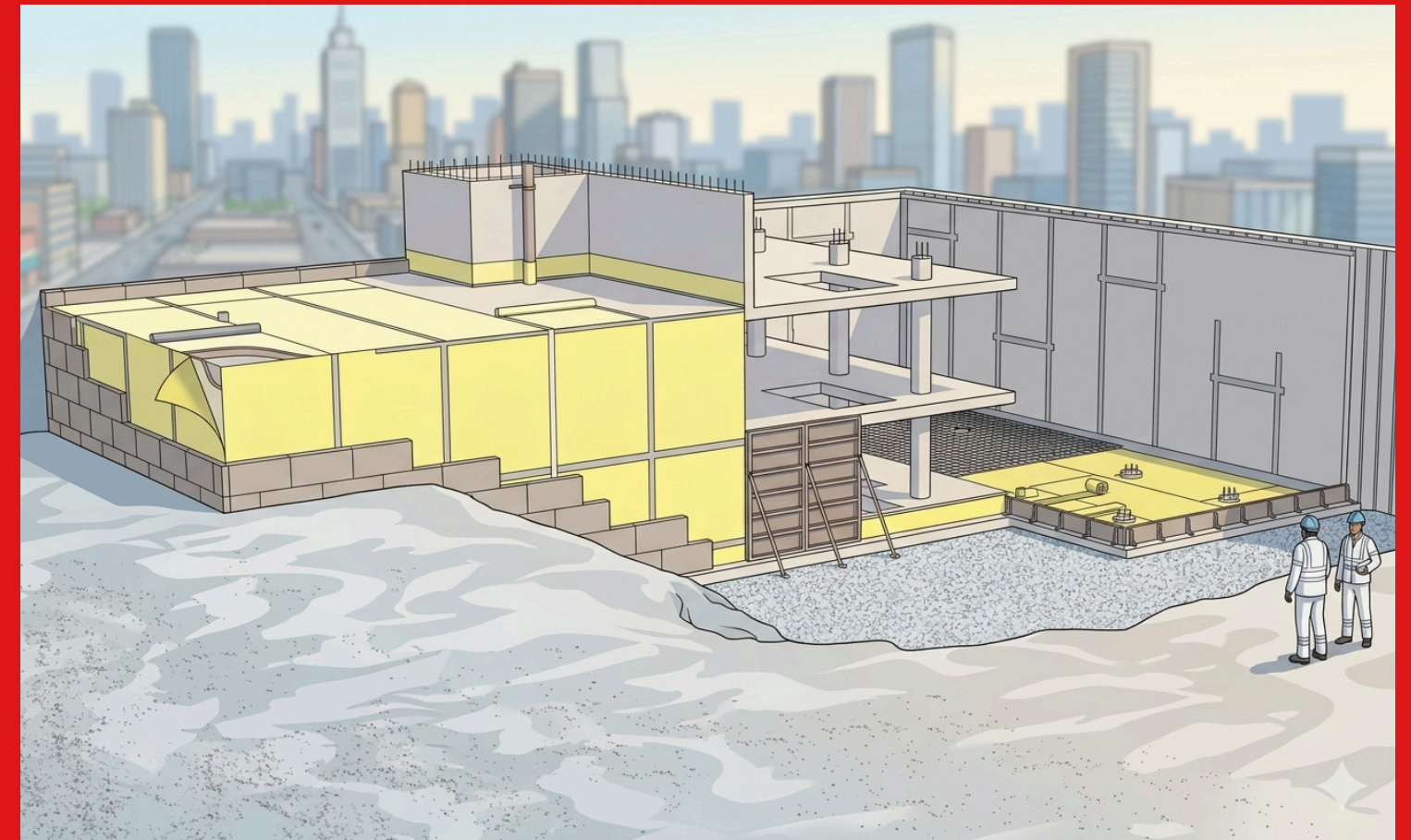
Exposure	Impact on structure
Water ingress	Damage to structure, finishes, contents and the internal environment (condensation and mould growth etc.), loss of thermal insulation, corrosion of steel reinforcement
Aggressive chemicals	Concrete damage (due to sulphate attack), corrosion of steel reinforcement (due to chloride attack)
Unequal static forces	Structural cracking
Dynamic forces	Structural cracking
Temperature variations	Condensation, scaling or cracking of concrete
Gas penetration	Gas penetration and exposure for occupants
Fungal / bacterial attack	Damage to the waterproofing system, finishes or contents



Fully bonded flexible sheet membrane systems

PC-Vase® PV is a highly flexible and fully bonded PVC sheet waterproofing system. It effectively prevents any water from moving sideways between the waterproofing layer and the concrete structure, even if there's damage below the base slab. This system is straightforward and easy to install, ensuring a quick and secure setup on site. The connections, such as overlaps and joints, are easily sealed by bonding them with sealing tapes or self-adhesive strips, eliminating the need for complex welding or special equipment.

USE	MAIN ADVANTAGE	TYPICAL PROJECTS
<ul style="list-style-type: none"> • As the waterproofing solution for Grades 1–3 • For aggressive ground conditions (ground water and soil, Radon gas etc.) • For very high water table level conditions 	<ul style="list-style-type: none"> • Cost effective solution (Material + Application) • High durability • No lateral water underflow • High flexibility and crack-bridging ability • Approved detailings 	<ul style="list-style-type: none"> • All types of concrete basements (residential, commercial etc.) • Industrial facilities • Pre-cast structures



PC-WC PRODUCTS AND SYSTEM SOLUTIONS

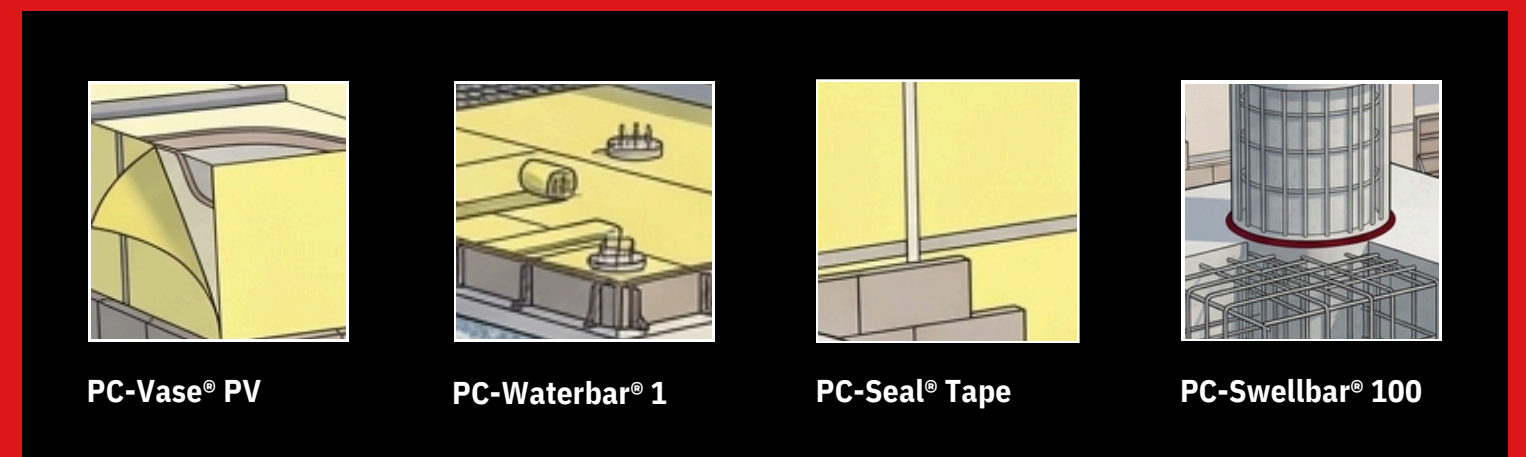
PC-Vase® PV Non-reinforced PVC membrane for waterproofing of tunnels, foundations, underground parts of buildings and structures

Complementary products for flexible sheet membrane systems

PC-Waterbar® 1 Externally fixed, cast-in-place waterstops based on PVC or TPO for sealing and waterproofing construction and movement joints.

PC-Seal® Tape High-performance system for sealing joints and cracks, suitable for construction joints, expansion joints, movement joints, connections, and cracks.

PC-Swellbar® 100 Hydrophilic swellable joint sealing bar



Combination of fully HDPE and bituminous sheet membrane

This concept presents a comprehensive basement waterproofing system that employs innovative membranes to safeguard against water intrusion and harmful gases. It showcases significant advancements in construction technology, offering a cost-effective solution that ensures robust protection and peace of mind.

USE

- As the waterproofing solution for Grades 1–3
- For aggressive ground conditions (ground water and soil, Radon gas etc.)
- For high water table level conditions

MAIN ADVANTAGE

- Fully bonded membranes
- Very cost effective
- Simple and fast to apply
- For pre- and postapplication

TYPICAL PROJECTS

- All types of concrete basements (residential, commercial etc.)
- Industrial facilities
- Pre-cast structures

PC-WC PRODUCTS AND SYSTEM SOLUTIONS

PC-Vase® HD

Non-reinforced HDPE membrane for waterproofing of tunnels, foundations, underground parts of buildings and structures

PC-Prime® 01

Bituminous primer emulsion-based

PC-Self® XPE

SBS Modified Cross laminated self adhesive bituminous membrane

Complementary products for PVC and bituminous sheet membranes:

PC-Waterbar® 1

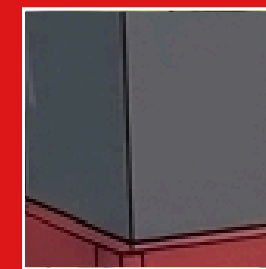
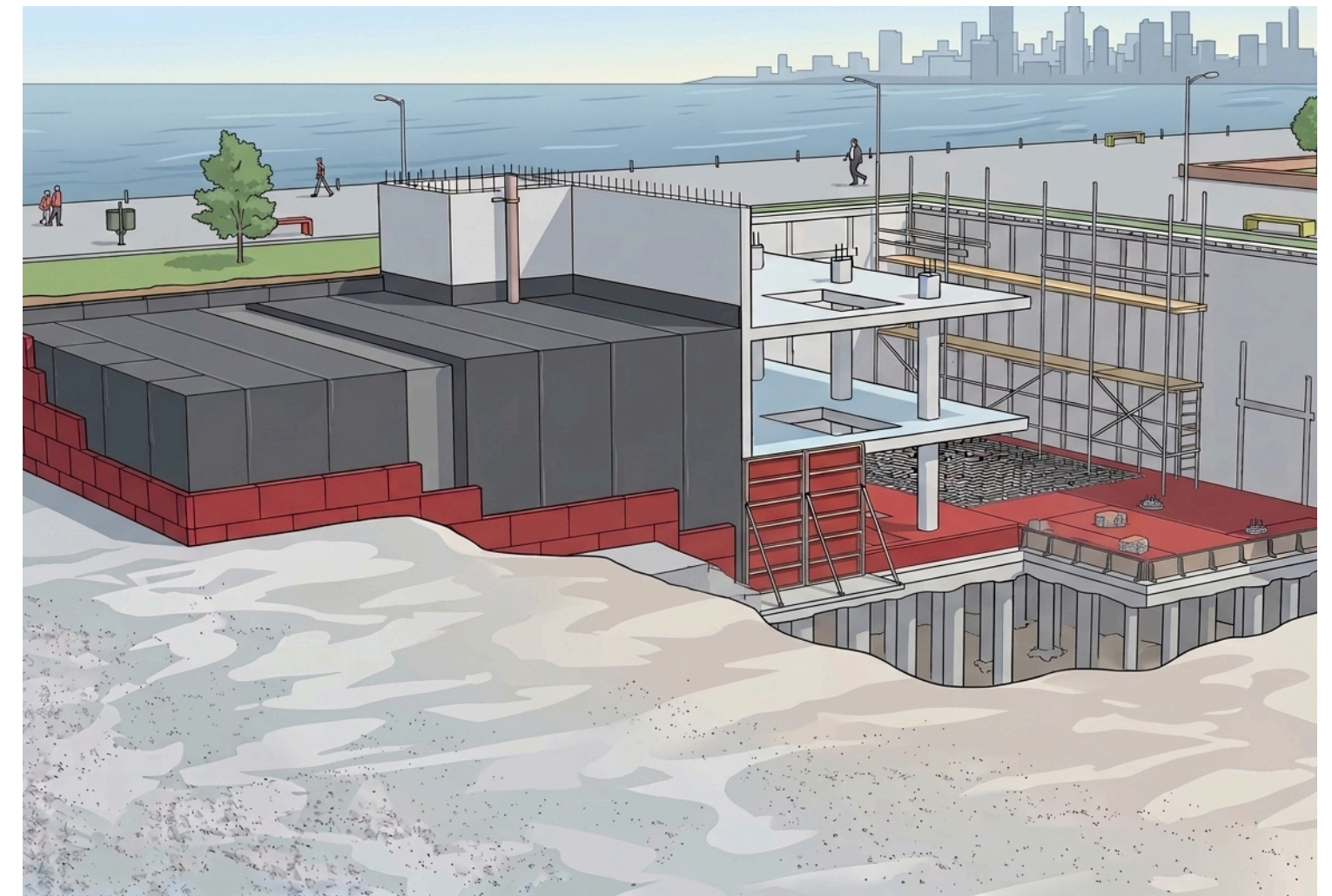
Externally fixed, cast-in-place waterstops based on PVC or TPO for sealing and waterproofing construction and movement joints.

PC-Seal® Tape

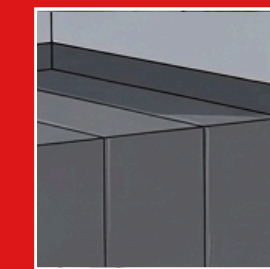
High-performance system for sealing joints and cracks, suitable for construction joints, expansion joints, movement joints, connections, and cracks.

PC-Swellbar® 100

Hydrophilic swellable joint sealing bar



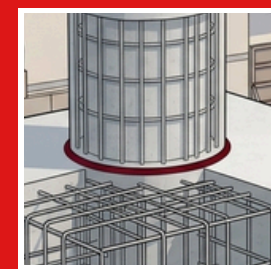
PC-Prime® 01



PC-Self® XPE



PC-Waterbar® 1

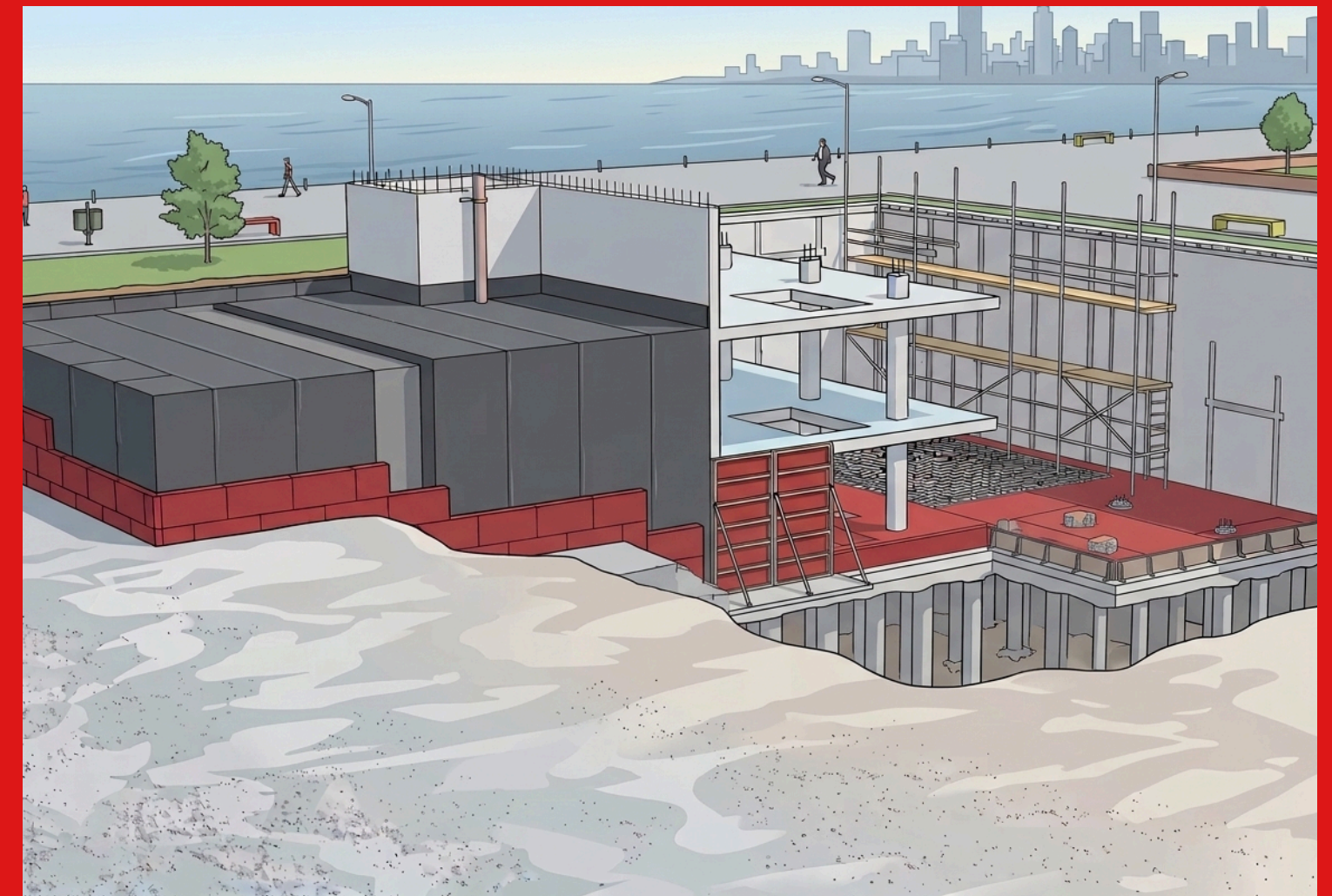


PC-Swellbar® 100

FULLY BONDED BITUMINOUS MEMBRANES

The fully bonded basement waterproofing system has been meticulously designed to utilize bituminous membranes, providing an economical and efficient solution for a wide range of projects, especially those with lower water pressure requirements.

USE	MAIN ADVANTAGE	TYPICAL PROJECTS
<ul style="list-style-type: none">• As the waterproofing solution for Grades 1–2• For aggressive ground conditions (ground water and soil, Radon gas etc.)• For medium water table level conditions	<ul style="list-style-type: none">• Fully bonded membranes• Very cost effective• Simple and fast to apply• For pre- and postapplication	<ul style="list-style-type: none">• All types of concrete basements (residential, commercial etc.)• Industrial facilities• Pre-cast structures

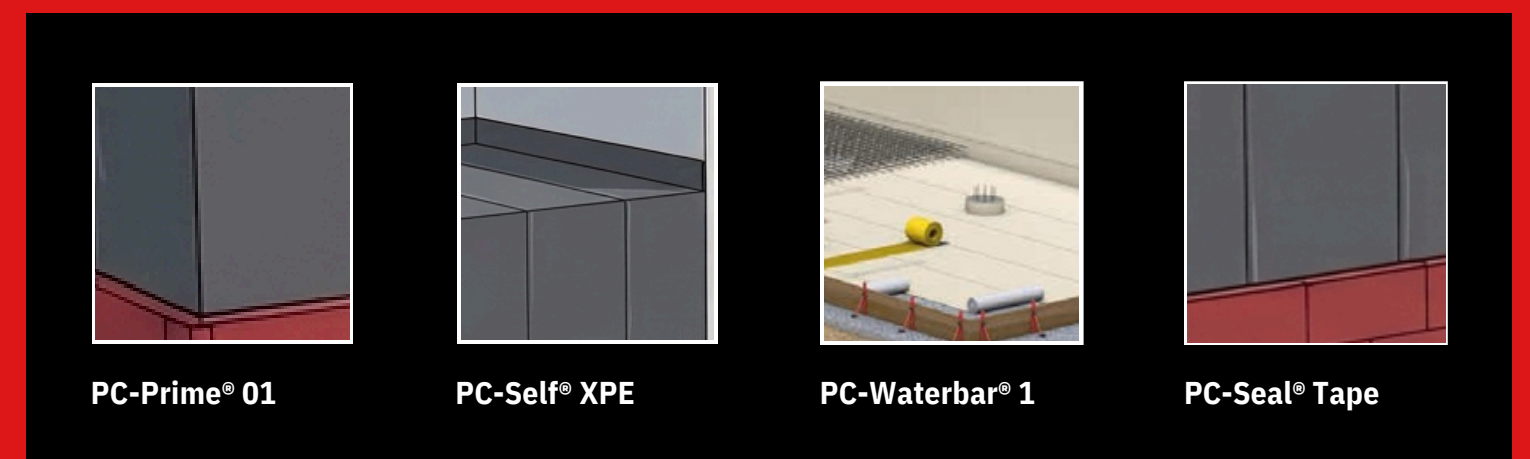


PC-WC PRODUCTS AND SYSTEM SOLUTIONS

PC-Prime® 01	Bituminous primer emulsion-based
PC-Self® XPE	SBS Modified Cross laminated self adhesive bituminous membrane

Complementary products for BITUMINOUS MEMBRANES:

PC-Waterbar® 1	Externally fixed, cast-in-place waterstops based on PVC or TPO for sealing and waterproofing construction and movement joints.
PC-Seal® Tape	High-performance system for sealing joints and cracks, suitable for construction joints, expansion joints, movement joints, connections, and cracks.



PC-Prime® 01

PC-Self® XPE

PC-Waterbar® 1

PC-Seal® Tape

Bituminous & Cementitious coatings

Waterproof mortars and bitumen-based coatings serve to safeguard basements against damp soil, water infiltration, and moisture penetration. These materials are applied prior to the installation of new concrete slabs and are also utilized on the exterior of newly constructed walls. Ensuring effective external drainage is critical; drainage pipes should be positioned at or below the base slab level to mitigate water pressure accumulation. The selection of a waterproofing system primarily hinges on local availability and prevalent construction practices.

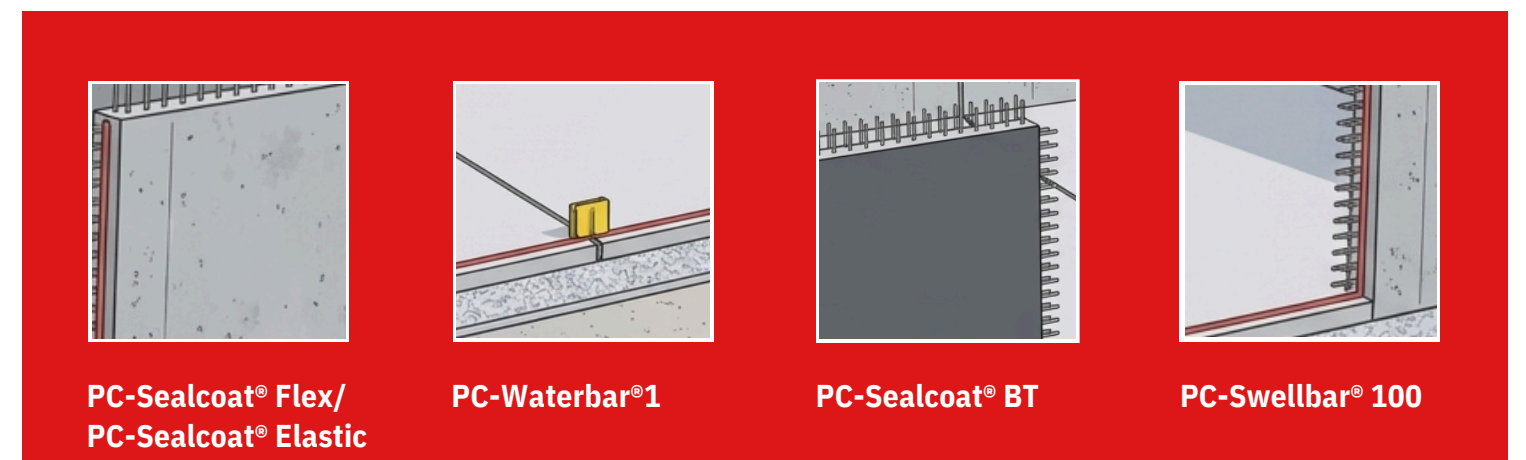
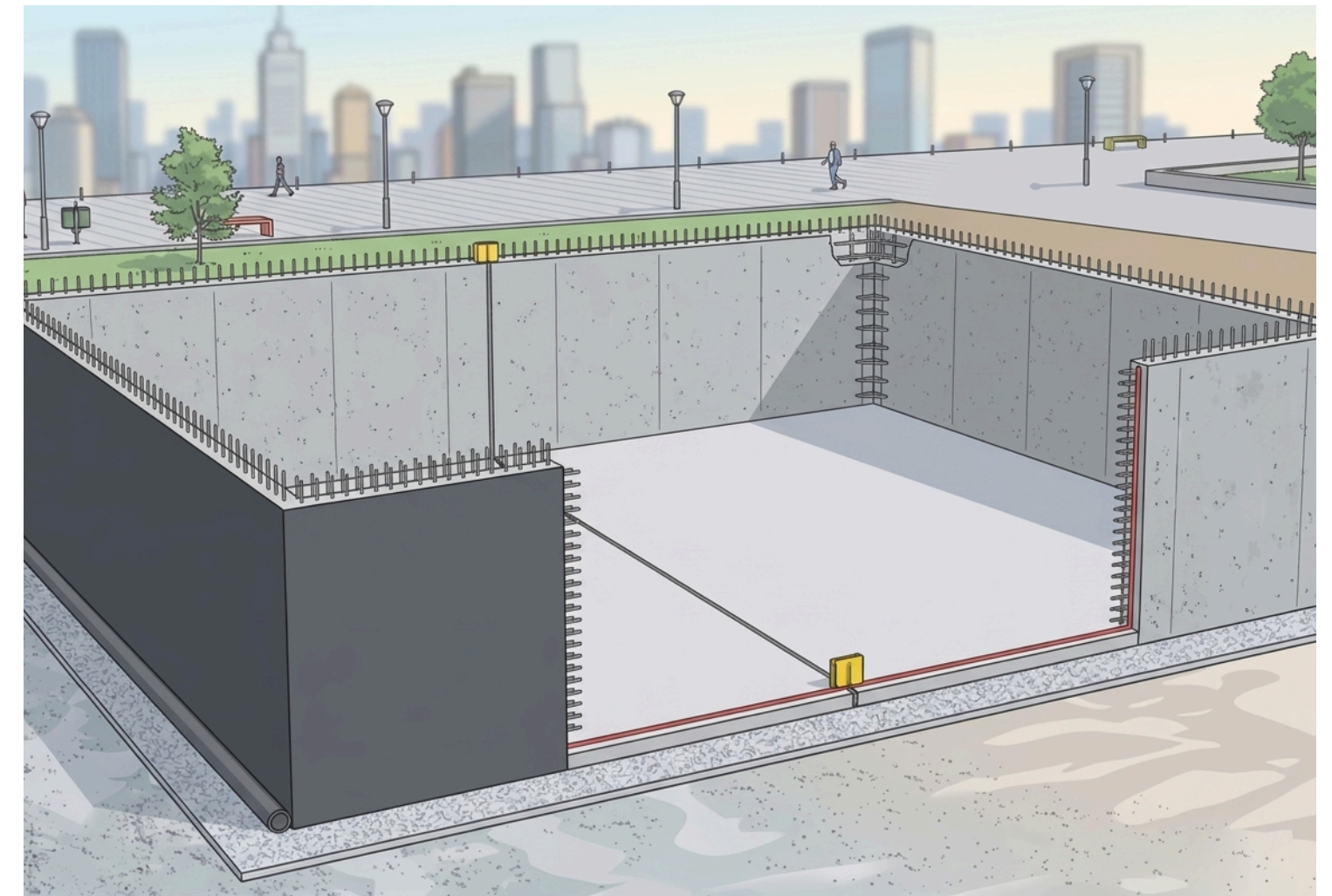
USE	MAIN ADVANTAGE	TYPICAL PROJECTS
<ul style="list-style-type: none"> • As the waterproofing solution for Grades 1–2 • To protect structures against percolating water • For limited ground conditions (no settlement, less aggressive environments, low water pressure) 	<ul style="list-style-type: none"> • Cost efficient solution (Material + Application) • Ready to use & easy to apply • Provide additional concrete protection 	<ul style="list-style-type: none"> • Domestic applications • Residential buildings • Industrial buildings

PC-WC PRODUCTS AND SYSTEM SOLUTIONS

PC-Sealcoat® Flex	Two component acrylic co-polymer based flexible waterproofing coating.
PC-Sealcoat® Elastic	Two-component, cement-based highly flexible, elastomeric waterproof coating.
PC-Sealcoat® BT	Aliphatic PU with Bituminous emulsion modified, Elastomeric, Single component, Cold Applied, High Performance Waterproof Coating

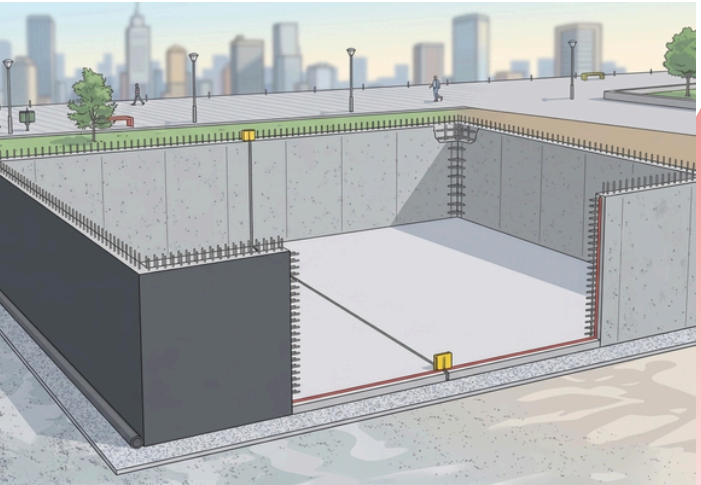
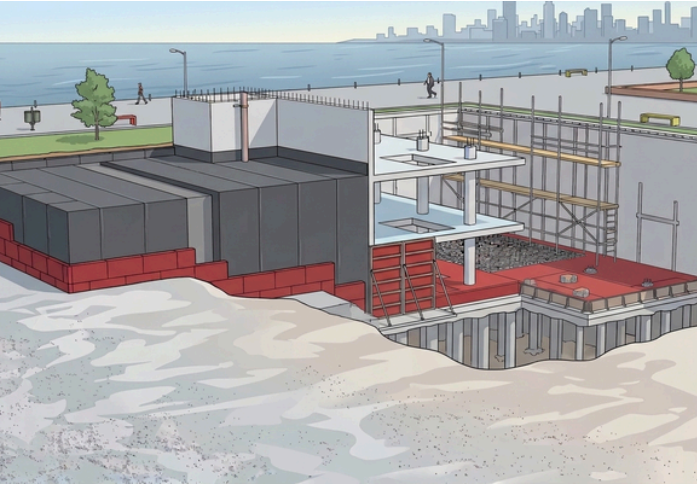
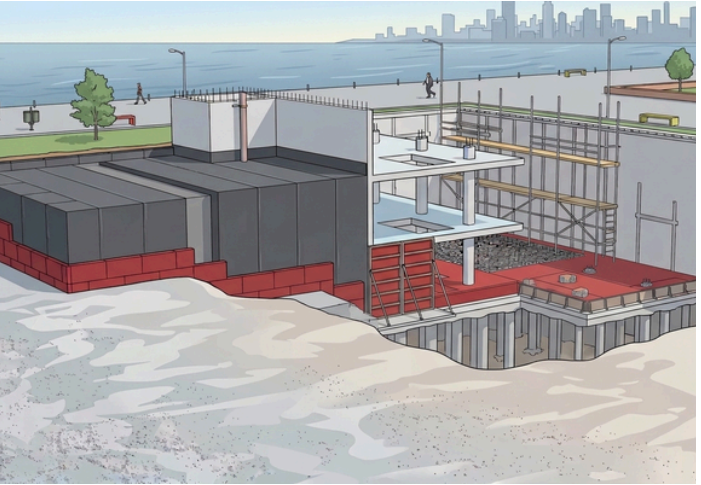
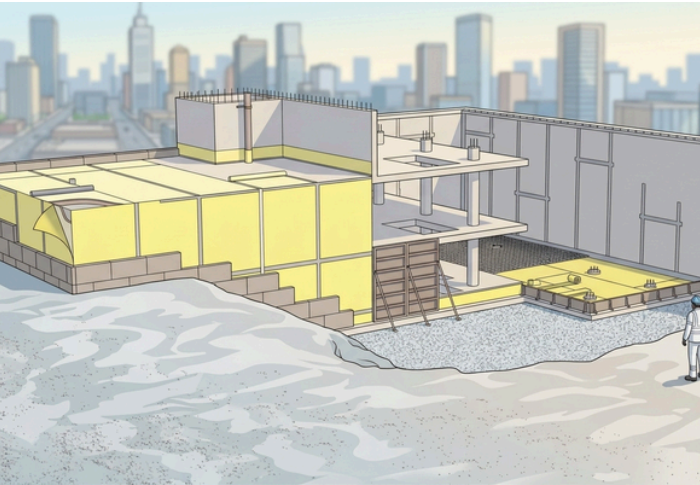
Complementary products for Bituminous & Cementitious coatings

PC-Swellbar® 100	Hydrophilic swellable joint sealing bar.
PC-Seal® Tape	High-performance system for sealing joints and cracks, suitable for construction joints, expansion joints, movement joints, connections, and cracks.



OVERVIEW OF PC-WC BASEMENT WATERPROOFING SOLUTIONS

An overview and selection guide for new constructions



Technology /Type of system	Combination of fully PVC and bituminous sheet membranes	Fully bonded flexible sheet membrane systems	Fully bonded bituminous sheet membranes	Bituminous & Cementitious coatings
Waterproofing Concept	<ul style="list-style-type: none"> • Pre-applied below the base slab and on lost-formwork • Post-applied on existing concrete structure • Externally applied 	<ul style="list-style-type: none"> • Pre-applied below the base slab and on lost-formwork • Post-applied on existing concrete structure • Externally applied 	<ul style="list-style-type: none"> • Pre-applied below the base slab and on lost-formwork • Post-applied on existing concrete structure • Externally applied 	<ul style="list-style-type: none"> • Post-applied on existing concrete structure • Externally applied
Grade of watertightness	Grades 1-3	Grades 1-3	Grades 1-2	Grades 1-2
Concrete protection	High	High	High	Limited
Water resistance level	<ul style="list-style-type: none"> • Very high hydrostatic pressure • Seepage / percolating water • Capillary water 	<ul style="list-style-type: none"> • Very high hydrostatic pressure • Seepage / percolating water • Capillary water 	<ul style="list-style-type: none"> • Very high hydrostatic pressure • Seepage / percolating water • Capillary water 	<ul style="list-style-type: none"> • Seepage / percolating water • Capillary water
Repair in the event of leaks	By crack injection	By crack injection	By crack or area injection	By crack or area injection
Advantages	<ul style="list-style-type: none"> • Highly efficient • High performance • Easy to apply Low risk • High durability 	<ul style="list-style-type: none"> • Highly efficient • High performance • Easy to apply Low risk • High durability 	<ul style="list-style-type: none"> • Fully bonded membranes • Very cost effective • Simple & fast to apply • For pre- and post-application 	<ul style="list-style-type: none"> • Very cost effective • Simple & fast to apply

BENEFITS OF BASEMENT WATERPROOFING



SAFETY AND DURABILITY IMPROVEMENT

A strong foundation ensures stability and resilience against natural disasters. It also extends the structure's lifespan by enhancing durability.



CLIMATE STABILITY

Basements are cooler in summer and warmer in winter. Proper insulation and waterproofing can lower heating and cooling costs.



HEALTHY ENVIRONMENT

Basement waterproofing creates a healthier space by preventing water intrusion, blocking radon gas, and stopping mold growth.



INCREASE OF PROPERTY VALUE

Completing a basement can significantly increase a property's value, boosting it by 20–30%.



INCREASE OF LIFE'S QUALITY

The basement serves as an extra space for leisure and storage, ideal for home offices due to its poor sound transmission.