

The Waterproofing System for concrete construction –

Crystalline waterproofing system

Welcome to SCHOMBURG!

Whatever you're planning, our premium package supports you at the highest level at all times. That's what we stand for.





**Waterproofing system
Concrete construction – innovative
crystalline concrete admixtures
and system accessories.**

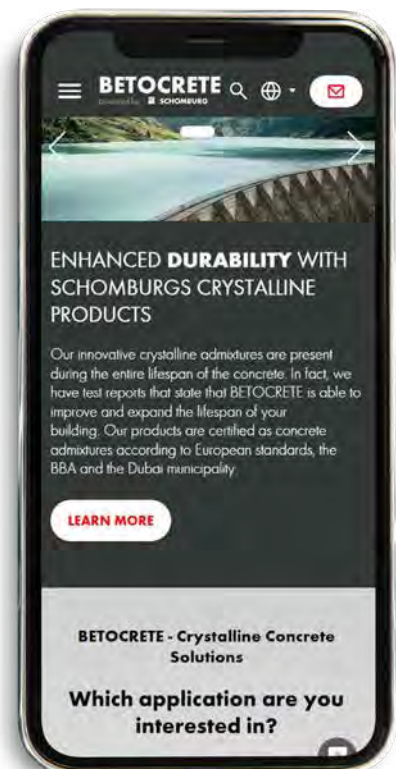
betocrete.com

SCHOMBURG is more than expertise.

Benefit from our service extras.



All information about BETOCRETE at www.betocrete.com





With us, you stay at the top.

We are happy to update this folder on a regular basis.

Please contact us!

schomburg.com

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6 CRYSTALLINE WATERPROOFING SOLUTIONS FOR RETROFITTING AND REPAIRS

7 PLANNING DOCUMENTS

1 SYSTEM OVERVIEW

Brochure

1.1 Concrete construction waterproofing system

Crystalline sealing cleverly thought-out

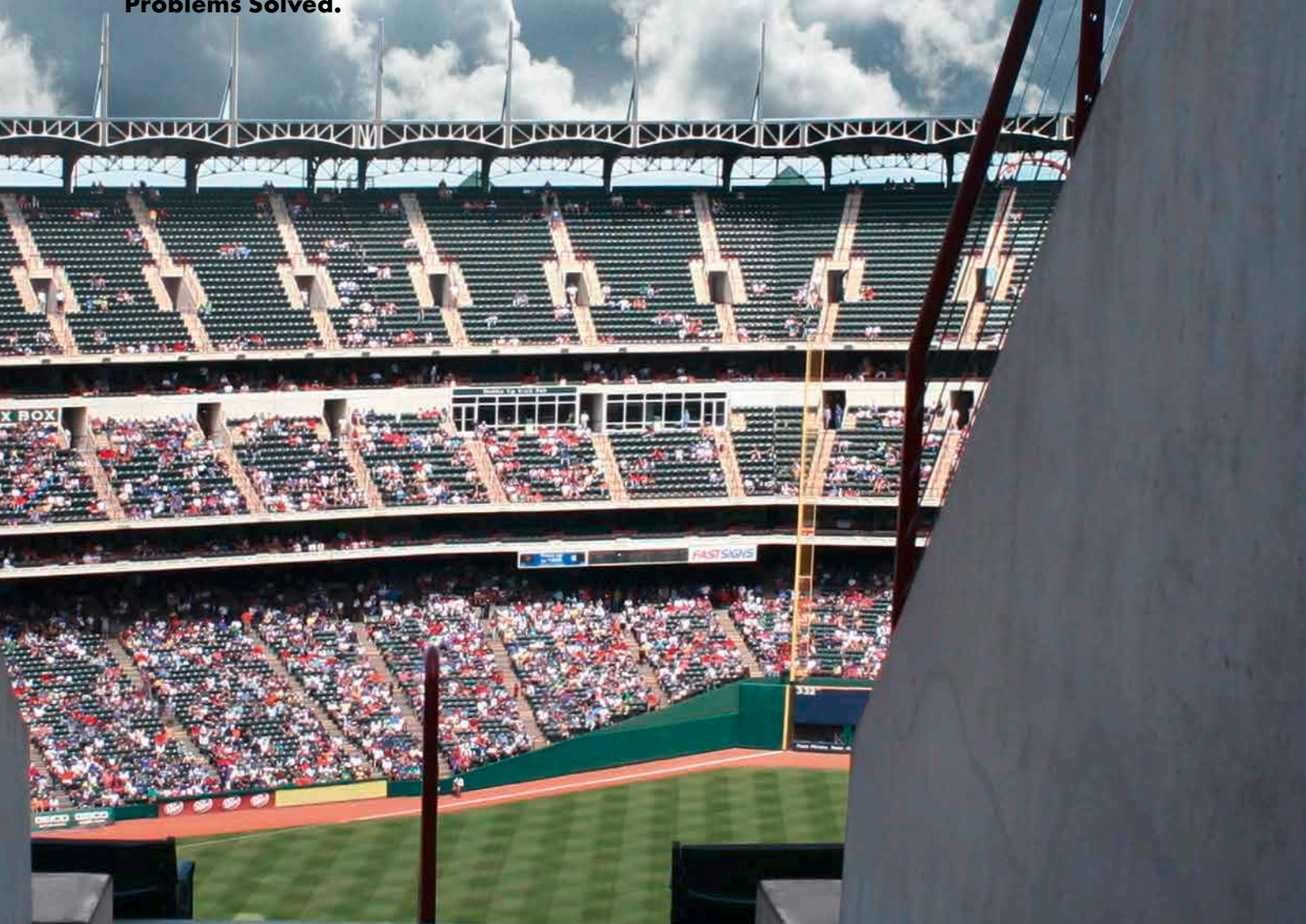


Waterproofing system for concrete construction

Crystalline waterproofing system

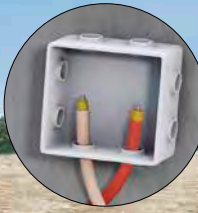
Liquid and powder form crystalline concrete waterproofing additives in a system with joint solutions, injection tubes, sealants and waterproofing slurries.

Problems Solved.





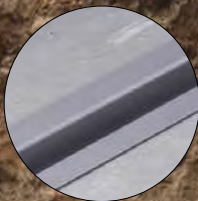
1 AQUAFIN-CJ6



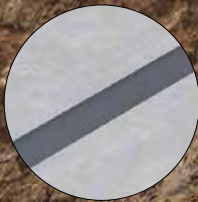
2 AQUAFIN-CJ1
AQUAFIN-P4



3 AQUAFIN-CJ6



4 ASO-Tape



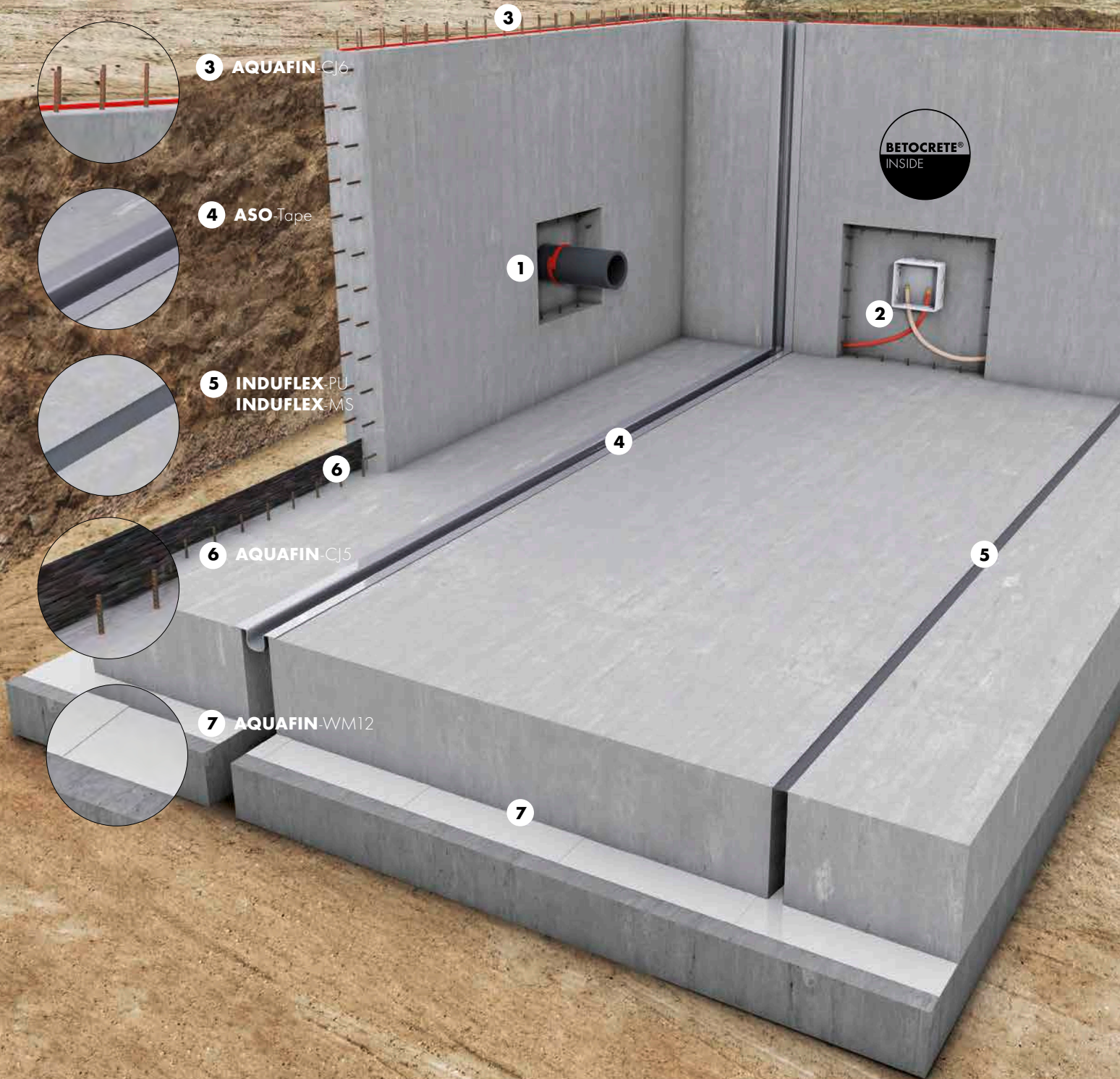
5 INDUFLEX-PU
INDUFLEX-MS



6 AQUAFIN-CJ5



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Waterproofing system for concrete construction

Crystalline waterproofing system



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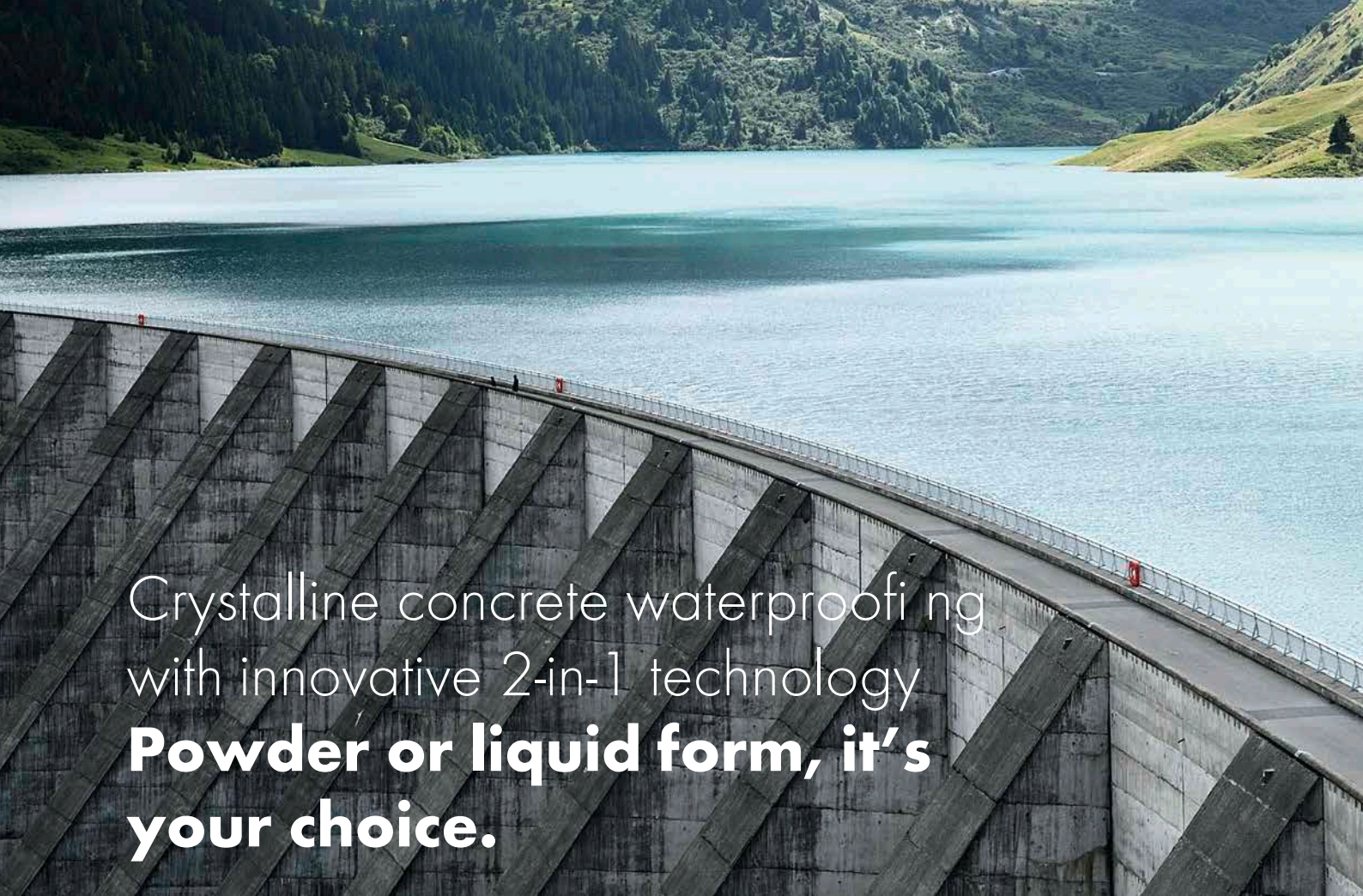
Movement joints with joint sealing tapes

Movement joints with joint sealants

Waterproofing concrete structures - waterproofing sheet membranes

15 Retrospective waterproofing possibilities

Crystalline waterproofing



Crystalline concrete waterproofing with innovative 2-in-1 technology **Powder or liquid form, it's your choice.**

In addition to the usual powder products on the market, SCHOMBURG as a leading supplier, offers liquid products for crystalline waterproofing, which are also certified to DIN EN 934-2. This simplifies dosage and provides maximum certainty when mixing.

Simple dosage has especially proven itself on large volume building projects. Automated dosing plants offer even greater advantages regarding application certainty and speed.



Crystalline technology

Crystalline technology reduces water penetration through nano-crystals



Waterproofing agent

Reduces water penetration



Corrosion protection

Additional protection of the rebar



Plasticizer

Reduction of the capillary pore structure





Crystalline technology

Hydrophilic function

- Reaction between in-situ moisture, free lime in the cement and BETOCRETE-C creates capillary sealing nano-crystals in cracks up to 0.5 mm.



Additive technology

Hydrophobic function (WP)

Prevents additional penetration and absorption of water.

Protective function (CI)

Added protection of the rebar by adding an additional, corrosion inhibitor component.

Plasticizing function (P)

A plasticizer can lower the w/c ratio and consequently the penetration depth of water by reducing the size of the capillary pores.



Liquid products (CL)

BETOCRETE®
CL-210-WP

Waterproofing agent
(CE certified)

BETOCRETE®
CL-170-P

Plasticizer (CE certified)
Reduction of the w/c ratio

Powder-based products (CP)

BETOCRETE®
CP-360-WP

Waterproofing agent
(CE certified)

BETOCRETE®
CP-350-CI

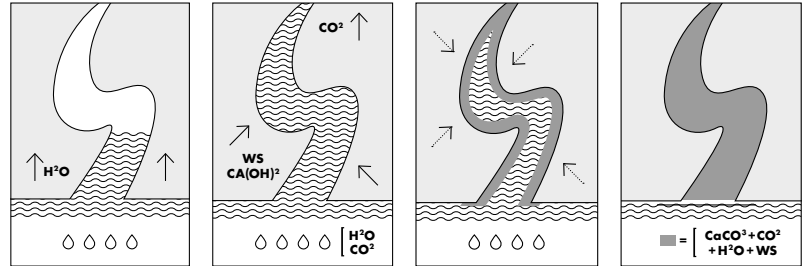
For standard concrete



Advantages

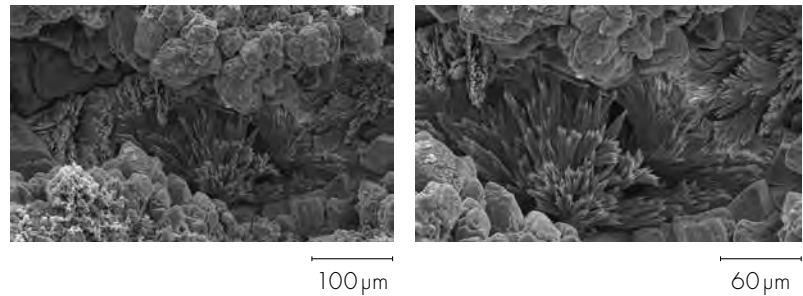
Reduction in water penetration

The use of BETOCRETE-C products even reduces water penetration in impermeable concrete formulations by a further >50%. The water vapour permeability is also crystallisation in the pore structure.



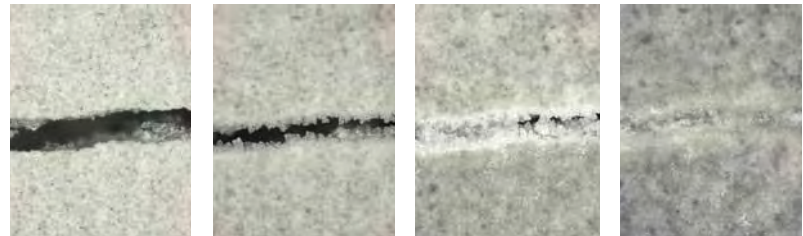
Improving the durability

As water is the main transport medium for damaging substances and also induces chemical reactions in concrete, the BETOCRETE-C Series consequently improves the permanence of the concrete. In particular independent test certificates prove a considerable improvement in resistance to carbonisation, chloride migration, freeze-thaw cycles as well as chemical influences.



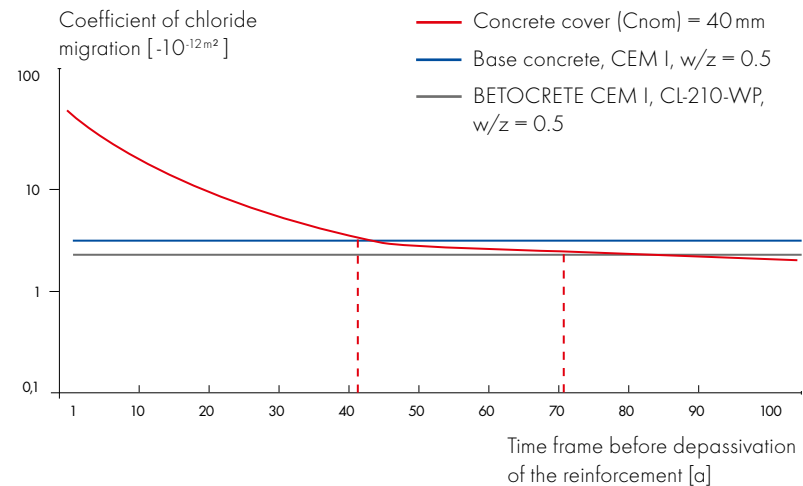
“Self healing” concrete

With each new contact with water, the active ingredients form new crystals - and still carry on after many years. Extensive tests show that products in the BETOCRETE-C series are capable of achieving an auto-reactive, crack-healing function with in case of outwardly spreading cracks up to 0.5 mm and continuous cracks up to 0.4 mm. This speeds up and improves the self-healing properties of concrete and lowers the maintenance costs of the building.



Extending the longevity

Waterproofing with BETOCRETE-C products can extend the life-span of concrete buildings by up to 75 %. The time until depassivation of reinforced concrete can be delayed by up to 30 years. An increased return on investment!



Areas of application – Security for architects and applicators



The BETOCRETE-C series is the first choice for all concrete buildings, which come into contact with water, especially for large projects.



Collecting and retaining basins



Parking garages and car park levels



In ground swimming pools



Power station cooling towers



Foundations



Tunnels and concrete pipes



Tanks and containers



Sewage ducts and shafts

Exposure class to EN 206-1

Exposure class to EN 206-1	Damage	Damage symptoms	How BETOCRETE-C helps
XF (Frost attack)	<ul style="list-style-type: none"> • Volume increase water/ice • Increased capillary absorption 	<ul style="list-style-type: none"> • Weathering near the surface • Internal matrix damage • Localised spalling 	<ul style="list-style-type: none"> • Reduces capillary absorption • Reduces moisture ingress • Capillary closure through crystallization
XD/XS (Chloride)	<ul style="list-style-type: none"> • Entry of structurally damaging chlorides • Steel corrosion 	<ul style="list-style-type: none"> • Damage or decay of the reinforcement • Loss in structural load-bearing strength 	<ul style="list-style-type: none"> • Reduces moisture ingress and the chlorides dissolved therein • Clear reduction in chloride migration
XC (Carbonisation)	<ul style="list-style-type: none"> • Carbonation (Depassivation) • Reduces the pH value 	<ul style="list-style-type: none"> • Damage or decay of the reinforcement • Spalling through volume increases from rust 	<ul style="list-style-type: none"> • Reduced moisture ingress • Clear reduction in carbonisation
XA (Chemical attack)	<ul style="list-style-type: none"> • Chemical decay of the concrete structure 	<ul style="list-style-type: none"> • Heavy destruction near the surface • Internal matrix damage 	<ul style="list-style-type: none"> • Reduction of the penetration depth of chemicals dissolved in moisture through capillary-filling crystals



Advice for planning

Concrete requirements*

Cement content	Min. 270 kg/m ³ CEM I; 290 kg/m ³ CEM II; 380 kg/m ³ CEM III/A
Fly ash	Max. 80 kg/m ³
Granulated blast furnace slag	Max. 100 kg/m ³
w/c ratio	< 0.55
Particle size	16 mm, in exceptional cases 32 mm
Construction thickness	The construction thickness should not be below 15 cm

* Dependent on the necessary exposure class as well as the content of fly ash and/or granulated blast furnace slags - excluded BETOCRETE-CP355-CL. Further information can be found in the current technical data sheet.

Advice for application

BETOCRETE® CP

BETOCRETE® CL

Dosage* : w/c ratio

< 0.4	0.75 % based on CEM	1.75 % based on CEM
> 0.4-0.5	0.80 % based on CEM	1.85 % based on CEM
> 0.5-0.55	0.95 % based on CEM	2.00 % based on CEM

Preparation

At a concrete plant	BETOCRETE-CP is to be dosed with the aggregate and mixed for at least 30 seconds prior to the addition of water and cement. Then finish mixing for at least 45 seconds before it is ready for use.	BETOCRETE-CL can be added to the mixing water or introduced into the finished concrete mix.
On the construction site	The addition of BETOCRETE-CP on the construction site (ready-mix truck) is carried out via water-soluble bags. The post-mixing time should be 1 min./m ³ drum content, but at least 5 min. Consider the required water in the recipe development.	Add BETOCRETE-CL directly to the mixing drum and then mix for 1 min./m ³ drum contents but for at least 5 minutes.

* Dosage is dependent on the cement content used as well as the w/c ratio of the appropriate concrete recipe. The tabular overview serves as a guide. Preliminary trials are always required.

Concrete waterproofing system components



Construction joints with crystalline joint sheets

AQUAFIN® CJ5

Resistance	Fresh water	+
	Salt water	+
	Chemical resistance	+
	Riparian zone	++
Weather conditions	High temperatures	++
	Low temperatures	++
	Rain / increased moisture exposure during installation	+
Water impermeability	Water impermeability, Swelling properties	++
	Resistance to water pressure	++
Other	Mounting / application	++
	Environmental friendliness	++
	Economic viability	++

o = suitable + = well suited ++ = very well suited

Application examples



AQUAFIN-CJ5 when installed.



Connection of two AQUAFIN-CJ5 sheets within a concrete section.



Overlappings can be easily constructed by using holding clamps.

Accessories

Holding clamps, Omega-holders



Construction joints with swellable waterstop strips

		AQUAFIN® CJ3	AQUAFIN® CJ4	AQUAFIN® CJ6
Resistance	Fresh water	+	+	+
	Salt water	+	+	++
	Chemical resistance	o	o	+
	Riparian zone	+	+	++
Weather conditions	High temperatures	+	+	++
	Low temperatures	+	+	++
	Rain / increased moisture exposure during installation	o	++	o
Water impermeability	Water impermeability, Swelling properties	+	+	++
	Resistance to water pressure	+	+	++
Other	Mounting / application	+	+	++
	Environmental friendliness	+	+	++
	Economic viability	+	+	++

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Installation



1. Bonding using a mounting adhesive



Alternative: mechanical fixings



2. End connections, butted or overlapped



3. Corner connections

Accessories

Fixing mesh, mounting adhesive





Concrete waterproofing system components

Construction joints with injection hoses

AQUAFIN®
CJ1

+

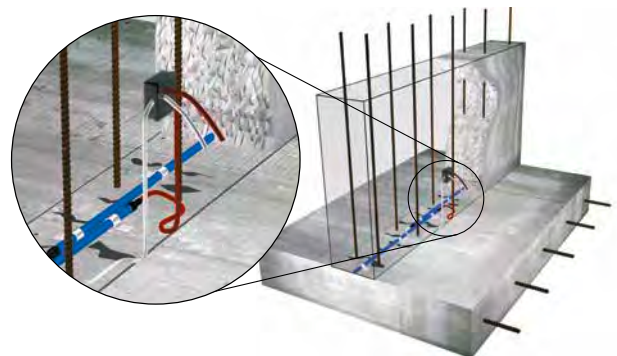
AQUAFIN®
P4

Resistance	Fresh water	+
	Salt water	++
	Chemical resistance	++
	Riparian zone	++
Weather conditions	High temperatures	+
	Low temperatures	+
	Rain / increased moisture exposure during installation	++
Water impermeability	Water impermeability, Swelling properties	++
	Resistance to water pressure	++
Other	Mounting / application	o
	Environmental friendliness	+
	Economic viability	o

o = suitable + = well suited ++ = very well suited

Concrete construction joints are known and frequently neglected weak points in concrete construction. The incorrect incorporation of joint waterproofing quickly leads to the penetration of ground water, standing water or seepage water into the building, which can cause damage.

With products from the AQUAFIN-CJ family, SCHOMBURG provides the ideal supplement for the assured waterproofing with BETOCRETE products.





Concrete waterproofing system components

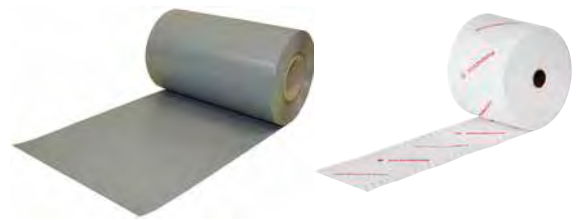
Movement joints with joint sealing tapes

		ASO® Tape	ASO® Joint-Tape-2000-S
Area of use	Wall areas	++	+
	Floor areas	++	+
	Internal areas	++	+
	External areas	++	+
	Frost resistance once hardened	++	o
	UV resistance	++	+
	Chemical resistance	++	++
	Flexibility	++	++
Weather conditions	High temperatures	++	+
	Low temperatures	++	+
Water impermeability	Water impermeability	++	++
	Resistance to positive water pressure	++	+
Other	Mounting / application	+	++
	Environmental friendliness	++	++
	Economic viability	++	++

o = suitable + = well suited ++ = very well suited

System products

- ASO-SR (backing strip)
- ASODUR-K4031 (for ASO-Tape)
- AQUAFIN-2K/M-PLUS (for ASO-Joint-Tape-2000-S)
- AQUAFIN-RS300 (for ASO-Joint-Tape-2000-S)



Concrete waterproofing system components

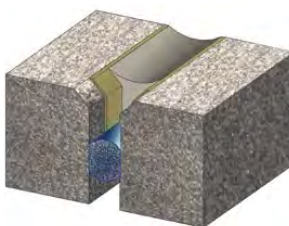


Movement joints with joint sealants

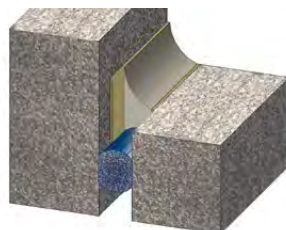
		INDUFLEX PU	INDUFLEX PS	AQUAFIN® CA
Area of use	Wall areas	++	–	++
	Floor areas	++	++	++
	Internal areas	++	++	++
	External areas	++	++	++
	Frost resistance once hardened	++	++	++
	UV resistance	++	++	++
	Chemical resistance	+	++	o
	Flexibility	++	++	++
	Weather conditions	High temperatures	+	++
Low temperatures		++	++	++
Water impermeability	Water impermeability	+	+	+
	Resistance to positive water pressure	+	+	+
Other	Mounting / application	++	++	++
	Environmental friendliness	+	+	++
	Economic viability	+	++	++

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Application examples



Depiction of a horizontal application of INDUFLEX.



Depiction of a horizontal/vertical application of INDUFLEX.



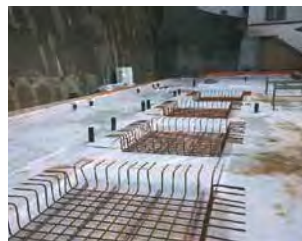
Waterproofing concrete structures - waterproofing sheet membranes

AQUAFIN® WM12

Basic properties	Material	PVC
	Strength	1.2 mm
	Carrier material	PP fleece
	Weldable	+
	Bondability	+
Resistance	Fresh water	+
	Salt water	+
	Chemical resistance	++
	Riparian zone	++
	UV-resistance	+
Weather conditions	High temperatures	++
	Low temperatures	++
	Rain / increased moisture exposure during installation	+
Other	Mounting / application	o
	Environmental friendliness	+
	Economic viability	++

o = suitable + = well suited ++ = very well suited

Application examples





Retrospective waterproofing possibilities

Crystalline waterproofing

With post-applied crystalline waterproofing, a crystalline waterproof slurry is applied to the existing concrete structure. On contact with water, the active ingredients are drawn into the concrete structure and waterproof through crack and capillary filling crystals.

AQUAFIN®

IC

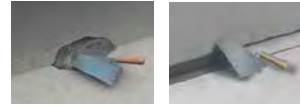
Crystalline waterproof slurry



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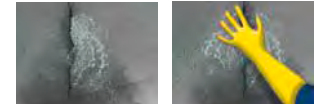
Crystalline mortar



FIX

20-T

Crystalline plugging mortar



Properties

Especially for concrete substrates

Multi-functional use, positive and not negative waterproofing

Increased protection through corrosion reduction

Can be used independent of environmental conditions

Reduced maintenance and repair costs through auto-reversible crack and capillary crystallization

Waterproofing with bituminous and mineral-based materials

COMBIDIC®

COMBIFLEX®

Waterproofing with bituminous coatings

Use to EN 15814

Especially suitable for positive waterproofing

Universal application, suitable for masonry work and concrete substrates

AQUAFIN®

2K/M-PLUS

AQUAFIN®

RS300

Waterproofing with mineral-based waterproof slurries

Use to DIN 18533/18534/18535 and DIN EN 1504-2

Multi-functional use, positive and negative waterproofing

Universal application, suitable for masonry work and concrete substrates

The SCHOMBURG group of companies develops, produces and distributes construction materials systems for the areas of:

- Waterproofing and Restoration
- Tiles/Natural Stone/Screed installation
- Protective Flooring/Coating Systems
- Concrete Technology

SCHOMBURG is recognised for its development competency and is distinguished both nationally and internationally with over 80 years in the market. System based construction products from its own production plants are held in high esteem throughout the world.

Industry professionals value the level of service provided by the SCHOMBURG Group, along with our large range of high quality products.

In order to stay at the forefront of a continuously advancing market we are always investing in research and development of new and current products. This guarantees high quality products, which in turn leads to customer satisfaction.

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2 CONCRETE WATERPROOFING – BETOCRETE-C

Crystalline concrete admixtures are added to the concrete and protect it from reinforcement and concrete corrosion; they also promote the self-healing of cracks.

2 CONCRETE WATERPROOFING – BETOCRETE-C

2.1 BETOCRETE-CL170-P

2.2 BETOCRETE-CL210-WP

2.3 BETOCRETE-CP350-CI

2.4 BETOCRETE-CP360-WP



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Problems Solved.



BETOCRETE®-CL170-P

Crystalline waterproofing admixture with liquefying properties.

Liquid concrete admixture for producing waterproof concrete with the innovative 2-in-1 technology.

It first acts chemically and plasticises the concrete.

In the next step, special active catalysts, which become active upon contact with water, form nanoscale crystals in the capillary system, which sustainably and permanently make the concrete water tight.



Properties

- Liquid.
- Innovative 2-in-1 technology.
- Crystallisation of the capillary structure.
- Water savings of up to 10 %.
- Crack healing possible for penetrating cracks up to 0.4 mm and for opening cracks up to 0.5 mm.
- Improvement of frost-thaw resistance.
- Reduction of chloride migration.
- Minimisation of servicing and maintenance costs.
- Time-saving.
- Simple and reliable.



Crystalline technology

Reduction in water penetration due to nano crystals



Liquefier

Reduction of the capillary pore structure

Technical data

Colour	Colourless to brownish
Density (at +20 °C)	1.18 g/cm ³
Application temperature	+8 °C to +40 °C
Storage	Frost-free, not below +8 °C, protected from contamination; 12 months in the original unopened container, use up opened containers as soon as possible.
Packaging	1 100 kg container 220 kg drum 25 kg canister
Water pollution class (WGK)	1 (self-classification)

Please observe the valid technical data sheet:

[Technical data sheet](#)



BETOCRETE®-CL210-WP

Crystalline waterproofing admixture with hydrophobic properties.

Liquid concrete admixture for producing waterproof concrete with the innovative 2-in-1 technology.

It first acts chemically, reducing water absorption in the structure. In the next step, special active catalysts, which become active upon contact with water, form nanoscale crystals in the capillary system, which sustainably and permanently make the concrete water tight.



Properties

- Liquid.
- Innovative 2-in-1 technology.
- Crystallisation of the capillary structure.
- Reduction of capillary absorption.
- Crack healing possible for penetrating cracks up to 0.4 mm and for opening cracks up to 0.5 mm.
- Improvement of frost-thaw resistance.
- Reduction of chloride migration.
- Minimisation of servicing and maintenance costs.
- Time-saving.
- Simple and reliable.



Crystalline technology

Reduction in water penetration due to nano crystals



Sealant

Reduction of capillary water penetration

Technical data

Colour	white
Consistency	liquid
pH value	approx. 11.5
Density (at +20 °C)	1.05 g/cm ³
Application temperature	+5 °C to +40 °C
Storage	Frost-free, 12 months in the original unopened container at +20 °C, use up opened containers promptly
Packaging	1040 kg container 220 kg drum 25 kg canister
Water pollution class (WGK)	1 (self-classification)

Please observe the valid technical data sheet:

[Technical data sheet](#)



BETOCRETE®-CP350-CI

Crystalline waterproofing admixture with corrosion inhibitors.

Powdered concrete admixture for producing waterproof concrete with the innovative 2-in-1 technology.

Special active catalysts, which become active through contact with water, form nanoscale crystals in the capillary system that make the concrete permanently water tight. In addition, the reinforcing steel is protected against corrosion.



Properties

- Powdered.
- Innovative 2-in-1 technology.
- Crystallisation of the capillary structure.
- Reduction of capillary absorption.
- Crack healing possible for penetrating cracks up to 0.4 mm and for opening cracks up to 0.5 mm.
- Corrosion inhibitor.
- Improvement of frost/thaw resistance.
- Minimisation of servicing and maintenance costs.
- Time-saving.



Crystalline technology

Reduction in water penetration due to nano crystals



Corrosion protection

Additional protection of the reinforcing steel

Technical data

Colour	grey
Consistency	powder
Bulk density	1.12 g/m ³
Application temperature	≥ +5 °C
Storage	Dry, 12 months in the original unopened container, use up opened containers promptly
Packaging	3 kg water-soluble bag 20 kg foil bag



Please observe the valid technical data sheet:

[Technical data sheet](#)



BETOCRETE®-CP360-WP

Crystalline waterproofing admixture with hydrophobic properties.

Powdered concrete admixture for producing waterproof concrete with the innovative 2-in-1 technology.

It first acts chemically, reducing water absorption in the structure. In the next step, special active catalysts, which become active upon contact with water, form nanoscale crystals in the capillary system, which sustainably and permanently make the concrete water tight.



Properties

- Powdered.
- Innovative 2-in-1 technology.
- Crystallisation of the capillary structure.
- Reduction of capillary absorption.
- Crack healing possible for penetrating cracks up to 0.4 mm and for opening cracks up to 0.5 mm.
- Reduction of chloride migration.
- Improvement of frost/thaw resistance.
- Minimisation of servicing and maintenance costs.
- Time-saving.



Crystalline technology

Reduction in water penetration due to nano crystals



Sealant

Reduction of capillary water penetration

Technical data

Colour	grey
Consistency	powder
Bulk density	0.80 g/m ³
Application temperature	≥ +5 °C
Storage	12 months in the original unopened container at +20 °C, use up opened containers promptly
Packaging	3 kg water-soluble bag 17 kg foil bag
Water pollution class (WGK)	1 (self-classification)



Please observe the valid technical data sheet:

[Technical data sheet](#)

3 CONSTRUCTION JOINTS

3.1 Matrix of waterproofing solutions for concrete construction system

3.2 AQUAFIN-CJ5

3.3 AQUAFIN-CJ3

3.4 AQUAFIN-CJ4

3.5 AQUAFIN-CJ6

3.6 AQUAFIN-CJ1

3.7 AQUAFIN-CJ-Set



SCHOMBURG

Problems Solved.

Waterproofing solutions

Concrete construction system



	Maximum water pressure	Solution type			Location in concrete		Installation type		Suitable for water exchange zones	Peculiarities
		Construction joint	Expansion joint	Water-proofing	Internal	External	Concreted	Bonded		
AQUAFIN-CJ1 Injection hose	2.5 bar	x			x		x		x	
AQUAFIN-CJ3 Bentonite waterstop tape	2 bar	x			x			x	o	
AQUAFIN-CJ4 Bentonite waterstop tape	2 bar	x			x			x	o	Rain protection coating
AQUAFIN-CJ5 Crystalline joint sheet	5 bar	x			x		x		x	Crystalline self-repair of the concrete
AQUAFIN-CJ6 TPE waterstop tape	2 bar	x			x			x	x	Saltwater resistant
ASO-Tape TPE waterstop tape	5 bar	x	x				x	x	x	
AQUAFIN-WM12 PVC fresh concrete composite film	5 bar			x		x	x		x	

x particularly suitable o suitable

The information in the current technical data sheets for the products listed must be observed. These are available, along with other documentation, at schomburg.com.

47/222/NT/1e/LW



AQUAFIN®-CJ5

Crystalline joint sheet,
15 cm × 200 cm.

Waterstop sheet with crystalline coating to protect construction joints from water under pressure and to self-heal.

It initially has the effect of prolonging the cycle. As soon as the water comes into contact with the crystalline coating, microcrystals grow and seal the area. Due to the crystalline, cement-based coating, the joint sheet bonds with the concrete to form a solid unit.



Properties

- Simple application, without additional film.
- High adhesion to concrete.
- Additional sealing function through crystalline coating.
- Tested to 2 bar.
- Suitable for fresh water and salt water.

Technical data

Shape	Rectangular and flexible
Dimensions	1.25 x 2,000 x 150 mm
Watertightness in installed state - joint width 0.25 mm	2 bar
Toxicity	none
Reaction to fire	Class E in accordance with DIN EN 13502-1
Packaging	Individual sheets, each 2 linear metres = 100 lm/wooden crate
Storage	Dry, frost-free and protected from the weather, unlimited storage period

Please observe the valid technical data sheet:

[Technical data sheet](#)



AQUAFIN®-CJ3

Bentonite swellable waterstop.

Bentonite swellable waterstops with swelling-retarding special coating for waterproofing intersections.

On contact with water, the bentonite swellable waterstop tape swells and seals the construction joint.



Properties

- Simple application.
- Swelling-retardant special coating.
- Particularly high sodium content (>70 %).
- Rapid and powerful swelling.
- Self-injecting effect through penetration into cracks and cavities.
- Swelling process infinitely reversible.
- Extremely dimensionally stable, does not become sticky even at high temperatures in the summer.
- High inorganic content, therefore no material fatigue.
- Positive support of the self-healing process in the construction joint by special admixtures.

Technical data

Basis	Sodium bentonite embedded in a matrix of high-molecular poly- isobutylene rubber, as well as special fillers and additives
Shape	Swellable waterstop tape profile is rectangular and flexible
Colour	black/dark grey
Dimensions	18 x 24 mm
Swelling capacity	>500 %
Weight	approx. 730 g/m
Water resistance in the installed condition	2 bar
Toxicity	Non hazardous material, non toxic class, no hazard to drinking water
Packaging	Rolls à 5 m = 6 rolls/box
Storage	Frost-free and protected from the weather, max. 5 years

Please observe the valid technical data sheet:

[Technical data sheet](#)



AQUAFIN®-CJ4

Bentonite swellable waterstop with patented rain protection coating.

Bentonite swellable waterstops with swelling-retarding special coating for waterproofing intersections and patented rain protection coating.

On contact with water, the bentonite swellable waterstop tape swells and seals the construction joint. In addition, AQUAFIN-CJ4 is provided with a rainproof special coating that prevents swelling up to the point of concreting.



Properties

- Simple application.
- Swelling-retardant special coating.
- Particularly high sodium content (>70 %).
- Rapid and powerful swelling.
- Self-injecting effect through penetration into cracks and cavities.
- Swelling process infinitely reversible.
- Extremely dimensionally stable, does not become sticky even at high temperatures in the summer.
- High inorganic content, therefore no material fatigue.
- Positive support of the self-healing process in the construction joint by special admixtures.

Technical data

Basis	Sodium bentonite embedded in a matrix of high-molecular poly- isobutylene rubber, as well as special fillers and additives
Shape	Swellable waterstop tape profile is rectangular and flexible
Colour	black/dark grey
Dimensions	18 x 24 mm
Swelling capacity	>500 %
Weight	approx. 730 g/m
Water resistance in the installed condition	2 bar
Toxicity	Non hazardous material, non toxic class, no hazard to drinking water
Packaging	Rolls à 5 m = 6 rolls/box
Storage	Frost-free and protected from the weather, max. 5 years

Please observe the valid technical data sheet:

[Technical data sheet](#)



AQUAFIN®-CJ6

Thermoplastic swelling joint tape for construction joint sealing.

Highly swelling TPE swelling joint tape for secure waterproofing of construction joints.

On contact with water, the TPE joint tape swells and seals the construction joint. Due to the small dimensions and the high swelling capacity, secure waterproofing of the joint is guaranteed.



Properties

- Simple application.
- Rapid and powerful swelling.
- Self-injecting effect.
- Through penetration into cracks and cavities.
- Extremely dimensionally stable, even at high temperatures.
- Swelling process infinitely reversible.
- Suitable for fresh water and salt water.

Technical data

Basis	TPE
Shape	Swellable waterstop tape profile is rectangular and flexible
Colour	red
Density	approx. 1.25 g/cm ³
Shore A hardness (DIN 53505)	approx. 37
Strength	5 mm
Width	20 mm
Swelling start at water loading	approx. 6 h
Swelling capacity (demineralised water)	approx. 50 % after 2 h approx. 460 % after 24 h approx. ≥700 % after 8 d
Swelling pressure	approx. 1.06 N/mm ²

Please observe the valid technical data sheet:

[Technical data sheet](#)



AQUAFIN®-CJ1

Injection hose for the waterproofing of construction joints in concrete.

For pressurised water-tight injection of AQUAFIN-P4 in construction joints.

By injecting after the concrete has hardened, it is possible to achieve water-tight sealing of even the smallest cracks.



Properties

- Can be injected with all common injection material.
- Sufficient cross-section of the transport channel.
- Prevents the cement paste from penetrating during the concreting process.
- Easy handling due to special fastening system.
- No unwanted twisting when installing from the roll.
- The injection material exits from the hose system in a concreted-in state already at practical pressure (opening pressure = 0.5 bar), i.e. material is guaranteed to exit in all directions.
- The smooth surface prevents unwanted bonding between injection hose and concrete, i.e. the hose remains groutable for years and does not sinter.

Technical data

Basis	W-PVC
Colour	blue
Interior Ø	6 mm
Exterior Ø	11 mm
Outlet nozzle in hose	3 - 5 mm
Hole arrangement in hose	Every 12 mm to 14 mm arranged in an axial cross
Injection material	Resins, acrylates*, gels
Injection length	max. 12 m or on request
Weight	0.12 kg/m
Packaging	Rolls à 50 m each
Storage	Frost-free and protected from the weather, max. 5 years

*only if the acrylate has no corrosion-promoting properties.

Please observe the valid technical data sheet:

[Technical data sheet](#)



AQUAFIN®-CJ-Set

Complete set incl. 10 m injection hose.

Injection hose set with injection loop and accessories for waterproofing construction joints as well as for subsequent injection of cracks to seal construction joints in concrete.

For pressurised watertight injection of AQUAFIN-P4 in construction joints as well as AQUAFIN-P1 and AQUAFIN-P4 in cracks.

All necessary materials for injection are available.



Properties

- Aids incl. 10 m injection hose.
- Set 1 content: 10 m AQUAFIN-CJ1, 20 cm ventilation hose, red and white incl. connecting nozzle, 1 protective box, injection nipples, hose clamp, 2 × 10 cm heat-shrink tubing, 2 pcs. sealing plugs, 1 tube PVC adhesive, 60 pcs. plastic clips. All parts are pre-assembled.
- Set 2 content: 10 m AQUAFIN-CJ1, 2 pcs. standard packer incl. injection nipple, 60 pcs. plastic clips, 2 pcs. hose clamps.

Please observe the valid technical data sheet:

Technical data sheet

4 MOVEMENT JOINTS

4.1 Matrix of waterproofing solutions for concrete construction system

4.2 ASO-TAPE

4.3 INDUFLEX-PU

4.4 INDUFLEX-PS

4.5 ASO-Joint-Tape-2000-S



SCHOMBURG

Problems Solved.

Waterproofing solutions

Concrete construction system



	Maximum water pressure	Solution type			Location in concrete		Installation type		Suitable for water exchange zones	Peculiarities
		Construction joint	Expansion joint	Water-proofing	Internal	External	Concreted	Bonded		
AQUAFIN-CJ1 Injection hose	2.5 bar	x			x		x		x	
AQUAFIN-CJ3 Bentonite waterstop tape	2 bar	x			x			x	o	
AQUAFIN-CJ4 Bentonite waterstop tape	2 bar	x			x			x	o	Rain protection coating
AQUAFIN-CJ5 Crystalline joint sheet	5 bar	x			x		x		x	Crystalline self-repair of the concrete
AQUAFIN-CJ6 TPE waterstop tape	2 bar	x			x			x	x	Saltwater resistant
ASO-Tape TPE waterstop tape	5 bar	x	x				x	x	x	
AQUAFIN-WM12 PVC fresh concrete composite film	5 bar			x		x	x		x	

x particularly suitable o suitable

The information in the current technical data sheets for the products listed must be observed. These are available, along with other documentation, at schomburg.com.

47/222/NT/16/LW

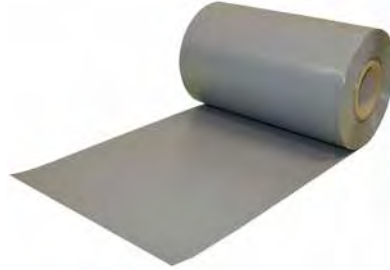


ASO[®]-Tape

Thermoplastic joint tape
for joint sealing.

Externally-applied TPE joint tapes for strip-shaped waterproofing of construction and movement joints.

A solid, water migration-proof connection with the substrate is ensured by bonding with ASODUR-K4031.



Properties

- Highly flexible.
- Easy, uniform workability.
- No activation required.
- Water tight even under negative water pressure
- Application without primer also on matt damp substrates.
- Resistant to frost, UV and ageing.

Technical data

Basis	TPE	
Colour	grey	
Shore A hardness in accordance with ISO 868	approx. 87	
Temperature resistance	-30 °C / +90 °C	
Processing, substrate and material temperature	+5 °C to +35 °C	
Material strength	1.0 mm	2.0 mm
Impermeability to water, positive and negative based on DIN 1048	5 bar	
Reaction to fire	Class E in accordance with DIN EN 13501-1	
Packaging	Rolls à 20 m Thickness 1.0 mm: Widths: 20 and 30 cm Thickness 2.0 mm: Widths: 20, 30 and 50 cm	
Storage	Dry and protected from the weather, 12 months, in originally unopened container; after opening, use within 2 months of opening	

*only if the acrylate has no corrosion-promoting properties.

Please observe the valid technical data sheet:

[Technical data sheet](#)



INDUFLEX®-PU

Elastic 1K-PU jointing compound.

Used in interior and exterior areas as a joint sealant for the elastic waterproofing of joints in building components.



Properties

- Good chemical and mechanical resistance.
- Low notch sensitivity.
- High tear resistance.
- Total permissible deformation: 25 %.
- Used for the elastic waterproofing of joints in multi-storey car parks, concreted open spaces, sewage and waste water treatment plants with municipal waste water, commercial kitchens.
- Suitable for indirect food contact.

Technical data

Basis	1-comp. polyurethane
Colour	grey
Consistency	Non slump
Density*	approx. 1.30 g/cm ³
Ambient and substrate temperatures	min. +5 °C max. +35 °C at max. 80 % rel. humidity
Skin formation*	approx. 60–90 min.
Curing time*	approx. 2 mm/24 hrs.
Packaging	600 ml bag
Storage	Frost-free, cool and dry, ≥+10 °C to +25 °C, 15 months in the original unopened container, use up opened containers promptly.

* at +23 °C and 50 % rel. humidity.

Please observe the valid technical data sheet:

[Technical data sheet](#)



INDUFLEX®-PS

2-K polysulphide seam sealant,
medium viscosity, grey.

Used in interior and exterior areas as a joint sealant for the elastic waterproofing of joints in building components.



Properties

- Medium viscosity, 2-component polysulphide.
- Used in interior and exterior areas between walkable and drivable building components, e.g. industrial and commercial floors, road construction, parking decks, airports, etc.
- Suitable for horizontal and inclined joints up to a slope of 10 %.
- For tramway track construction between rail and slab closure, including granite paving or cut/milled asphalt surfaces.
- Suitable for joint widths up to 65 mm.

Technical data

Basis	2-comp. polyurethane
Colour	grey
Viscosity*	Pourable-medium viscosity
Density*	approx. 1.60 g/cm ³
Ambient and substrate temperatures	min. +5 °C max. +40 °C at max. 80 % rel. humidity
Pot life*	approx. 60–90 min.
Curing time*	approx. 24–48 hrs.
Packaging	10 l Component A and component B are at the predetermined mix ratio.
Storage	Frost-free, cool and dry, ≥+10 °C to +25 °C, 18 months in the original unopened container, use up opened containers promptly.

* at +23 °C and 50 % rel. humidity.

Please observe the valid technical data sheet:

[Technical data sheet](#)



ASO[®]-Joint-Tape-2000-S

Special joint tape for high requirements and heavy loads.

Used for the watertight forming of expansion and connecting joints in waterproofing layers.

ASO-Joint-Tape-2000-S is easy to apply, vapour permeable and produces a tight connection with the designated waterproofing systems.



Properties

- High-quality composite material, stretchable, particularly tear-resistant, water tight, water vapour diffusible, ensures rapid drying of water-containing tile adhesives and sealants, high resistance to aggressive media.
- For water tight movement and connecting joints in waterproofing layers made of e.g. SANIFLEX, SANIFIN, AQUAFIN-1K-PREMIUM, AQUAFIN-2K/M-PLUS, AQUAFIN-RS300 and ASOFLEX-AKB e.g. in swimming pools, underground garages and in areas in direct ground.
- Tested by the building authorities with the waterproofing materials in the system.
- Very low-emission - GEV EMICODE EC1 PLUS.
- Auxiliary material in accordance with DIN 18533.
- Wide material: Special dimensions from 50 cm to 100 cm wide are produced according to customer requirements.

Technical data

Basis	Composite material made up of fleece - membrane - fleece
Colour	White with SCHOMBURG logo
Weight	approx. 270 to 340 g/m ³
Thickness	approx. 0.45 - 0.66 mm
Packaging Joint tape	Widths 12 cm and 20 cm, ± 3 mm · Rolls 20 cm to 25 and 50 m (up to one interface/15 m) · Rolls 120 mm to 50 m (up to one interface/15 m) 500 m in each box
Wide material	Widths of 50 to 100 cm ± 4 mm (up to one interface/15 m), on request, sales unit 1 m ²
Storage	Cool, dry, protected from sunlight and weathering influences, 24 months

Please observe the valid technical data sheet:

Technical data sheet

5 FRESH CONCRETE WATERPROOFING MEMBRANE

SCHOMBURG also offers fresh concrete waterproofing membranes as a "second line of defence". The film is highly flexible and prevents water from running behind it. It bonds with the fresh concrete to form a solid unit.

5 FRESH CONCRETE WATERPROOFING MEMBRANE

5.1 AQUAFIN-WM12

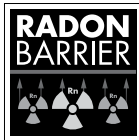


AQUAFIN®-WM12

PVC-based fresh concrete waterproofing membrane.

Rear-proof fresh concrete waterproofing membrane for waterproofing concrete.

The bonding with the fresh concrete makes the system migration-proof.
The PVC as a backing material enables high crack bridging.



Properties

- PVC fresh concrete composite film that forms a water migration-proof bond with the concrete.
- Resistant and easy to install.
- Lightweight and easy to handle, low overlap losses.
- CE-approved.
- Overlaps can be glued and/or sealed.

Technical data

Basis	PVC membrane and special fleece
Colour	transparent/white
Width	approx. 1.08 m
Length	20 m
Thickness (membrane)	approx. 1.2 mm
Grammage	approx. 1.8 kg/m ²
Application temperature	-5 °C to +50 °C
Reaction to fire	Class E in accordance with DIN EN 13501-1
Storage	Cool, dry and protected from sunlight, min. 18 months in the original unopened container

Please observe the valid technical data sheet:

[Technical data sheet](#)

6 CRYSTALLINE WATERPROOFING SOLUTIONS FOR RETROFITTING AND REPAIRS

If repairs to the concrete are necessary, SCHOMBURG offers a wide range of solutions.

6 CRYSTALLINE WATERPROOFING SOLUTIONS FOR RETROFITTING AND REPAIRS

6.1 AQUAFIN-IC

6.2 ASOCRET-BIS-5/40

6.3 ASOCRET-BIS-1/6

6.4 ASOCRET-IM

6.5 ASOCRET-KS/HB

6.5 ASOCRET-QM

6.6 FIX-20-T



AQUAFIN®-IC

Crystalline waterproofing slurry.

Cement-based 1-component waterproofing slurry for waterproofing concrete surfaces.

When water comes into contact with AQUAFIN-IC, nanocrystals grow and block the water's path into the building structure.



Properties

- Cement-based, capillary-active waterproofing slurry for secure waterproofing of concrete substrates, also against negative water pressure.
- Exterior and interior waterproofing in the basement area, of lift shafts, foundations, pile foundations, floor slabs, etc.
- Waterproofing of containers for drinking and service water, retaining basins, water treatment plants, etc.
- Waterproofing under screeds (screed on separating layer or floating screed).
- Tested according to DVGW W 270, W 347 for drinking water tanks.

Technical data

Basis	Sand/cement, inorganic
Aggregate	< 1.0 mm
Bulk density	1.1 kg/l
Packaging	25 kg bag
Colour	grey
Mixing	25 kg AQUAFIN-IC with 6.75-8.00 l clean water
Pot life	30 to 60 minutes
Substrate/application temperature	+5 °C to +30 °C Lower temperatures prolong, higher temperatures shorten, the setting time
Storage	Dry, 12 months in the original unopened container, use up opened containers promptly

Please observe the valid technical data sheet:

[Technical data sheet](#)



ASOCRET®-BIS-5/40

Repair mortar for breakage points of 5-40 mm.

Used for horizontal and vertical surfaces as well as for overhead surfaces, as a non slump reprofiling mortar up to a breakout depth of 40 mm.



Properties

- Tested according to DIN EN 1504-3.
- Cement-based, chloride-free reprofiling mortar for vertical and horizontal surfaces.
- Reduces the penetration of CO₂.
- Water tight.
- Capable of water vapour diffusion.
- Frost-proof and resistant to de-icing salt.
- Used for horizontal, vertical and "overhead" surfaces, as a non slump reprofiling mortar up to a breakout depth of 5-40 mm. Coating thickness up to 20 mm possible in one application step.
largest grain size: 2 mm
- As leveling mortar for swimming pools and pool construction.
- Can be trowelled, smoothed or sprayed using suitable equipment.

ASOCRET-BIS-5/40 is a system component and is used in combination with ASOCRET-KS/HB.

Technical data

Basis	cement
Aggregate	< 4.0 mm
Bulk density	1.6 kg/dm ³
Packaging	25 kg bag
Colour	cement grey
Workability duration	approx. 60 min. at +20 °C
Overcoat after	at least 1 day
Substrate/application temperature	+5 °C to +30 °C
Overcoating of bonded waterproof system/tiles	approx. 24 h
Consumption	ca. 1.8 kg/m ² /mm layer thickness
Storage	Dry, 12 months in the original unopened container, use up opened containers promptly

Please observe the valid technical data sheet:

[Technical data sheet](#)



ASOCRET®-BIS-1/6

Cementitious fine smoothing mortar
for breakage points of 1 - 6 mm.

Used for horizontal and vertical surfaces as well as for overhead surfaces,
as a non slump repair fine mortar up to a breakout depth of 6 mm.



Properties

- Tested according to DIN EN 1504-3.
- Polymer-modified fine cement-based mortar.
- For horizontal and vertical surfaces.
- Water tight.
- Capable of water vapour diffusion.
- Frost-proof and resistant to de-icing salt.
- Reduces the penetration of CO₂.
- High carbonation resistance.
- Used in concrete repair as a non slump reprofilling mortar for horizontal, vertical and "overhead" surfaces with breakout depths of 1 - 6 mm. Largest grain size: 0.5 mm.
- As a levelling and scratch coat.

Technical data

Basis	Pre-blended dry mortar
Aggregate	< 1.0 mm
Bulk density	approx. 2.0 kg/dm ³
Packaging	25 kg bag
Colour	cement grey
Pot life*	approx. 60 min.
Overcoat after	at least 1 day
Substrate/application temperature	min. +5 °C to max. +30 °C
Consumption	ca. 1.6 kg/m ² /mm layer thickness
Storage	Dry, 12 months in the original unopened container, use up opened containers promptly

* At +23 °C and 50 % rel. humidity. The stated data may be extended or shortened as a consequence of weather and site conditions.

Please observe the valid technical data sheet:

[Technical data sheet](#)



ASOCRET®-IM

Repair mortar with crystalline waterproofing effect for concrete.

Used for water impermeable filling of opened cracks and holes that are then overcoated with AQUAFIN-IC.



Properties

- Capillary active mortar.
- Cementitious.
- Water tight, also suitable for negative water pressure.
- Open for vapour diffusion.
- Easy to apply.
- Supports self-repair of the concrete.
- Can also be used on wet substrates.
- For water impermeable filling of opened cracks and holes that are then overcoated with AQUAFIN-IC. Alternatively, ASOCRET-IM can also be used as coving mortar.

Technical data

Basis	Sand/cement, inorganic
Colour	grey
Bulk density	1.4 kg/dm ³
Water demand	3.75 - 4.25 l/25 kg sack
Mixing time	3 minutes
Pot life	approx. 30 min.
Substrate/application temperature	+5 °C to +30 °C
Compressive strength	approx. 20 N/mm ² (after 28 days)
Packaging	25 kg bag
Storage	Dry, 12 months in the original unopened container, use up opened containers promptly

Please observe the valid technical data sheet:

[Technical data sheet](#)



ASOCRET®-KS/HB

Cementitious corrosion protection and bond coat.

Used as corrosion protection for the steel reinforcement during concrete repair and, at the same time, as a bond coat on concrete substrates and between bedding adhesive and paving blocks.



Properties

- Tested according to DIN EN 1504-7.
- As corrosive protection for exposed and abraded reinforcement bars.
- As a bond coat in concrete restoration.
- Frost proof.
- Saponification resistant.

Technical data

Basis	Pre-blended dry mortar
Aggregate	up to 0.5 mm
Bulk density	approx. 1.6 kg/dm ³
Material rate	approx. 1.6 kg/m ² /mm
Pot life*	approx. 60 min.
Substrate/application temperature	+5 °C to +30 °C
Tensile adhesion strength	> 1.5 N/mm ²
Packaging	6 and 25 kg foil bag
Storage	Dry and cool, 12 months in the original unopened container, use up opened containers promptly

* At +23 °C and 50 % rel. humidity. The stated data may be extended or shortened as a consequence of weather and site conditions.

Please observe the valid technical data sheet:

[Technical data sheet](#)



ASOCRET®-QM

Plugging grout with balanced swelling behaviour.

Used for pressure-tight filling of fibre-cement stress points, as borehole grout and installation grout with long pot life. Swelling behaviour adapted to the area of application.



Properties

- 1-component
- Drinking water tested
- Water pressure-tight
- Swelling grout
- Sulphate resistant up to < 1500 mg/L SO42
- Gas-tight

Technical data

Basis	special cement
Flexural strength* (24 hours)	> 3.5 N/mm ²
Compressive strength* (28 days)	> 50 N/mm ²
Water pressure-tight	up to 5 bar
Pot life*	ca. 40 - 70 minutes
Substrate/application temperature	+5 °C to +35 °C
Packaging	25 kg container
Storage	Store in a cool and dry place. At min. 10 °C for 9 months in the original container. Use up opened containers promptly.

* At +23 °C and 50 % rel. humidity. The stated data may be extended or shortened as a consequence of weather and site conditions.

Please observe the valid technical data sheet:

[Technical data sheet](#)



FIX[®]-20-T

Rapid setting, swellable
waterproofing and tamping mortar.

A particularly rapid-setting cement-based mortar for sealing water-bearing holes, cracks, fissures in concrete, masonry work and natural stone structures.

Flowing water is stopped in seconds, supported by the integrated swelling capacity.



Properties

- Chloride-free, without corrosion-promoting substances.
- Highly reactive rapid-setting mortar.
- Strong bond with concrete substrates.
- Rapid solidification – even under water.
- Compatible with the AQUAFIN-IC crystalline waterproofing system.
- For interior and exterior use.

Technical data

Basis	cement, additives
Colour	cement grey
Bulk weight	approx. 1.4 kg/dm ³
Pot life*	approx. 2–3 min.
Start of solidification*	approx. 3–5 min.
Substrate/application temperature	+5 °C to +35 °C
Consumption	approx. 2 kg per litre void
Packaging	6 and 20 kg plastic bucket
Storage	Dry, 12 months in the original unopened container, use up opened containers as soon as possible.

* At +23 °C and 50 % rel. humidity. The stated data may be extended or shortened as a consequence of weather and site conditions.

Please observe the valid technical data sheet:

[Technical data sheet](#)

7 PLANNING DOCUMENTS

7 PLANNING DOCUMENTS

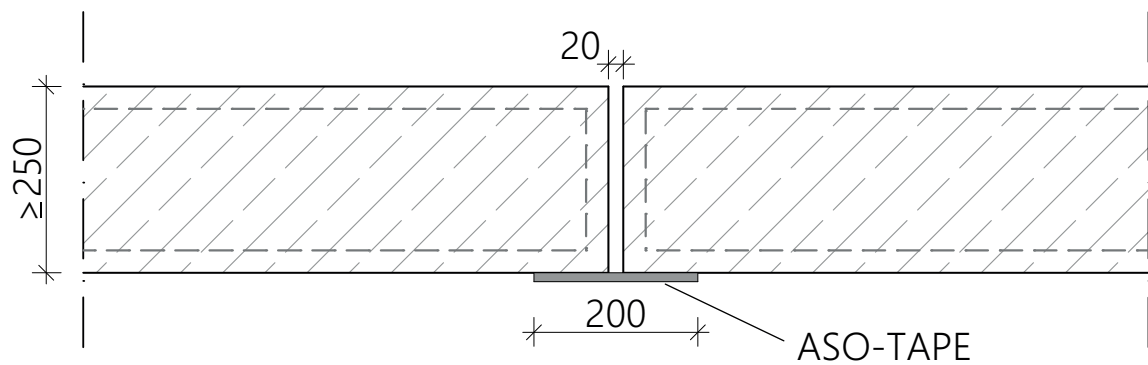
7.1 Technical drawings

7.2 Matrix of waterproofing solutions for concrete construction system

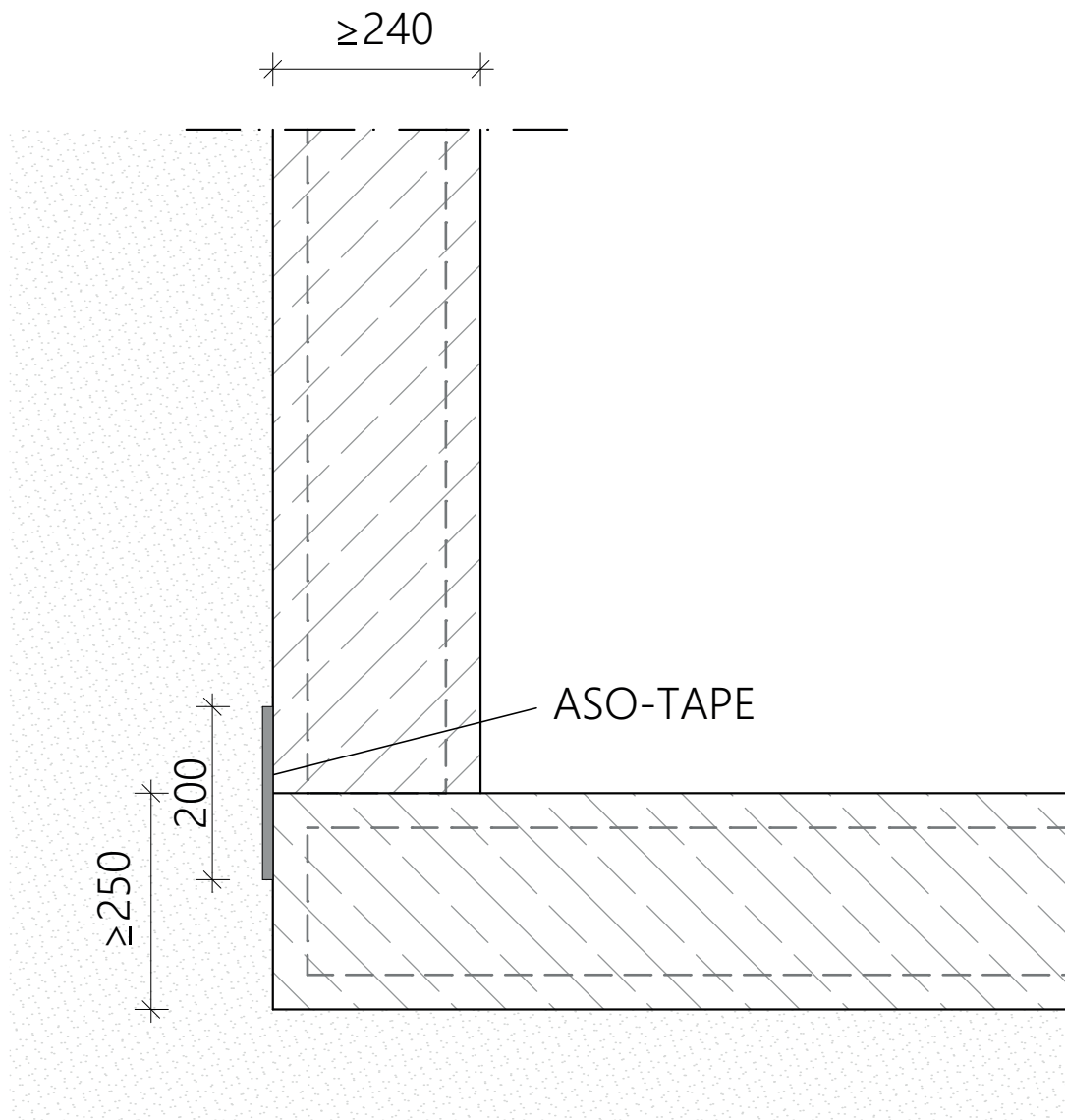
7.3 Method statements

7.4 Tender Documentations

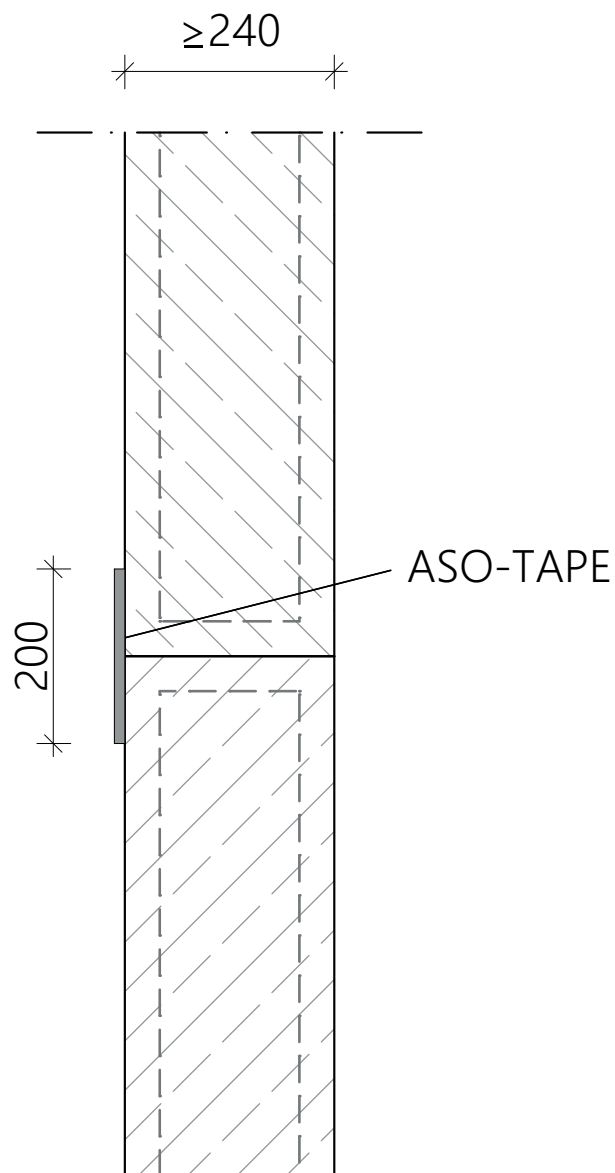
Waterproofing of a expansion joint with ASO-TAPE 1:10



Waterproofing of a construction joint with ASO-TAPE – wall-slab 1:10

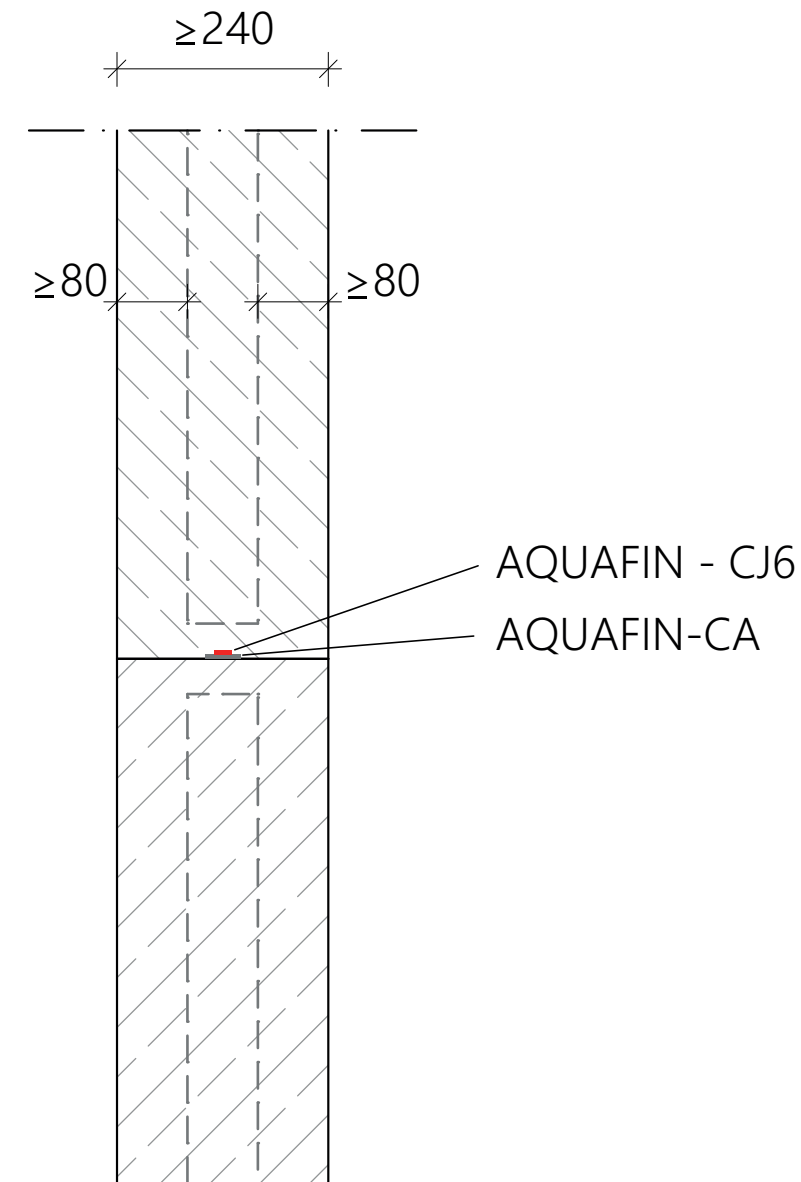


Waterproofing of a construction joint with ASO-TAPE – wall-wall 1:10

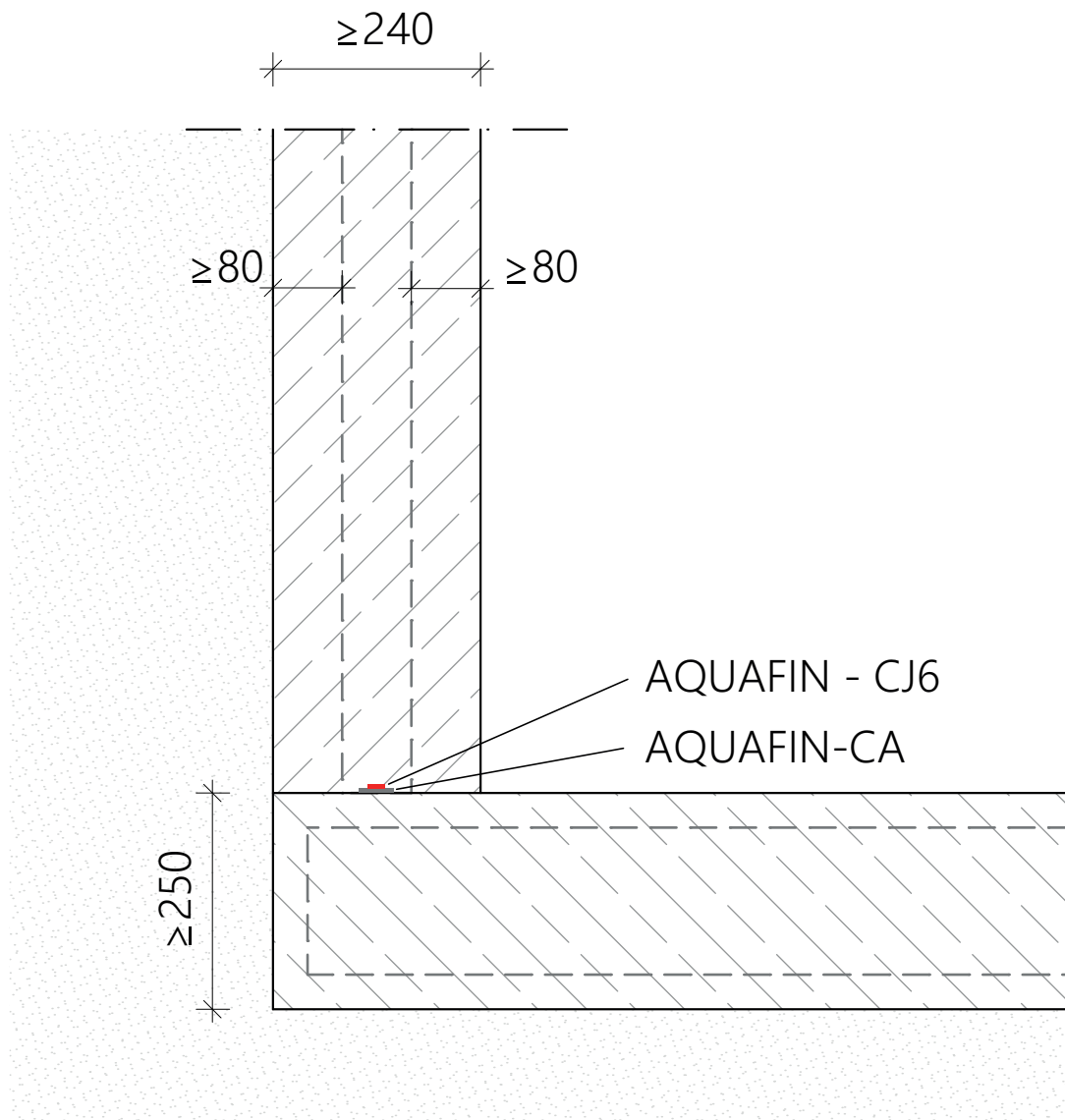




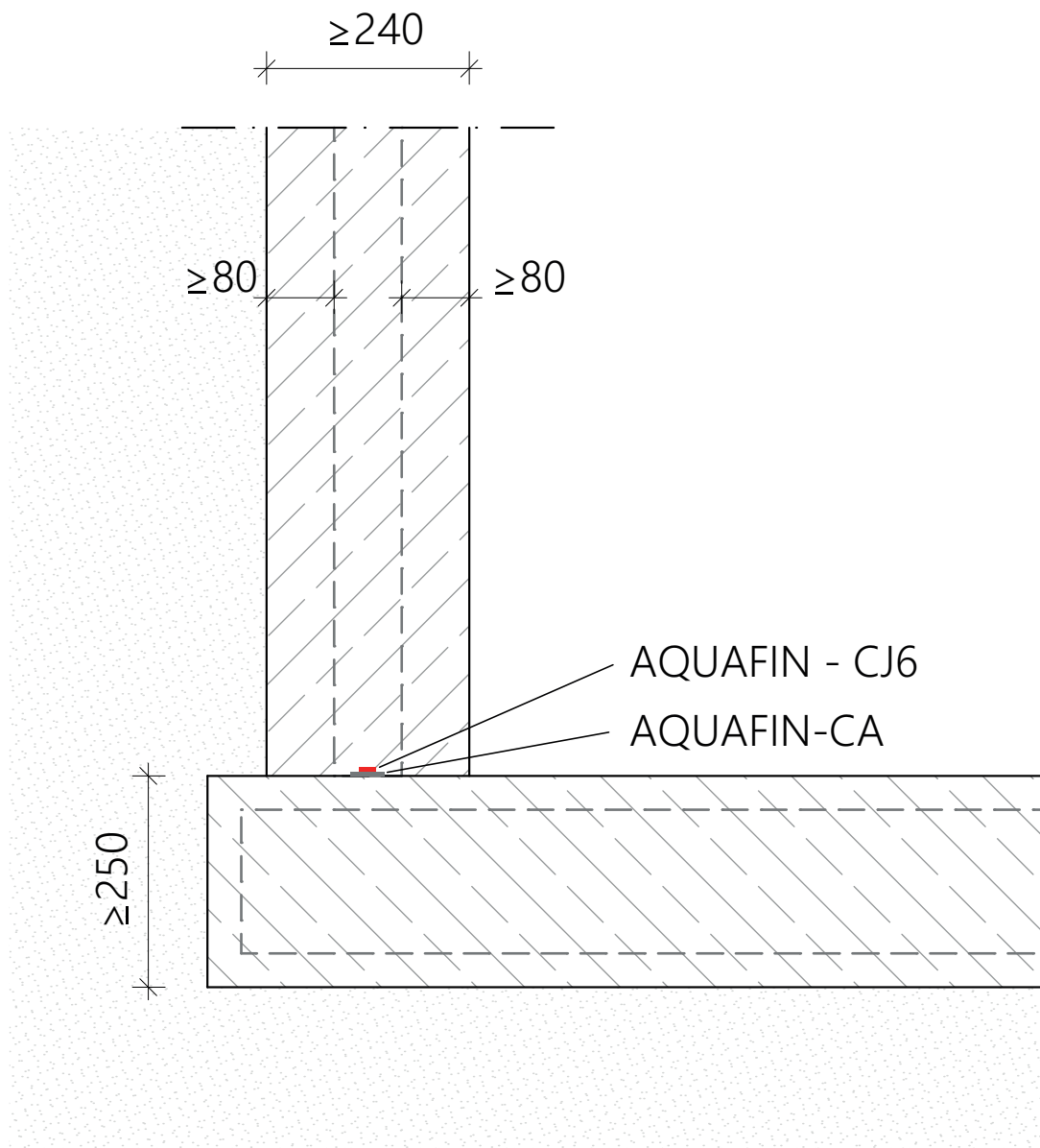
Waterproofing of a construction joint with AQ-CJ6 – wall-wall 1:10



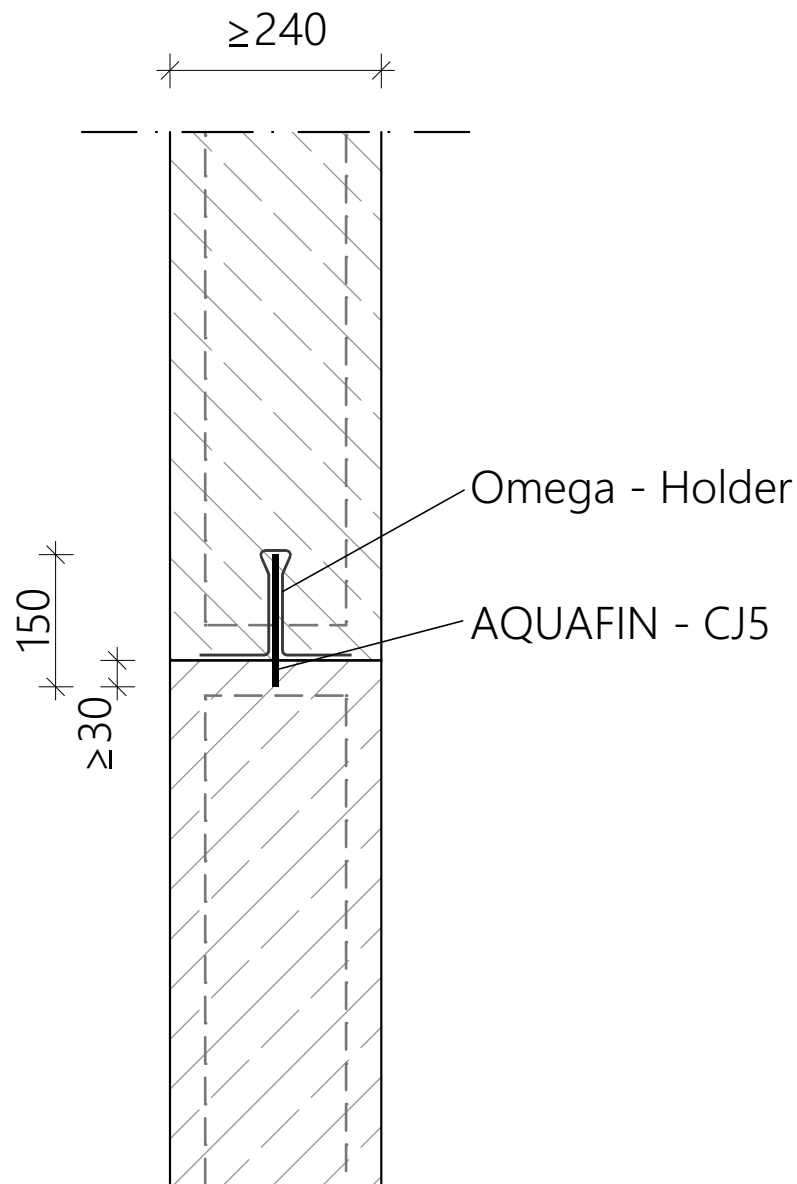
Waterproofing of a construction joint with AQ-CJ6 – wall-slab 1:10



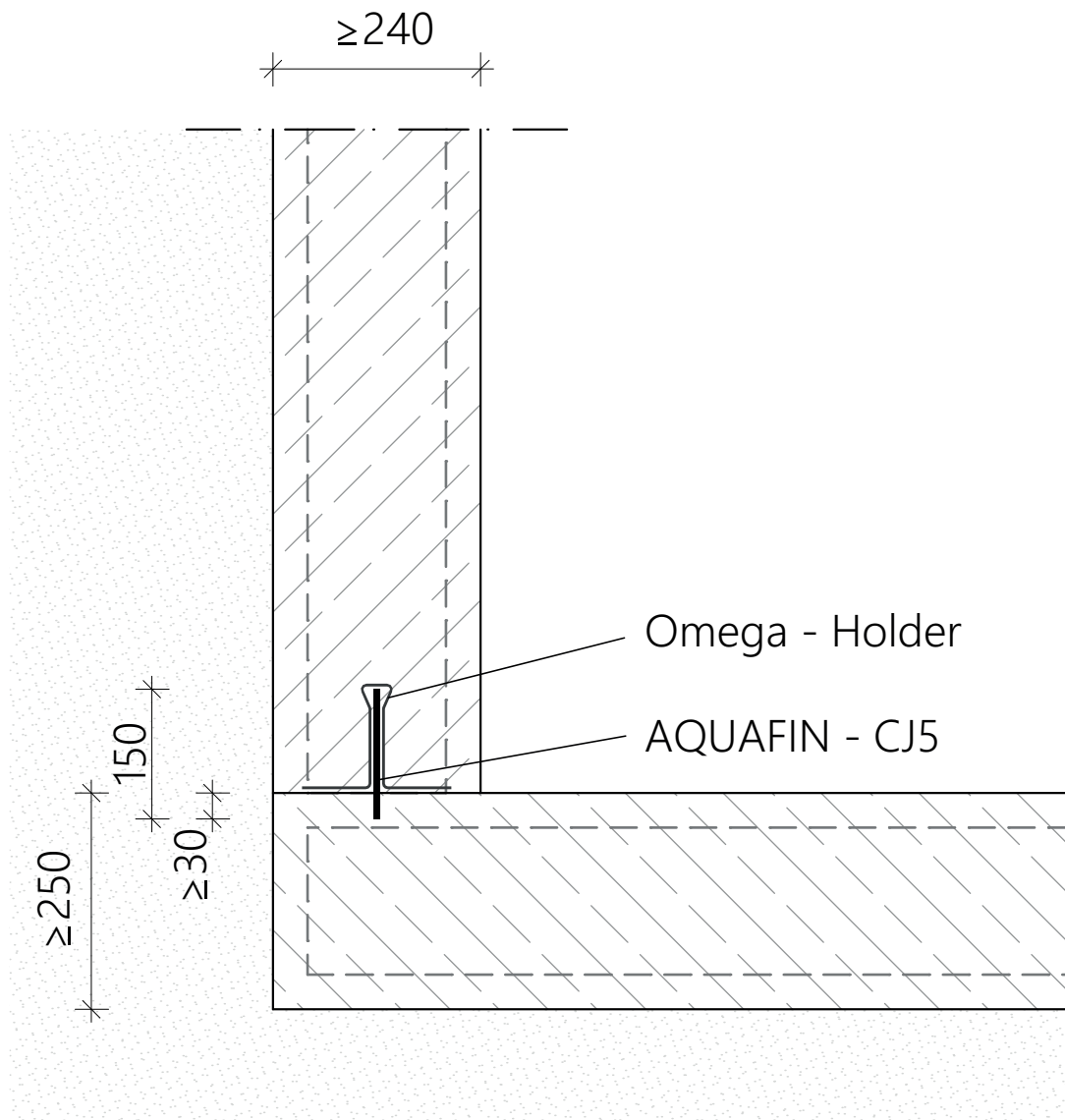
Waterproofing of a construction joint with AQ-CJ6 – wall-slab (with kicker) 1:10



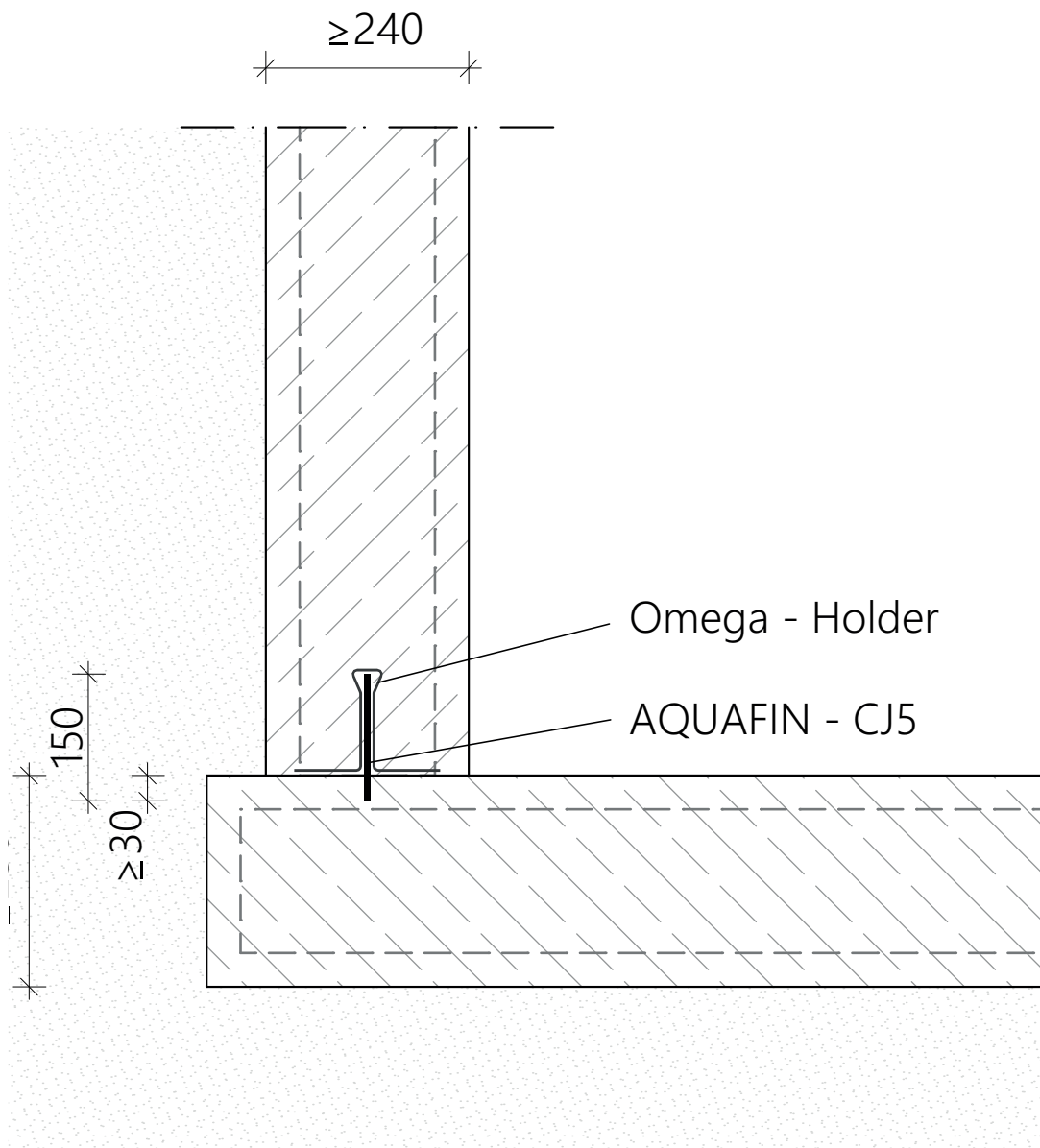
Waterproofing of a construction joint with AQ-CJ5 – wall-wall 1:10



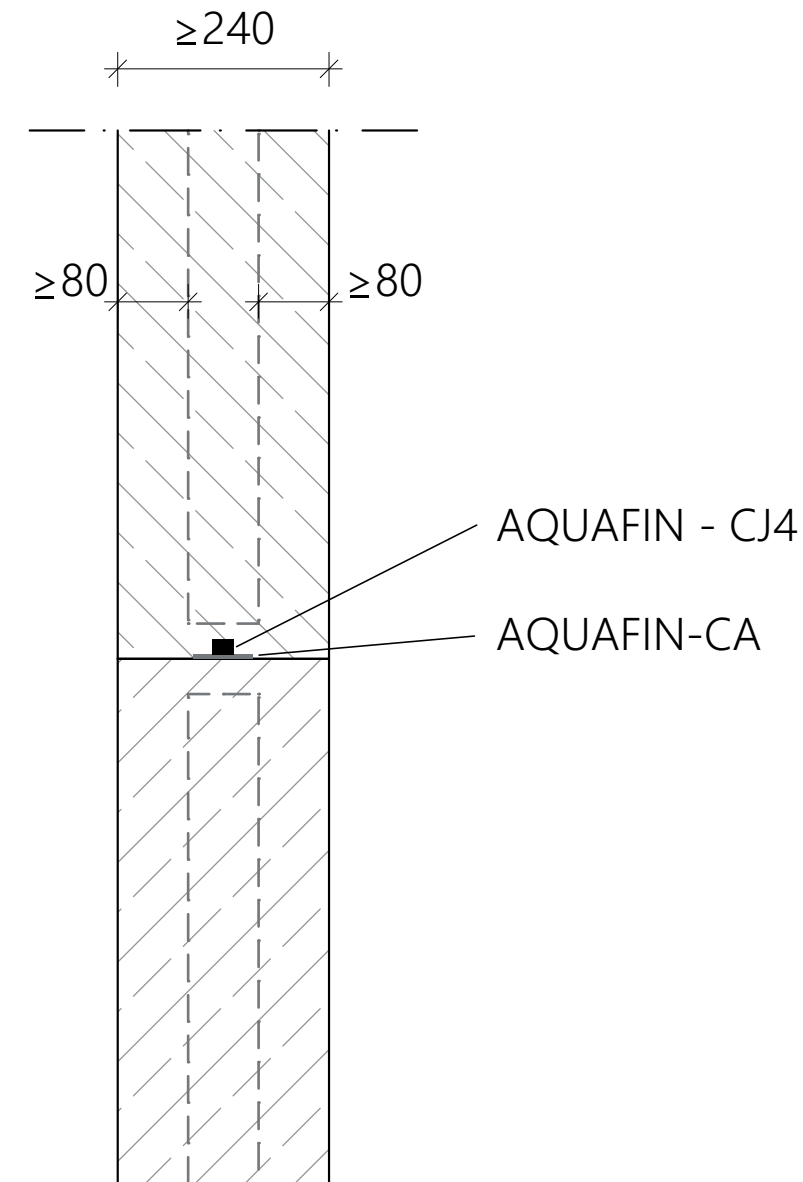
Waterproofing of a construction joint with AQ-CJ5 – wall-slab 1:10



Waterproofing of a construction joint with AQ-CJ5 – wall-slab (with kicker) 1:10

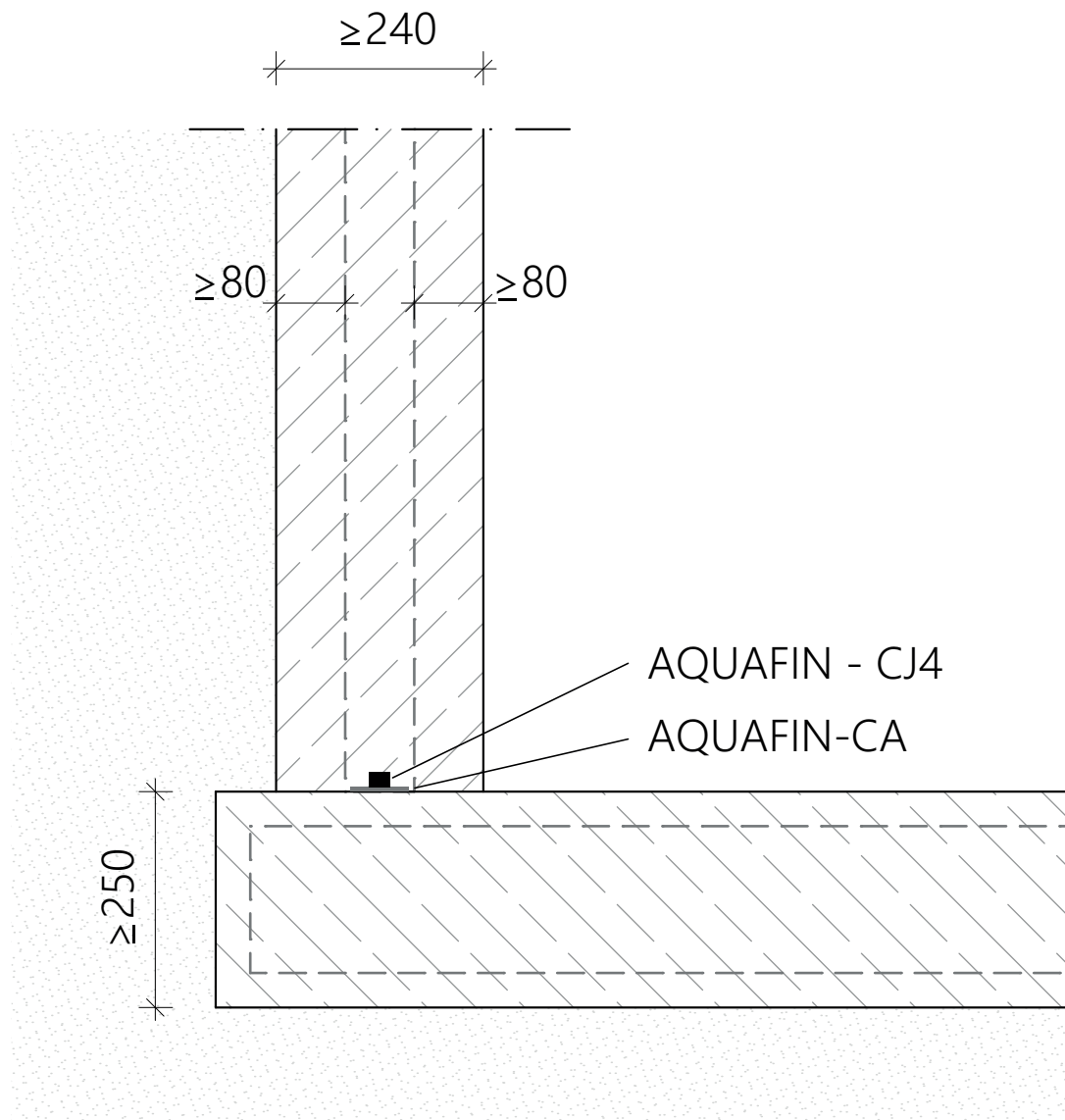


Waterproofing of a construction joint with AQ-CJ4 – wall-wall 1:10



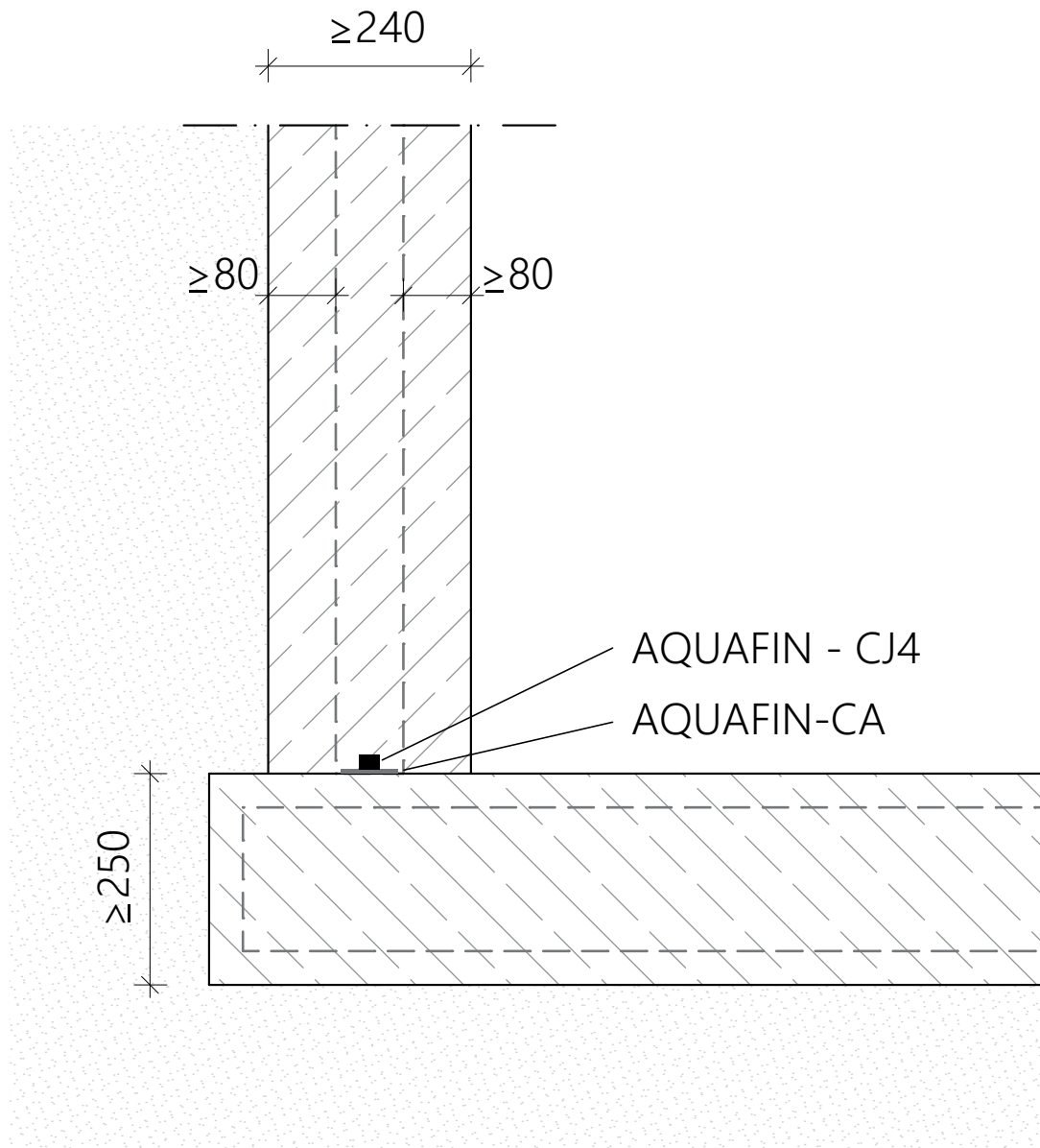


Waterproofing of a construction joint with AQ-CJ4 – wall-slab 1:10

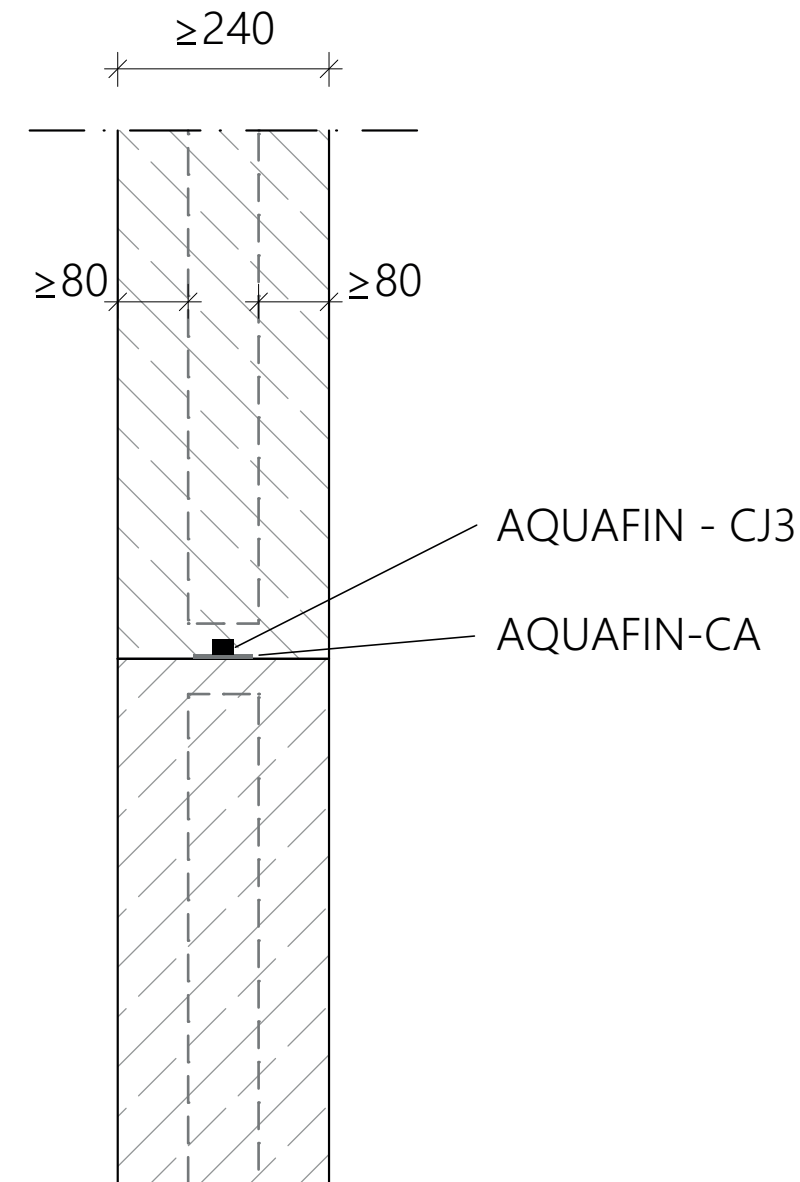




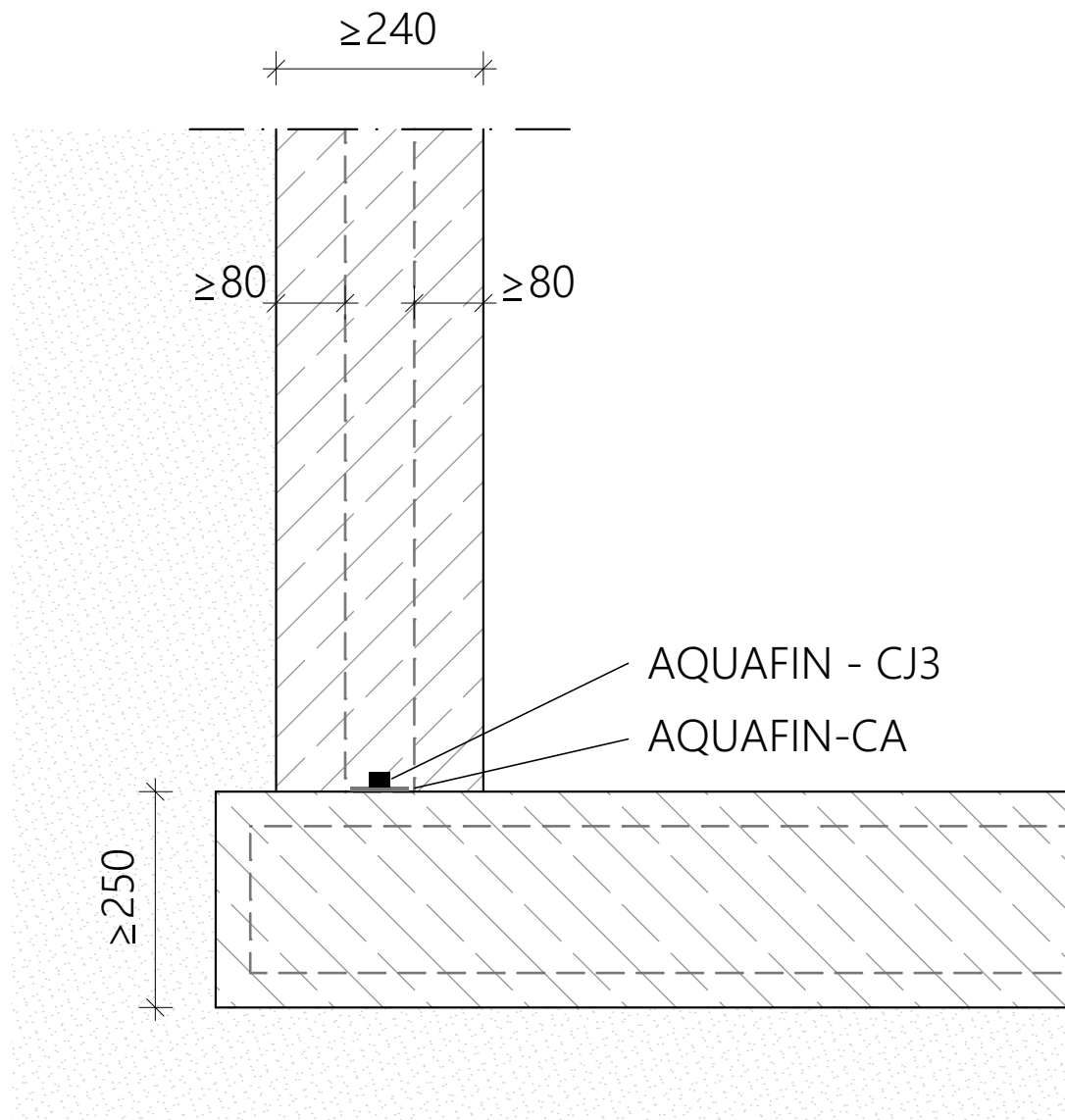
Waterproofing of a construction joint with AQ-CJ4 – wall-slab (with kicker) 1:10



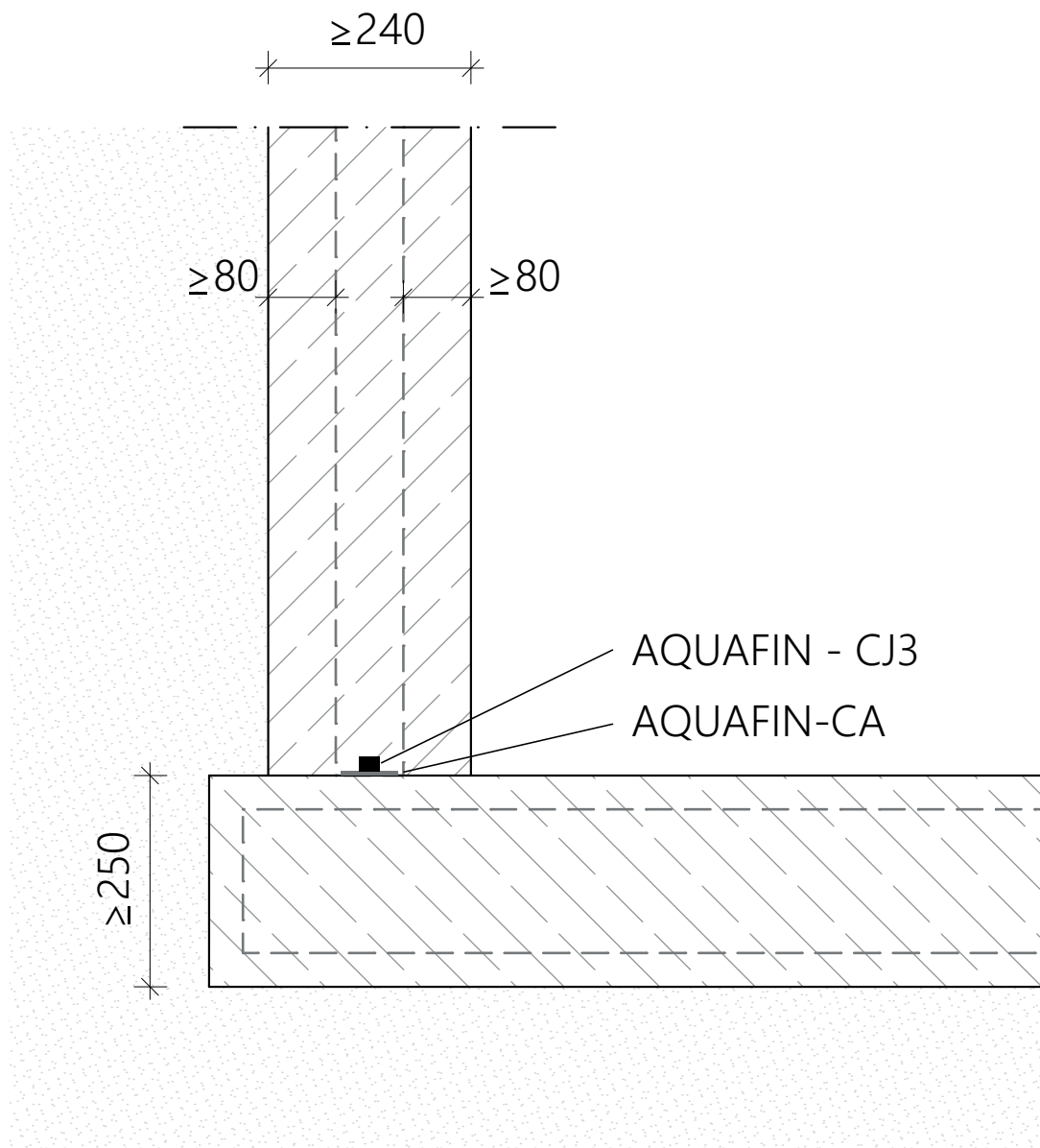
Waterproofing of a construction joint with AQ-CJ3 – wall-wall 1:10



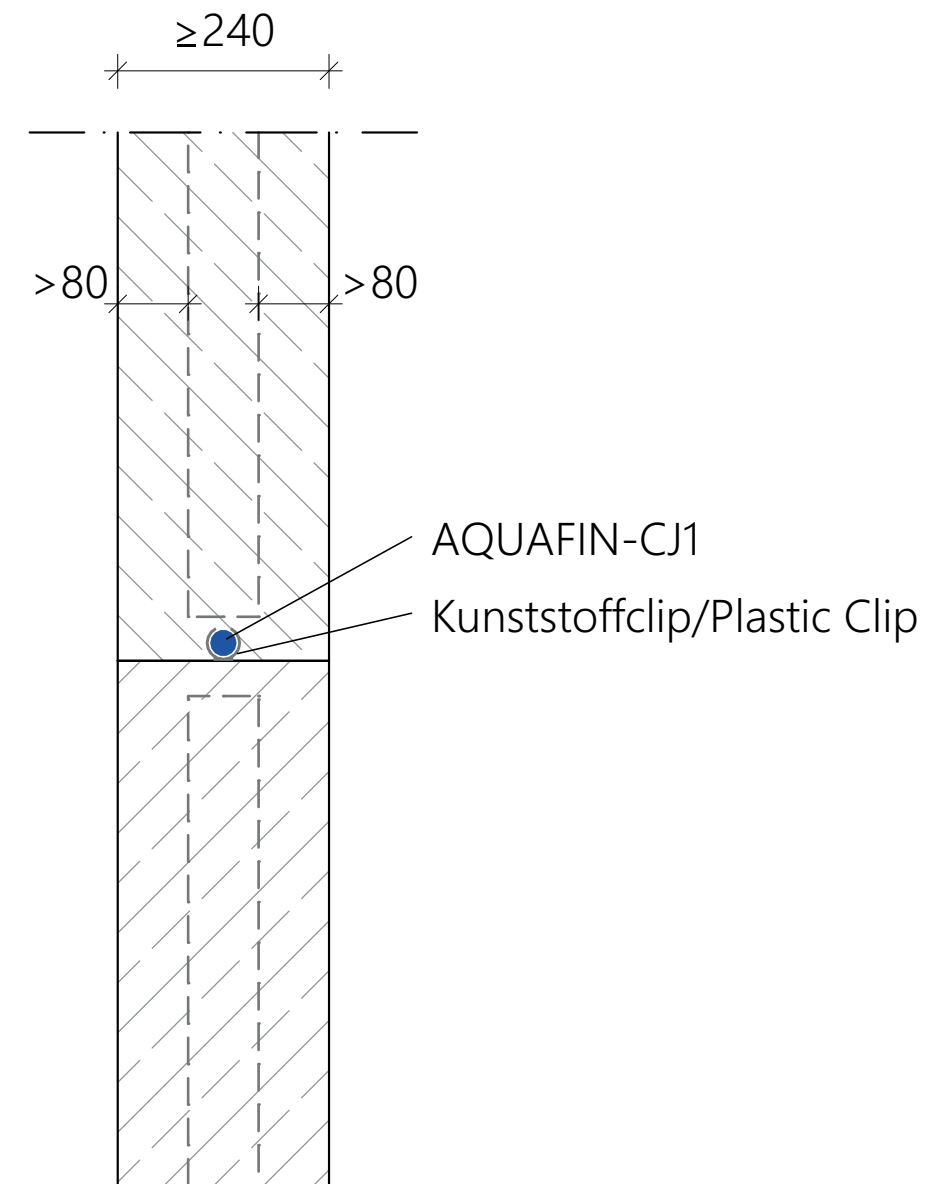
Waterproofing of a construction joint with AQ-CJ3 – wall-slab 1:10



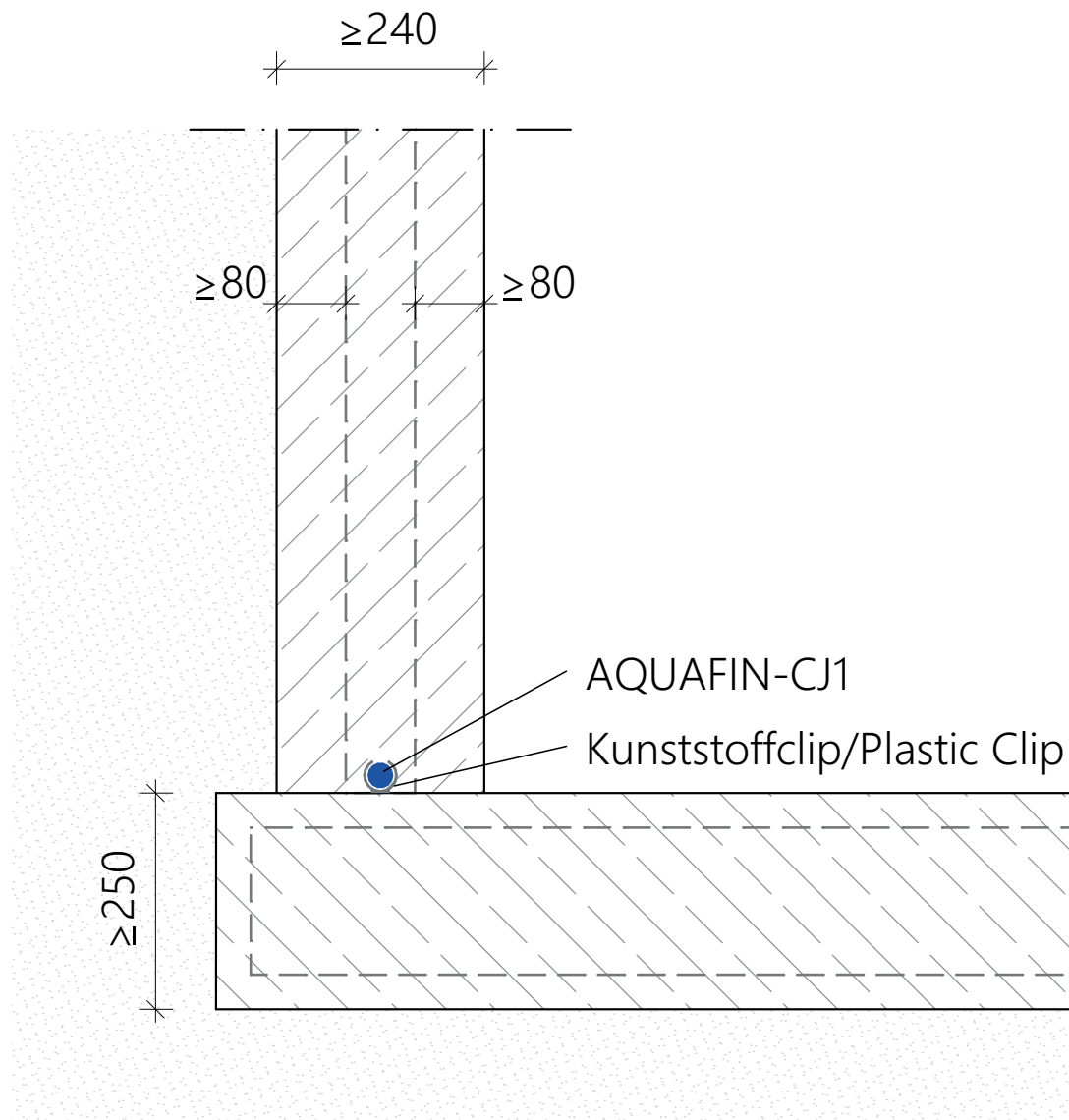
Waterproofing of a construction joint with AQ-CJ3 – wall-slab (with kicker) 1:10



Waterproofing of a construction joint with AQ-CJ1 – wall-wall 1:10

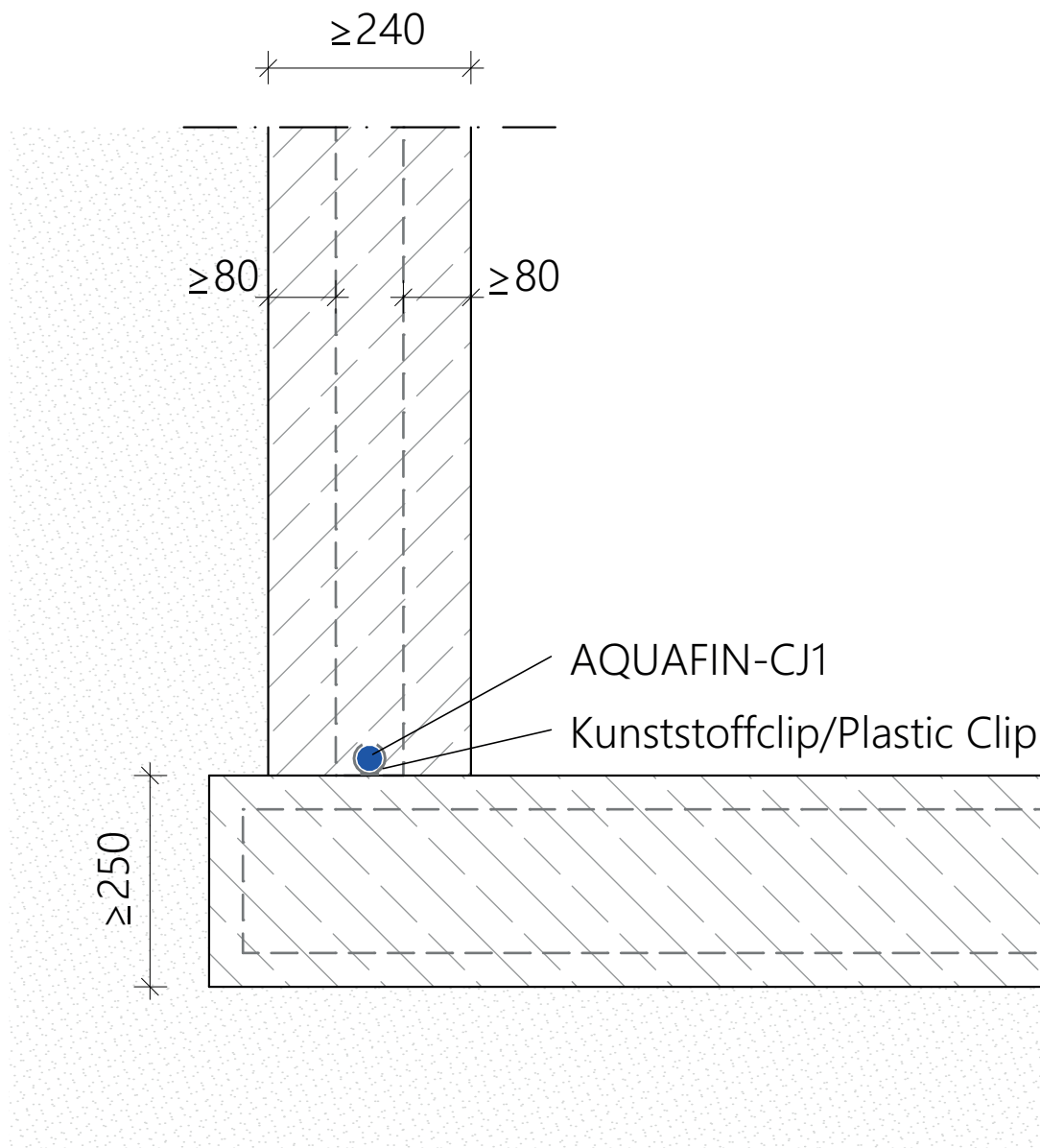


Waterproofing of a construction joint with AQ-CJ1 – wall-slab 1:10

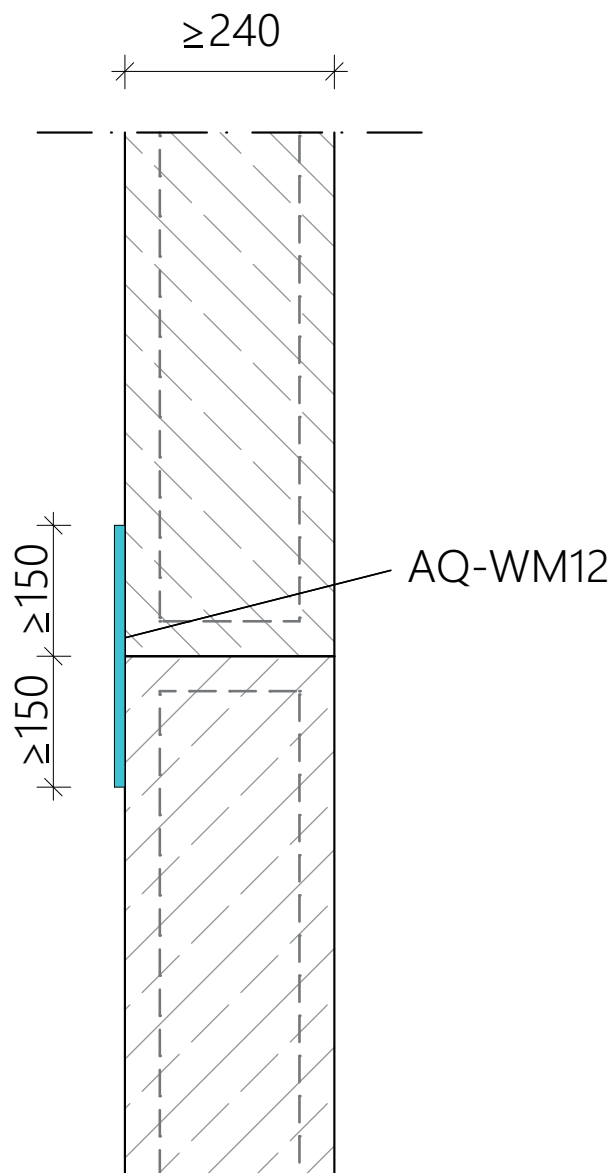




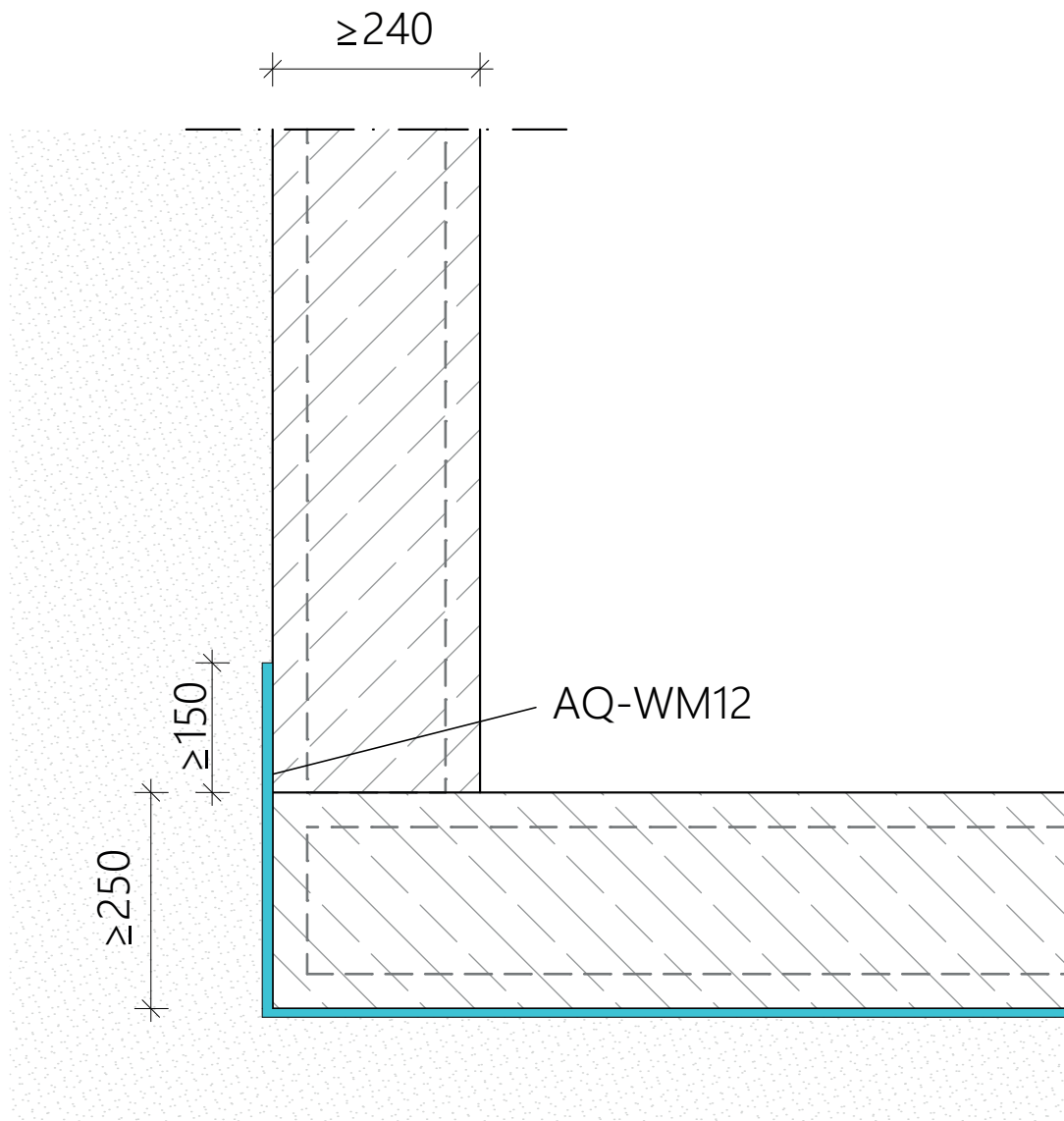
Waterproofing of a construction joint with AQ-CJ1 – wall-slab (with kicker) 1:10



Waterproofing of a construction joint with AQ-WM12 – wall-wall 1:10



Waterproofing of a construction joint with AQ-WM12 – wall-slab 1:10



Waterproofing solutions

Concrete construction system



	Maximum water pressure	Solution type			Location in concrete		Installation type		Suitable for water exchange zones	Peculiarities
		Construction joint	Expansion joint	Water-proofing	Internal	External	Concreted	Bonded		
AQUAFIN-CJ1 Injection hose	2.5 bar	x			x		x		x	
AQUAFIN-CJ3 Bentonite waterstop tape	2 bar	x			x			x	o	
AQUAFIN-CJ4 Bentonite waterstop tape	2 bar	x			x			x	o	Rain protection coating
AQUAFIN-CJ5 Crystalline joint sheet	5 bar	x			x		x		x	Crystalline self-repair of the concrete
AQUAFIN-CJ6 TPE waterstop tape	2 bar	x			x			x	x	Saltwater resistant
ASO-Tape TPE waterstop tape	5 bar	x	x				x	x	x	
AQUAFIN-WM12 PVC fresh concrete composite film	5 bar			x		x	x		x	

x particularly suitable o suitable

The information in the current technical data sheets for the products listed must be observed. These are available, along with other documentation, at schomburg.com.

47/222/NT/1e/LW

BETOCRETE-CP360-WP

Crystalline waterproofing concrete admixture

Scope

This method statement covers powder crystalline waterproofing admixture for concrete.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of powder crystalline waterproofing admixture that are used to produce permanently active waterproof concrete.

1.1 Standards

DIN EN 934-2 - Admixtures for concrete, mortar, and grout - table 9: water resisting admixtures

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. **Manufacturer Qualifications**
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. **Applicator Qualifications**
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other qualifying information.
- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precaution shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 12 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall not be applied during rain and protect from strong drafts. The application temperature must remain lower than +40 °C, for lower temperature curing time extends & for higher temperature curing time reduces. During application at higher temperatures protect material from direct sunlight.

Part 2 – Product

2.1 Manufacturer

BETOCRETE-CP360-WP as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement.

2.2 Materials

Powder crystalline waterproofing admixture that used to produce permanently active waterproof concrete

Component: In powder form.

It is supplied in:

- 3 kg water-soluble bags
- 17 kg bags
- 700 kg big bags

BETOCRETE-CP360-WP

2.3 Performance Criteria

BETOCRETE-CP360-WP has the following properties:

Colour:	grey
Form:	Powder
Density:	0.80 g/cm ³
Application temp.:	≥ +5 °C
Compressive strength according to EN 12390-3	≥ 85% compared to untreated concrete after 28 days
Air content according to EN 12350-7	≤ 2% higher volume share than untreated concrete
Capillary water intake according to EN 480-5	≤ 60% mass portion of untreated concrete after 28 days and 90 days curing time ≤ 50% mass portion of untreated concrete after 7 days and 7 days curing time

Part 3 – Execution

3.1 General:

Assure that concrete mix design and proposed materials are in compliance with manufacturer's recommendations. Assure that test batching and material testing, if recommended by manufacturer, has been carried out prior to starting concrete work. Comply with manufacturer's product data and installation instructions.

3.2 Application:

Stir powder crystalline waterproofing admixture in a container provided prior to use, to assure that the

mixture is homogeneous specially when stored for longer periods. Assure that the water/cement ratio (w/c) does not exceed 0.55 (powder crystalline waterproofing admixture is included)

Dosage range

w/c ratio <0.4:	0.75% by weight of CEM
>0.4-0.5:	0.80% by weight of CEM
>0.5-0.55:	0.90% by weight of CEM

Do not exceed 1.25% by weight of CEM.

Minimum Cement Content:

CEM I:	270 kg/m ³
CEM II:	290 kg/m ³
CEM III /A:	380 kg/m ³
Puzzolanic cements with puzzolan content > 20%:	300 kg/m ³
Granulated slag:	max. 100 kg/m ³
Fly ash:	max. 80 kg/m ³

Dosage in ready-mix factory:

BETOCRETE-CP360-WP can be dosed together with the aggregate for at least 30 seconds before adding water and cement. Then mix at least for 45 seconds.

Dosage in truck mixer on the job site:

Dose BETOCRETE-CP360-WP directly into the mixing drum. Mix thoroughly mixed for 1 min per m³ of concrete, but at least 5 minutes. Use quickly.

3.3 Important Advice:

- Please ensure that pre-tests were made with all admixtures that will be used in the concrete mix
- The addition of a concrete retarder can be necessary when using Portland Cement Type II or III. Suitability tests have to be carried out before usage.
- It is rarely possible that BETOCRETE-CP360-WP influences the setting of the concrete. Our product REMITARD-20 (BV)

BETOCRETE-CP360-WP

has proven as the most effective retarder.

- Concrete modified with BETOCRETE-CP360-WP may tend to effloresce depending on the composition.
- If the BETOCRETE-CP360-WP was stored at temperatures below +5 °C crystals may form, BETOCRETE-CP360-WP is suitable for usage again after warming up to minimum +15 °C followed by stirring or homogenizing.
- Suitability tests according to valid standards and norms have to be carried out prior to application.

3.4 Cleaning:

Regular water flushing of dispensing equipment will prolong service life and reduce breakdowns. Use REINIT-BM on internal metal surfaces subject to contact with concrete in concrete mixers, batch plants and truck mixers regularly to prevent concrete crust formations. Use ASO-R005 to remove hardened concrete crusts.

BETOCRETE-CP350-CI

Crystalline waterproofing concrete admixture

Scope

This method statement covers powder crystalline waterproofing admixture for concrete.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of powder crystalline waterproofing admixture that are used to produce permanently active waterproof concrete..

1.1 Standards

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. **Manufacturer Qualifications**
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. **Applicator Qualifications**
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other qualifying information.
- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precaution shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 12 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall not be applied during rain and protect from strong drafts. The application temperature must remain lower than +40 °C, for lower temperature curing time extends & for higher temperature curing time reduces. During application at higher temperatures protect material from direct sunlight.

Part 2 – Product

2.1 Manufacturer

BETOCRETE-CP350-CI as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement.

2.2 Materials

Powder crystalline waterproofing admixture that used to produce permanently active waterproof concrete

Component: In powder form.

It is supplied in:

20 kg bags

1,000 kg big bags

BETOCRETE-CP350-CI

2.3 Performance Criteria

BETOCRETE-CP350-CI has the following properties:

Colour: grey
Form: Powder
Density: 1.12 g/cm³
Application Temp.: ≥ +5 °C

Puzzolanic cements
with puzzolan content > 20%: 300 kg/m³
Granulated slag: max. 100 kg/m³
Fly ash: max. 80 kg/m³

Dosage in ready-mix factory:

BETOCRETE-CP350-CI with the aggregate for at least 30 seconds before adding water and cement. Then mix at least for 45 seconds.

Part 3 – Execution

3.1 General:

Assure that concrete mix design and proposed materials are in compliance with manufacturer's recommendations.

Assure that test batching and material testing, if recommended by manufacturer, has been carried out prior to starting concrete work.

Comply with manufacturer's product data and installation instructions.

3.2 Application:

Stir powder crystalline waterproofing admixture in a container provided prior to use, to assure that the mixture is homogeneous specially when stored for longer periods. Assure that the water/cement ratio (w/c) does not exceed 0.55 (powder crystalline waterproofing admixture is included).

Dosage range

w/c ratio <0.4: 0.75% by weight of CEM
>0.4-0.5: 0.80% by weight of CEM
>0.5-0.55: 0.90% by weight of CEM

Do not exceed 1.25% by weight of CEM.

Minimum Cement Content:

CEM I: 270 kg/m³
CEM II: 290 kg/m³
CEM III /A: 380 kg/m³

Dosage in truck mixer on the job site:

The addition of BETOCRETE-CP350-CI on site (concrete truck) is not carried out as a powder but as a very aqueous suspension. The required amount of BETOCRETE-CP-350-CI is premixed with water at a ratio of 1:1 (e.g. 3 kg BETOCRETE-CP350-CI per m³ and 3 kg water per m³) using a suitable vessel and stirrer and then completely emptied into the mixing drum of the truck.

Dose BETOCRETE-CP350-CI directly into the mixing drum. Mix thoroughly mixed for 1 min per m³ of concrete, but at least 5 minutes. Pour without delay.

3.3 Important Advice:

- Please ensure that pre-tests were made with all admixtures that will be used in the concrete mix
- The addition of a concrete retarder can be necessary when using Portland Cement Type II or III. Suitability tests have to be carried out before usage.
- It is rarely possible that BETOCRETE-CP350-CI influences the setting of the concrete. Our product Ruxolith T5 (VZ) has proven as the most effective retarder.
- Concrete modified with BETOCRETE-CP350-CI may tend to effloresce depending on the composition.
- If the BETOCRETE-CP350-CI was stored at temperatures below +5 °C crystals may form, BETOCRETE-CP350-CI is suitable for usage

BETOCRETE-CP350-CI

again after warming up to minimum +15 °C followed by stirring or homogenizing. Suitability tests according to valid standards and norms have to be carried out prior to application.

3.4 Cleaning:

Regular water flushing of dispensing equipment will prolong service life and reduce breakdowns. Use REINIT-BM on internal metal surfaces subject to contact with concrete in concrete mixers, batch plants and truck mixers regularly to prevent concrete crust formations. Use ASO-R005 to remove hardened concrete crusts.

BETOCRETE-CL210-WP

Crystalline waterproofing concrete admixture

Scope

This method statement covers powder crystalline waterproofing admixture for concrete.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of liquid crystalline waterproofing admixture that are used to produce permanently active waterproof concrete.

1.1 Standards

DIN EN 934-2 - Admixtures for concrete, mortar, and grout - table 9: water resisting admixtures

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. Manufacturer Qualifications
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. Applicator Qualifications
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other qualifying information.
- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precaution shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 12 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall not be applied during rain and protect from strong drafts. The application temperature must remain lower than +40 °C, for lower temperature curing time extends & for higher temperature curing time reduces. During application at higher temperatures protect material from direct sunlight.

Part 2 – Product

2.1 Manufacturer

BETOCRETE-CL210-WP as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement.

2.2 Materials

Liquid crystalline waterproofing admixture that used to produce permanently active waterproof concrete.

Component: In liquid form.

It is supplied in:

- 25 kg canister
- 220 kg drum
- 1,040 kg container

BETOCRETE-CL210-WP

2.3 Performance Criteria

BETOCRETE-CL210-WP has the following properties:

Colour:	white
Form:	liquid
Density:	1.05 g/cm ³
Application temp.:	+5 °C to +40 °C
Compressive strength according to EN 12390-3	≥ 85% compared to untreated concrete after 28 days
Air content according to EN 12350-7	≤ 2% higher volume share than untreated concrete
Capillary water intake According to EN 480-5	≤ 60% mass portion of untreated concrete after 28 days and 90 days curing time ≤ 50% mass portion of untreated concrete after 7 days and 7 days curing time

Part 3 – Execution

3.1 General:

Assure that concrete mix design and proposed materials are in compliance with manufacturer's recommendations. Assure that test batching and material testing, if recommended by manufacturer, has been carried out prior to starting concrete work. Comply with manufacturer's product data and installation instructions.

3.2 Application:

Stir liquid crystalline waterproofing admixture in a container provided prior to use, to assure that the mixture is homogeneous specially when stored for

longer periods. Assure that the water/cement ratio (w/c) does not exceed 0.55 (liquid crystalline waterproofing admixture is included).

Dosage range

w/c ratio <0.4:	1.75% by weight of CEM
>0.4-0.5:	1.80% by weight of CEM
>0.5-0.55:	2.00% by weight of CEM

Do not exceed 2.25% by weight of CEM.

Minimum Cement Content:

CEM I:	270 kg/m ³
CEM II:	290 kg/m ³
CEM III /A:	380 kg/m ³
Puzzolanic cements with puzzolan content > 20%:	300 kg/m ³
Granulated slag:	max. 100 kg/m ³
Fly ash:	max. 80 kg/m ³

Dosage in ready-mix factory:

BETOCRETE-CL-210-WP can be added to the mix water or added to the finished concrete mix.

Dosage in truck mixer on the job site:

Dose BETOCRETE-CL210-WP directly into the mixing drum. Mix thoroughly mixed for 1 min per m³ of concrete, but at least 5 minutes. Use quickly

3.3 Important Advice:

- Please ensure that pre-tests were made with all admixtures that will be used in the concrete mix
- A storage temperature of > 30 °C can lead to parts of BETOCRETE-CL210-WP settling. After thorough mixing, this has no influence on the product features
- BETOCRETE-CL210-WP has to be thoroughly mixed after a longer storage period (> 2 months)
- The addition of a concrete retarder can be necessary when using Portland Cement Type II or III. Suitability tests have to be carried out before usage.

BETOCRETE-CL210-WP

- It is rarely possible that BETOCRETE-CL210-WP influences the setting of the concrete. Our product REMITARD 20(BV) has proven as the most effective retarder.
- Concrete modified with BETOCRETE-CL210-WP may tend to effloresce depending on the composition.
- If the BETOCRETE-CL210-WP was stored at temperatures below +5 °C crystals may form, BETOCRETE-CL210-WP is suitable for usage again after warming up to minimum +15 °C followed by stirring or homogenizing.
- Suitability tests according to valid standards and norms have to be carried out prior to application.

3.4 Cleaning:

Regular water flushing of dispensing equipment will prolong service life and reduce breakdowns. Use REINIT-BM on internal metal surfaces subject to contact with concrete in concrete mixers, batch plants and truck mixers regularly to prevent concrete crust formations. Use ASO-R005 to remove hardened concrete crusts.

Method Statement

BETOCRETE-CL170-P

Crystalline waterproofing concrete admixture

Scope

This method statement covers liquid crystalline waterproofing admixture for concrete.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of liquid crystalline waterproofing admixture that are used to produce permanently active waterproof concrete.

1.1 Standards

DIN EN 934-2 - Admixtures for concrete, mortar, and grout - table 2: water reducing / plasticizing admixtures

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. Manufacturer Qualifications
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. Applicator Qualifications
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other qualifying information.
- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precaution shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 12 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall not be applied during rain and protect from strong drafts. The application temperature must remain lower than +40 °C, for lower temperature curing time extends & for higher temperature curing time reduces. During application at higher temperatures protect material from direct sunlight.

Part 2 – Product

2.1 Manufacturer

BETOCRETE-CL170-P as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement

2.2 Materials

Liquid crystalline waterproofing admixture that used to produce permanently active waterproof concrete

Component: In liquid form.

It is supplied in:

- 25 kg canister
- 220 kg drum
- 1,040 kg container

BETOCRETE-CL170-P

2.3 Performance Criteria

BETOCRETE-CL170-P has the following properties:

Colour:	colourless, clear
Form:	liquid
Density:	1.19 g/cm ³
Application temp.:	+5°C to +40°C
Compressive strength according to EN 12390-3	≥110% compared to untreated concrete after 7/28 days
Air content according to EN 12350-7	≤2% higher volume share than untreated concrete
Reduction of Water requirement according to EN 12350-2 or EN 12350-5	≥5% slump increase or flow increase compared to untreated concrete

Part 3 – Execution

3.1 General:

Assure that concrete mix design and proposed materials are in compliance with manufacturer's recommendations. Assure that test batching and material testing, if recommended by manufacturer, has been carried out prior to starting concrete work. Comply with manufacturer's product data and installation instructions..

3.2 Application:

Stir liquid crystalline waterproofing admixture in a container provided prior to use, to assure that the mixture is homogeneous specially when stored for longer periods. Assure that the water/cement ratio (w/c) does not exceed 0.55 (liquid crystalline waterproofing admixture is included).

Dosage range

w/c ratio <0.4:	0.75% by weight of CEM
>0.4-0.5:	0.80% by weight of CEM
>0.5-0.55:	0.90% by weight of CEM

Do not exceed 2.25% by weight of CEM.

Minimum Cement Content:

CEM I:	270 kg/m ³
CEM II:	290 kg/m ³
CEM III /A:	380 kg/m ³
Puzzolanic cements with puzzolan content > 20%:	300 kg/m ³
Granulated slag:	max. 100 kg/m ³
Fly ash:	max. 80 kg/m ³

Dosage in ready-mix factory:

BETOCRETE-CL-170-P can be added to the mix water or added to the finished concrete mix.

Dosage in truck mixer on the job site:

Dose BETOCRETE-CL170-P directly into the mixing drum. Mix thoroughly mixed for 1 min per m³ of concrete, but at least 5 minutes. Use quickly

3.3 Important Advice:

- Please ensure that pre-tests were made with all admixtures that will be used in the concrete mix
- A storage temperature of >30 °C can lead to a brown discoloration of BETOCRETE-CL170-P. This has no influence on the product features.
- BETOCRETE-CL170-P has to be thoroughly mixed after a longer storage period (> 2 months)
- The addition of a concrete retarder can be necessary when using Portland Cement Type II or III. Suitability tests have to be carried out before usage.
- It is rarely possible that BETOCRETE-CL170-P influences the setting of the concrete. Our product RUXOLITH-T5 (VZ) has proven as the most effective retarder.
- Concrete modified with BETOCRETE-CL170-P

BETOCRETE-CL170-P

may tend to effloresce depending on the composition.

- If the BETOCRETE-CL170-P was stored at temperatures below +5 °C crystals may form, BETOCRETE-CL170-P is suitable for usage again after warming up to minimum +15 °C followed by stirring or homogenizing.
- Suitability tests according to valid standards and norms have to be carried out prior to application.

3.4 Cleaning:

Regular water flushing of dispensing equipment will prolong service life and reduce breakdowns. Use REINIT-BM on internal metal surfaces subject to contact with concrete in concrete mixers, batch plants and truck mixers regularly to prevent concrete crust formations. Use ASO-R005 to remove hardened concrete crusts.

ASO[®]-Tape

Thermoplastic joint tape for waterproofing joints

Scope

This method statement covers thermoplastic joint tape for waterproofing joints.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of Thermoplastic joint tape for waterproofing joints.

1.1 Standards

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. Manufacturer Qualifications
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- A. Applicator Qualifications
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- B. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other qualifying information.
- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precaution shall be taken to keep the product clean, dry and free from damage. Shelf life is 12 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall not be applied during rain and protect from strong drafts. The application temperature must remain lower than +40 °C, for lower temperature curing time extends & for higher temperature curing time reduces. During application at higher temperatures protect material from direct sunlight.

Part 2 – Product

2.1 Manufacturer

ASO-Tape as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement.

2.2 Materials

- A. "Highly flexible thermoplastic joint tape"

2.3 Performance Criteria

ASO-Tape has the following properties:

Basis: TPE (Thermoplastic Elastomer)
Colour: grey

ASO[®]-Tape

Shore a hardness
to ISO 868: approx. 87
Temperature
resistance: -30 °C/+90 °C
Application, substrate
and material
temperature: +5 °C to +35 °C

Material thickness	1.0 mm	2.0 mm
Weight per unit area, g/m ²	approx. 900	approx. 1800
Tensile strength at break, to DIN EN ISO 527-3, N/mm ²	approx. 14.0	approx. 14.0
Elongation at break, to DIN EN ISO 527-3, %	approx. 1000	approx. 1000
Tear propagation strength, to DIN 12310-2, N:	approx. 100	approx. 200

Consumption ASODUR-K403 1:

Size/Thickness	Consumption in kg/m	
	1.0 mm	2.0 mm
150 mm	approx. 0.8	approx. 1.4
200 mm	approx. 1.0	approx. 1.5
250 mm	approx. 1.1	approx. 1.7
300 mm	approx. 1.3	approx. 1.8
500 mm	approx. 1.8	approx. 2.4

Does not consider extra material consumption for uneven substrates.

Combined test with ASODUR-K403 1:

Tensile adhesion
strength, to PG-ÜBB: > 3.0 N/mm² with break in
concrete

Water impermeability,
positive and negative
according to DIN 1048: 5 bar
Crack bridging to PG-ÜBB, 1.0 mm
crack held for 28 d water
pressure 0.75 bar: passed

Reaction to fire: Class E to DIN EN 13501-1
Packaging: 20 m rolls
Sizes: 150, 200, 250, 300, 500
1000 mm
Storage: Dry and protected from
weathering, 12 months in the
original unopened packaging.
Use within 2 months once
opened.

Part 3 – Execution

3.1 General

ASO-Tape is used in combination with ASODUR-K4031 for waterproofing construction joints and movement joints as well as for waterproofing cracks and voids in concrete construction. It is additionally suitable for waterproofing transitions or differing building materials.

3.2 Surface preparation:

The substrate must be clean and load-bearing as well as free from adhesion inhibiting materials. At the time of installation it may be matt damp but not wet or with saturated pores. In the area to be waterproofed, mechanically prepare the substrate using suitable means e.g. planing, scabbling or grit blasting etc., in order to ensure a good bond. When using on substrates other than concrete, assess with a trial adhesion test. When applying joint waterproofing as strips it is essential that the concrete has waterproof qualities. Otherwise the joint waterproofing must be used in combination with a surface-applied waterproof membrane

3.3 Application:

Coat the prepared substrate on both sides of the joint to be bridged with ASODUR-K4031 to a

ASO®-Tape

width min. 1 cm wider than the ASO-Tape being used. Then lay the joint tape and thoroughly bed into the adhesive layer with a trowel or pressure roller without voids or folds and coat over the top. In so doing, ensure that the joint tape is completely bedded. The adhesive or smoothing coat thickness should never be less than 1 mm. Overlap butt joints by a min. of 5 to 10 cm and bond or alternatively hot air weld.

3.3.1 Movement joints:

Movement joints always require a 2 mm joint tape and can either be laid flush or in a loop dependent on the project. To accommodate movement, leave an unbonded section of tape in the expansion area. Dependent on the installation and loading e.g. overhead use or negative water pressure, a reinforcing or supporting construction may be necessary.

3.3.2 Hot air welding:

The joint tapes are cut to suit the project (butt joints or corner joints) and laid on a flat substrate. Butt joints are to be overlapped by a min. 5 cm. The overlap area is to be roughened with abrasive paper and cleaned. Welding is carried out with hot air equipment with a wide nozzle and a pressure roller. The welding temperature (reference values: approx. 300–350 °C) is to be set by a trial weld. The joints in the tapes are laid on top of one another appropriately and fixed at the edges by selective welding in order to prevent slipping during welding. Then the wide nozzle of the hot air tool is drawn slowly and evenly over the overlap area and fully joined together with a pressure roller. Before installing check the weld for a complete watertight bond.

3.4 Cleaning:

During continued application, all tools must be regularly & thoroughly cleaned with water and/or solvent (ASO-R001) every 25 to 40 minutes (dependant on temperature) to prevent the product from setting on tool surfaces. Thorough cleaning must also be carried out immediately at the end of works or whenever work is suspended.

Method Statement

AQUAFIN®-WM12

PVC-based fresh concrete waterproofing membrane

Scope

This method statement covers a PVC-based fresh concrete waterproofing membrane.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of fresh concrete waterproofing membranes.

1.1 Standards

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. **Manufacturer Qualifications**
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. **Applicator Qualifications**
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other qualifying information.

- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precaution shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 18 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall not be applied during rain and protect from strong drafts. The application temperature must remain higher than +5 °C and lower than +50 °C.

Part 2 – Product

2.1 Manufacturer

AQUAFIN-WM12 as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement.

2.2 Materials

- A. 1.2 mm thick PVC-Membrane
- B. Special fleece

2.3 Performance Criteria

AQUAFIN-WM12 has the following properties:

Basis:	PVC
Colour:	transparent/white
Width:	approx. 1.0 m
Length:	approx 20 m
Thickness (membrane)	approx. 1.2 mm
Surface weight	approx. 1.8 kg/ m ²
Application temp	-5 °C to +50 °C
Watertightness in accordance with EN 1928, procedure B 60 kPa/24h):	watertight

AQUAFIN®-WM12

Water vapour resistance factor (EN 1931): approx. 29 m
Tensile strength (MD/CMD), in accordance with EN 12311-2: 1056/1056 N/ 50 mm
Tear resistance (MD/CMD), in accordance with EN 12310-1: 600/600 N
Elongation at break (MD/CMD), in accordance with EN 12311-2: 130/80 %
Shear resistance of the joint seams, in accordance with EN 12317-2: Failure outside the joint seam
Impact resistance in accordance with EN 12691 procedure A: 700 mm
Reaction to fire, in accordance with EN 13501-1: Class E

Part 3 – Execution

3.1 General

AQUAFIN-WM12 is used as an additional waterproofing of concrete structures. It is used to form a permanent bond with the fresh concrete. It is especially suitable to waterproof hard-to-access areas such as elevator shafts.

3.2 Surface preparation:

The substrate must have adequate load-bearing capability and must be largely flat and pressure-resistant in order to counterbalance the loads that arise during the application and concreting works. Larger surface irregularities or steps must be levelled out beforehand

by means of suitable mortar systems or suitable fillers, e.g. sand. In the case of applications underneath floor slabs on compacted, pressure-resistant, capillary-breaking layers, there must be no sharp-edged or pointed components on the surface. Formwork may not deform during the concreting works. In the case of vertical applications, the top finishing rail must be secured using suitable measures.

3.3 Application:

The substrate must be firm and load-bearing. Overlaps should be established with min. 5 cm, and bonded through hot air-welding or adhered with AQUAFIN-CA.

Application as waterproofing under floor slabs:

The fresh concrete composite film must be applied with the transparent side to the substrate, before the concreting. Apply AQUAFIN-WM12 to the appropriately compacted, pressure-resistant, capillary-breaking layer or blinding layer (concrete or thermal insulation) in overlapping linear sheets. The overlapping width is 5 cm. The joints are bonded by means of hot air welding or adhered with AQUAFIN-CA. Avoid damage during the subsequent work steps, e.g. laying reinforcement. Spacers used shall have a large surface area at the support points. The concreting of the floor slab must be professionally applied and in accordance with the applicable standards and regulations. It is particularly important to ensure that the concreting is implemented free of voids or that bonding is implemented covering the whole area of the fleece layer. In doing so, direct contact between the AQUAFIN-WM12 and the compacting machine should be avoided.

Application as waterproofing in formwork constructions:

The fresh concrete composite film must be applied with the transparent side to the formwork, before the concreting. AQUAFIN-WM12 is fitted to the top side of the formwork construction in linear sheets, overlapping and fastened by means of nail strips. The overlapping width is 5 cm. The joints are bonded by means of hot

AQUAFIN[®]-WM12

air welding or adhered with AQUAFIN-CA. Avoid damage during the subsequent work steps, e.g. laying reinforcement or spacing struts. The concreting must be professionally applied in accordance with the applicable standards and regulations. It is particularly important to ensure that the concreting is implemented free of voids (gravel pockets) or that bonding is implemented covering the whole area of the fleece layer. In doing so, direct contact between the AQUAFINWM12 and the compacting machine should be avoided.

Hot air welding:

Device parameters:

- 220V hot air blower with stepless temperature adjustment up to +600 °C and air flow regulator
- Heating power > 1400 Watt
- Width slotted nozzle 40 mm (perforated on the underside)

The welding of the AQUAFIN-WM12 is carried out with handheld welding devices (e.g. Leister Triac) with a temperature of +450 °C to +650 °C (approx. level 6.5). The sealing sheets are laid overlapping and tacked at a max. pitch of 50 cm, parallel with one another. Then the handheld welding device is guided slowly over the joint at an angle of approx. 30°. In doing so, the sheets are pressed together with a moderate force of >5-6 kp using a silicone roller, parallel with the sheet edge, until a weld seam is created at the joint edges. Welding is implemented over a width of approx. 4 cm. With professionally prepared welding, a weld bead running along the seam can be considered an indication of a perfect joint. The joint seams are immediately leak-proof and are fully cured after 24 hours. Carry out trial welding before the hot air welding work. In the case of applications on thermal insulation, suitable underlays, which will be slowly pulled along with the sheets during welding, should be used. The welding zones are to be cleaned of any adhesion inhibiting substances. In doing so, it is not permitted to use solvents or splice wash.

Adhered with AQUAFIN-CA:

Generously apply AQUAFIN-CA to the overlap area of the substrate and press the next sheet into the fresh adhesive. The concreting process can take place no sooner than 8 hours after adhesion.

Notes:

- The fresh concrete composite system should be stored dry as a matter of principle.
- Do not store sharp objects or pallets on the fresh concrete composite film.
- The current applicable regulations and datasheets are to be observed!

3.4 Cleaning:

During continued application, all tools must be regularly & thoroughly cleaned with water and/or solvent (ASO-R001) every 25 to 40 minutes (dependant on temperature) to prevent the product from setting on tool surfaces. Thorough cleaning must also be carried out immediately at the end of works or whenever work is suspended.

Method Statement

AQUAFIN®-CJ6

Thermoplastic expansive waterstop for waterproofing construction joints

Scope

This method statement covers internal and external waterstops for expansion and construction joints.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of TPE construction joint waterstops.

1.1 Standards

Factory standard.

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. A Manufacturer Qualifications
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. Applicator Qualifications
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand,

type, grade, class, batch numbers and all other qualifying information.

- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precautions shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 24 months when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall be protected from rain.

Part 2 – Product

2.1 Manufacturer

AQUAFIN-CJ6 as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement

2.2 Materials

- A. TPE (thermoplastic elastomer)

2.3 Performance Criteria

AQUAFIN-CJ6 has the following properties:

Basis:	TPE
Format:	quadratic and flexible
Colour:	red
Density:	1.25 g / m ³
Hardness per Shore A in accordance with DIN 53505:	37
Thickness:	5 mm
Width:	20 mm
Start of swelling on water contact:	approx. 6 hours

AQUAFIN®-CJ6

Swelling capacity (demin. Water)	approx. 50 % after 2 hours approx. 460 % after 24 hours approx. ≥700 % after 8 days
Expansive pressure:	approx. 1.06 N/mm ²
Water-impermeability after installation (0.25 mm joint):	2 bar
Toxicity:	none
Reaction to fire in accordance with EN 13501:	normal inflammability (construction class E)
Packaging:	rolls of 40 linear meters

Part 3 – Execution

3.1 General

AQUAFIN-CJ6 is used as a construction joint waterstop in concrete construction.

3.2 Application:

Substrate preparation:

The substrate must be load-bearing, mostly flat and have a closed surface texture. It must be free from gravel pockets, cavities, gaping cracks, dust and be free from adhesion inhibiting substances. Laitance layers are to be removed, mechanically abraded (sand blasted) as necessary. During the application of AQUAFIN-CJ6 the substrate may be matt damp. The formation of puddles is not permitted.

Product application:

It is essential that there is at least > 8 cm coverage of concrete from the side exposed to water. Bond AQUAFIN-CJ6 with a mounting adhesive suitable for waterstops – e.g. AQUAFIN-CA.

Completely cover the prepared substrate with the mounting adhesive and press the AQUAFIN-CJ6 into the adhesive until it oozes out from beneath. Do not

begin the concreting process for at least 8 hours after bonding. Alternatively, AQUAFIN-CJ6 can also be fastened with steel nails (min. 5 nails/m). When doing so, it is necessary to ensure substrate contact pressure covering the whole area. Avoid looping or hollow layers. Waterstop connections can be made by overlapping by 5 cm or by butt jointing. The waterstops must be placed tightly together to prevent gaps. Butt jointed waterstops must be covered by a separate section of waterstop with a 3 cm overlap to both sections.

Notes:

- It is essential to store the waterstop dry.
- Waterstops must lie flat and planar on the concrete. There must be no contaminants beneath the waterstop.
- Protect the waterstop from moisture until the concrete is poured.
- Before commencing the concreting process visually inspect the waterstop. Heavily swollen waterstop tape is unsuitable and must be removed.
- Waterstops are not suitable for movement joints.
- Follow current relevant regulations and data sheets



Method Statement

AQUAFIN®-CJ5

Crystalline coated joint sheet

Scope

This method statement covers crystalline coated joint sheets for construction joints

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of crystalline coated joint sheets

1.1 Standards

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. Manufacturer Qualifications
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. Applicator Qualifications
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other

- qualifying information.
- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precautions shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 24 months when stored according to the above conditions and cool conditions above 0 °C.

Part 2 – Product

2.1 Manufacturer

AQUAFIN-CJ5 as manufactured by SCHOMBURG GmbH & Co. KG conforms to all requirements of this method statement.

2.2 Materials

- A. Sheet metal
- B. Crystalline, mineralic coatings

2.3 Performance Criteria

AQUAFIN-CJ5 has the following properties:

Basis:	sheet metal
Shape:	rectangular and flexible
Colour:	black / grey
Dimensions:	1.25 × 2,000 × 150 mm
Water-impermeability after installation (0.25mm joint)	5 bar
Toxicity:	none
Reaction to fire in accordance with EN 13501	normal inflammability (construction class E)
Packaging:	100 m (50 sheets) per wooden crate, with 50 holding clamps

AQUAFIN[®]-CJ5

Part 3 – Execution

3.1 General

AQUAFIN-CJ5 is used as a crystalline coated joint strip for construction joints.

3.2 Application:

The joint sheet should be installed centrally in the joint before concreting and fastened in place with the help of the omega clamp or retaining clips. In doing so, concrete inclusion of >3 cm must be guaranteed. Joints are to be overlapped with >5 cm for 2 bars pressure or >20 cm for up to 5 bar pressure. In the case of rounded parts and corner constructions, simply bend the AQUAFIN-CJ5 into the corresponding shape.

Notes:

- The joint sheets should be stored dry as a matter of principle.
- The joint sheets must be arranged perpendicular to the construction joints.
- The joint sheets must be subjected to a visual check before concreting
- Joint sheets are not suitable for movement joints.
- The current applicable regulations and datasheets are to be observed!

Method Statement

AQUAFIN®-CJ4

Bentonite waterstop with patent. Protective coating against rain.

Scope

This method statement covers bentonite waterstops construction joints.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of bentonite waterstops

1.1 Standards

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co.KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. **Manufacturer Qualifications**
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. **Applicator Qualifications**
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other

- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precautions shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 5 years when stored according to the above conditions and cool conditions above +5 °C.

Part 2 – Product

2.1 Manufacturer

AQUAFIN-CJ4 as manufactured by SCHOMBURG GmbH & Co.KG conforms to all requirements of this method statement..

2.2 Materials

- A. Sodium bentonite embedded in a matrix of high molecular weight poly-isobutylene rubber as well as special filters and additives.

2.3 Performance Criteria

AQUAFIN-CJ4 has the following properties:

Basis:	bentonite
Format:	square-edged and flexible
Colour:	black / grey
Density:	730 g / m
Thickness:	18 mm
Width:	24 mm
Swelling capacity (demin. water):	approx. ≥500% after 8 days
Water-impermeability after installation (0.25 mm joint):	2 bar
Toxicity:	none
Packaging:	rolls of 5 linear meters; 4 rolls to a box

AQUAFIN[®]-CJ4

Part 3 – Execution

3.1 General

AQUAFIN-CJ4 is used as a construction joint waterstop in concrete construction.

3.2 Application:

Substrate preparation:

The substrate must be load-bearing, mostly flat and have a closed surface texture. It must be free from gravel pockets, cavities, gaping cracks, dust and be free from adhesion inhibiting substances. Laitance layers are to be removed, mechanically abraded (sand blasted) as necessary. During the application of AQUAFIN-CJ4 the substrate may be matt damp. The formation of puddles is not permitted.

Product application:

It is essential that there is at least > 8 cm coverage of concrete from the side exposed to water. Bond AQUAFIN-CJ4 with a mounting adhesive suitable for waterstops – e.g. AQUAFIN-CA.

Completely cover the prepared substrate with the mounting adhesive and press the AQUAFIN-CJ4 into the adhesive until it oozes out from beneath. Do not begin the concreting process for at least 8 hours after bonding. Alternatively, AQUAFIN-CJ4 can also be fastened with steel nails (min. 5 nails/m). When doing so, it is necessary to ensure substrate contact pressure covering the whole area. Avoid looping or hollow layers. Waterstop connections can be made by overlapping by 5 cm or by butt jointing. The waterstops must be placed tightly together to prevent gaps. Butt jointed waterstops must be covered by a separate section of waterstop with a 3 cm overlap to both sections.

Notes:

- It is essential to store the waterstop dry.
- Waterstops must lie flat and planar on the concrete.
There must be no contaminants beneath the waterstop.

- Protect the waterstop from moisture until the concrete is poured.
- Before commencing the concreting process visually inspect the waterstop. Heavily swollen waterstop tape is unsuitable and must be removed.
- Waterstops are not suitable for movement joints.
- Follow current relevant regulations and data sheets.



Method Statement

AQUAFIN®-CJ3

Bentonite waterstop with patent

Scope

This method statement covers bentonite waterstops construction joints.

Part 1 – General

This section covers materials, labour, tools and equipment for installation and application of bentonite waterstops.

1.1 Standards

1.2 Submittal

- A. Submit two copies of Technical Data Sheet containing all the instructions for use and installation (TDS) and Material Safety Data Sheet (MSDS).
- B. Submit a list of SCHOMBURG GmbH & Co. KG or your local SCHOMBURG/AQUAFIN approved applicators (Please ask for an applicator list).

1.3 Quality Assurance

- A. Manufacturer Qualifications
The manufacturer shall certify that the specified product is valid and suitable for use and application as mentioned in the TDS.
- B. Applicator Qualifications
Applicator shall be qualified in the field of concrete protection and repair with successful records. Applicator shall maintain qualified and certified personnel with good repute.
- C. Application and use of this product shall be in accordance with all instructions and precautions stated in the Technical Data Sheet. The MSDS and local regulations should be followed during handling, storage, applications and waste disposal.

1.4 Delivery, Storage and Handling

- A. All materials shall be delivered in unopened and original containers and fully identified with brand, type, grade, class, batch numbers and all other

qualifying information.

- B. All the delivered materials shall be stored in its original packaging and elevated from the ground on pallets or shelves (avoid direct contact with the floor) according to the valid TDS.
- C. All the necessary precautions shall be taken to keep the product clean, dry and free from damage.
- D. Shelf life is 5 years when stored according to the above conditions and cool conditions above +5 °C.

1.5 Job Conditions

- A. Environmental conditions: the material shall be protected from rain.

Part 2 – Product

2.1 Manufacturer

AQUAFIN-CJ3 as manufactured by SCHOMBURG GmbH and Co. KG conforms to all requirements of this method statement.

2.2 Materials

- A. Sodium bentonite embedded in a matrix of high molecular weight poly-isobutylene rubber as well as special filters and additives

2.3 Performance Criteria

AQUAFIN-CJ3 has the following properties:

Basis:	bentonite
Format:	square-edged and flexible
Colour:	black / grey
Density:	730 g / m
Thickness:	18 mm
Width:	24 mm
Swelling capacity (demin. Water):	approx. ≥ 500% after 8 days

AQUAFIN®-CJ3

Water-impermeability after installation (0.25mm joint):	2 bar
Toxicity:	none
Packaging:	rolls of 5 linear meters; 4 rolls to a box

Part 3 – Execution

3.1 General

AQUAFIN-CJ3 is used as a construction joint waterstop in concrete construction.

3.2 Application:

Substrate preparation:

The substrate must be load-bearing, mostly flat and have a closed surface texture. It must be free from gravel pockets, cavities, gaping cracks, dust and be free from adhesion inhibiting substances. Laitance layers are to be removed, mechanically abraded (sand blasted) as necessary. During the application of AQUAFIN-CJ3 the substrate may be matt damp. The formation of puddles is not permitted.

Product application:

It is essential that there is at least > 8 cm coverage of concrete from the side exposed to water. Bond AQUAFIN-CJ3 with a mounting adhesive suitable for waterstops – e.g. AQUAFIN-CA.

Completely cover the prepared substrate with the mounting adhesive and press the AQUAFIN-CJ3 into the adhesive until it oozes out from beneath. Do not begin the concreting process for at least 8 hours after bonding. Alternatively, AQUAFIN-CJ3 can also be fastened with steel nails (min. 5 nails/m). When doing so, it is necessary to ensure substrate contact pressure covering the whole area. Avoid looping or hollow layers. Waterstop connections can be made by overlapping by

5 cm or by butt jointing. The waterstops must be placed tightly together to prevent gaps. Butt jointed waterstops must be covered by a separate section of waterstop with a 3 cm overlap to both sections.

Notes:

- It is essential to store the waterstop dry.
- Waterstops must lie flat and planar on the concrete. There must be no contaminants beneath the waterstop.
- Protect the waterstop from moisture until the concrete is poured.
- Before commencing the concreting process visually inspect the waterstop. Heavily swollen waterstop tape is unsuitable and must be removed.
- Waterstops are not suitable for movement joints.
- Follow current relevant regulations and data sheets.

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1 **Building Waterproofing**

1.1 **Waterproofing of building components made from concrete (waterproof concrete)**

1.1.1 **Manufacture of waterproof concrete**

1.1.1.1 **Internal concrete sealing with crystalline concrete admixtures**

The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.

Crystalline concrete admixture BETOCRETE

To support the self-healing properties of waterproof concrete, a so-called crystalline concrete admixture can be used. The crystalline substance, which is distributed across the entire waterproof construction, reacts upon contact with water and fills in fine cracks and capillary pores with nano-crystals. The concrete must comply with all of the structural planning requirements and be ordered in accordance to the properties. For this purpose, preliminary testing must be carried out with the crystalline concrete admixture in the concrete plant.

The crystalline concrete admixture BETOCRETE verifiably fulfils the properties as:

1. BETOCRETE-CL170-P: Plasticizer in accordance with EN-934-2, table 2.
2. BETOCRETE-CL210-WP: Liquid waterproofer in accordance with EN-934-2, table 9.
3. BETOCRETE-CP360-WP: Powdered waterproofer in accordance with EN-934-2, table 9.
4. BETOCRETE-CP350-CI: Powdered crystalline admixture with added corrosion inhibitor

The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.

1.1.1.1.010 **Concrete admixture: Plasticizer**

Liquid concrete admixtures for crystalline waterproofing, in this case as plasticizer in accordance with EN-934-2, table 2.

Reduction of the water penetration under pressure of at least 8mm according to EN 12390-8.

SCHOMBURG reference product
BETOCRETE-CL170-P

Material requirements: to be determined depending on the recipe (The quantity relates to the mixture of the concrete and the concrete admixture.)

1 m³

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.1.1.020	<p>Concrete admixture: Waterproofer (liquid)</p> <p>Liquid concrete admixtures for crystalline waterproofing, in this case as a waterproofer in accordance with EN-934-2, table 9.</p> <p>Reduction of the water penetration under pressure of at least 8mm according to EN 12390-8.</p> <p>SCHOMBURG reference product BETOCRETE-CL210-WP Material requirements: to be determined depending on the recipe (The quantity relates to the mixture of the concrete and the concrete admixture.)</p> <p>1 m³</p>
1.1.1.1.030	<p>Concrete admixture: Waterproofer (powdered)</p> <p>Powdered concrete admixtures for crystalline waterproofing, in this case as a waterproofer in accordance with EN 934-2, table 9.</p> <p>Reduction of the water penetration under pressure of at least 8mm according to EN 12390-8.</p> <p>SCHOMBURG reference product BETOCRETE-CP360-WP Material requirements: to be determined depending on the recipe (The quantity relates to the mixture of the concrete and the concrete admixture.)</p> <p>1 m³</p>	.....	.....
1.1.1.1.040	<p>Concrete admixture: Crystalline effect with corrosion inhibitor (powdered)</p> <p>Powdered concrete admixtures for crystalline waterproofing including additional corrosion inhibitor.</p> <p>Reduction of the water penetration under pressure of at least 5mm according to EN 12390-8.</p> <p>SCHOMBURG reference product BETOCRETE-CP350-CI Material requirements: to be determined depending on the recipe (The quantity relates to the mixture of the concrete and the concrete admixture.)</p> <p>1 m³</p>	.....	.....
Total 1.1.1.1	Internal concrete sealing with crystalline concrete admixtures
Total 1.1.1	Manufacture of waterproof concrete

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.2	Injections of construction joints		
1.1.2.1	Construction joint sealing with injection hose (AQUAFIN CJ1)		
	<p>The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.</p> <p>Injection hose for waterproofing of construction joints in concrete AQUAFIN-CJ1</p> <p>The injection hose is used for the waterproofing of building joints which are subject to continuous or occasional exposure to the effects of groundwater, hillside water and/or surface water. The structurally required construction joints can be force-fitting and water pressure-tight. The waterproofing injection of the AQUAFIN-CJ1 injection hose in construction joints in the system with the elastic polyurethane injection resin AQUAFIN-P4 has been generally approved by MPA Braunschweig (P-5032/9455).</p> <p>The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.</p>		
1.1.2.1.010	Preparation of the substrates		
	<p>Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.</p> <p>Chosen procedure:</p> <p>1 m</p>		

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.2.1.020	Injection hose laying		
	Supply, assembly and laying of an injection hose for one-off grouting for subsequent injections with elastic PU injection resin into damp or water-retaining construction joints in accordance with the manufacturer's specifications. Laying takes place with a concrete covering of at least 8 cm to the water-conducting side with a maximum hose length of 10 m. Attachment and protection from floating takes place on the level substrate using fastening clips at intervals of max. 15 cm. Subsequent injection hoses are laid with an overlap of at least 10 cm. The currently valid building approval test certificate must be presented before the start of injection work.		
	SCHOMBURG reference products:		
	AQUAFIN-CJ1		
	Material requirement: approx. 1.00 m/m		
	1 m	.....	.....
1.1.2.1.030	Grouting of the injection hose		
	Supply and application of an elastic PU injection resin in accordance with the manufacturer's specifications. Injection hose (concrete age at least 28 days) using commercially available injection pumps for polyurethane resins using the high-pressure waterproofing grouting procedure, including documentation of consumption. The injection hose must be re-injected at least once during the processing time of approx. 30 mins at +18 °C.		
	SCHOMBURG reference products:		
	AQUAFIN-P4		
	Material requirement: approx. 1.0 kg/running meter		
	1 m	.....	.....
1.1.2.1.040	Allowance for additional material consumption		
	Allowance for pre-positioning "Grouting the injection hose" for additional material consumption of PU injection resin.		
	1 kg	.....	.....
Total 1.1.2.1	Construction joint sealing with injection hose (AQUAFIN CJ1)
Total 1.1.2	Injections of construction joints

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.3	Swelling joint tape		
1.1.3.1	<p>Construction joint sealing with swelling joint tape made from thermoplastic (AQUAFIN-CJ6)</p> <p>The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.</p> <p>Swelling joint tape made from thermoplastic AQUAFIN-CJ6 AQUAFIN-CJ6 is used for interior waterproofing of construction joints in concrete structures which are subject to continuous or occasional exposure to groundwater, hillside water and/or surface water. AQUAFIN-CJ6 is suitable for areas with fluctuating water levels. The construction joints can be made watertight at an installation depth of up to 8 m.</p> <p>The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.</p>		
1.1.3.1.010	<p>Preparation of the substrates</p> <p>Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.</p> <p>Chosen procedure:</p> <p>1 m</p>		

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.3.1.020	Application of the thermoplastic swelling tape		
	<p>Supply and insertion of a thermoplastic swelling joint tape in a suitable assembly adhesive. The assembly adhesive is generously applied to the prepared substrate. The swelling joint tape must be pressed into the adhesive within the open time until it oozes out on the underside. The concreting process can take place no sooner than 8 hours after adhesion. The swelling joint tape must be arranged so that there is a concrete covering of at least 8 cm to the water-conducting side. Alternatively, swelling joint tape can also be secured using steel nails (min. 5 nails per metre). When doing so, it must be ensured that it is pressed onto the subsurface over the entire area. Avoid loop formation and cavities.</p> <p>The swelling behaviour is approx. 460% within 24h of application - in demineralised water.</p> <p>The allowed maximum water pressure is 2.0 bars.</p> <p>SCHOMBURG reference products: AQUAFIN-CJ6 Material consumption: 1.0 m/m</p>		
	1 m	.....	.....
1.1.3.1.030	Allowance for application of swelling tape		
	<p>Swelling joint tape can be applied with an overlap of at least 50 mm or butt-jointed. Butt-jointed swelling tape connections must be secured with a separate swelling tape with an overlap of at least 30 mm.</p> <p>SCHOMBURG reference products: AQUAFIN-CJ6 Material requirement: depending on application</p>		
	1 pcs	.....	.....
1.1.3.1.040	Supplying construction adhesive for fastening the swelling joint tape		
	<p>Supply of construction adhesive for fastening the swelling joint tape. This can also be used on a wet substrate. The assembly adhesive must fulfil the requirements of EMICODE EC1+.</p> <p>SCHOMBURG reference products: AQUAFIN-CA Material requirement: approx. 1 cartridge (pcs.) per 8 linear metres.</p>		
	1 pcs	.....	.....

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity	Unit	Unit price EURO	Total amount EURO
Total 1.1.3.1		Construction joint sealing with swelling joint tape made from thermoplastic (AQUAFIN-CJ6)	

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LV name: SCHOMBURG

OZ	Quantity	Unit	Unit price EURO	Total amount EURO
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1.1.3.2 **Construction joint sealing with swelling joint tape made from bentonite with rain protection (AQUAFIN-CJ4)**

The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.

Swelling joint tape made from bentonite with rain protection

AQUAFIN-CJ4 AQUAFIN-CJ4 is used for the internal waterproofing of construction joints in concrete structures which are subject to continuous or occasional exposure to groundwater, hillside water and/or surface water. Use in water exchange zones is possible. AQUAFIN-CJ4 is characterised by a strong, quick and reliable swelling behaviour whereby the protective coating applied in the factory effectively delays premature swelling caused by rain.

The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.

1.1.3.2.010 **Preparation of the substrates**

Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.

Chosen procedure:

1 m

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.3.2.020 Application of bentonite swelling tape with rain protection

Supply and insertion of a bentonite swelling joint tape in a suitable assembly adhesive. The assembly adhesive is generously applied to the prepared substrate. The swelling joint tape must be pressed into the adhesive within the open time until it oozes out on the underside. The concreting process can take place no sooner than 8 hours after adhesion. The swelling joint tape must be arranged so that there is a concrete covering of at least 8 cm to the water-conducting side. Alternatively, swelling joint tape can also be secured using steel nails (min. 5 nails per metre). When doing so, it must be ensured that it is pressed onto the subsurface over the entire area. Avoid loop formation and cavities.

Premature swelling is prevented by the rain protection coating for up to 3 days. The swelling behaviour is approx. 500% within 8 days of application - in demineralised water.

The allowed maximum water pressure is 2.0 bars.

SCHOMBURG reference products:

AQUAFIN-CJ4

Material consumption: 1.0 m/m

1 m

1.1.3.2.030 Allowance for application of swelling tape

Swelling joint tape can be applied with an overlap of at least 50 mm or butt-jointed. Butt-jointed swelling tape connections must be secured with a separate swelling tape with an overlap of at least 30 mm.

SCHOMBURG reference products:

AQUAFIN-CJ4

Material requirement: depending on application

1 pcs

1.1.3.2.040 Supplying construction adhesive for fastening the swelling joint tape

Supply of construction adhesive for fastening the swelling joint tape. This can also be used on a wet substrate. The assembly adhesive must fulfil the requirements of EMI CODE EC1+.

SCHOMBURG reference products:

AQUAFIN-CA

Material requirement: approx. 1 cartridge (pcs.) per 8 linear metres.

1 pcs

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity	Unit	Unit price EURO	Total amount EURO
Total 1.1.3.2	Construction joint sealing with swelling joint tape made from bentonite with rain protection (AQUAFIN-CJ4)		

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.3.3 **Construction joint sealing with swelling joint tape made from bentonite (AQUAFIN-CJ3)**

The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.

Swelling joint tape made from bentonite AQUAFIN-CJ 3

AQUAFIN-CJ3 is used for the internal waterproofing of construction joints in concrete structures which are subject to continuous or occasional exposure to groundwater, hillside water and/or surface water. Use in water exchange zones is straightforward. AQUAFIN-CJ3 is characterised by a strong, quick and reliable swelling behaviour.

The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.

1.1.3.3.010 **Preparation of the substrates**

Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.

Chosen procedure:

1 m

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.3.3.020	<p>Application of the bentonite swelling tape</p> <p>Supply and insertion of a bentonite swelling joint tape in a suitable assembly adhesive. The assembly adhesive is generously applied to the prepared substrate. The swelling joint tape must be pressed into the adhesive within the open time until it oozes out on the underside. The concreting process can take place no sooner than 8 hours after adhesion. The swelling joint tape must be arranged so that there is a concrete covering of at least 8 cm to the water-conducting side. Alternatively, swelling joint tape can also be secured using steel nails (min. 5 nails per metre). When doing so, it must be ensured that it is pressed onto the subsurface over the entire area. Avoid loop formation and cavities.</p> <p>The swelling behaviour is approx. 500% within 8 days of application in demineralised water.</p> <p>The allowed maximum water pressure is 2.0 bars.</p> <p>SCHOMBURG reference products: AQUAFIN-CJ3 Material consumption: 1.0 m/m</p> <p>1 m</p>		
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1.1.3.3.030	<p>Allowance for application of swelling tape</p> <p>Swelling joint tape can be applied with an overlap of at least 50 mm or butt-jointed. Butt-jointed swelling tape connections must be secured with a separate swelling tape with an overlap of at least 30 mm.</p> <p>SCHOMBURG reference products: AQUAFIN-CJ3 Material requirement: depending on application</p> <p>1 pcs</p>		
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1.1.3.3.040	<p>Supplying construction adhesive for fastening the swelling joint tape</p> <p>Supply of construction adhesive for fastening the swelling joint tape. This can also be used on a wet substrate. The assembly adhesive must fulfil the requirements of EMICODE EC1+.</p> <p>SCHOMBURG reference products: AQUAFIN-CA Material requirement: approx. 1 cartridge (pcs.) per 8 linear metres.</p> <p>1 pcs</p>		
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Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
Total 1.1.3.3	Construction joint sealing with swelling joint tape made from bentonite (AQUAFIN-CJ3)		.....
Total 1.1.3	Swelling join tapes in accordance with DAfStb guideline "Watertight buildings made from concrete"	

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.4 **Joint sheets**1.1.4.1 **Construction joint sealing with crystalline coated joint sheet (AQUAFIN-CJ5)**

The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.

Crystalline-coated joint sheet AQUAFIN-CJ5

AQUAFIN-CJ5 is used for interior waterproofing of construction joints in concrete structures which are subject to continuous or occasional exposure to groundwater, hillside water and/or surface water.

The joint sheet thus works both actively through a permanent bond with the concrete as well as passively through circumference extension. Additionally, a self-healing of the joint will take place thanks to the crystalline effect.

The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.

1.1.4.1.010 **Preparation of the substrates**

Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.

Chosen procedure:

1 m

Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.4.1.020	<p>Application of the coated joint sheet</p> <p>Delivery and installation of the AQUAFIN-CJ5 joint sheet with crystalline coating on both sides for sealing horizontal and vertical construction joints from pressing water and non-pressing water as well as ground moisture. Delivery including all of the required fasteners (mounting brackets, joint clamps). Installation takes place taking the manufacturer's specifications into consideration in accordance with ETA-18/1106 and abP P-1202/099/19 MPA-Braunschweig</p> <p>With an overlap of ≥ 20 cm, the allowed maximum water pressure is 5.0 bars.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-CJ5 Joint sheet width: 150 mm Joint sheet length: 2000 mm Packaging: 100 m packed in a crate, with 50 retaining clamps incl. Material requirements: approx. 1.05 m/m</p> <p>1 m</p>		
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1.1.4.1.030	<p>Supplying retaining clamps as an allowance for overlapping</p> <p>Supply of additional retaining clamps for crystalline coated joint sheets. The retaining clamps are used to produce overlapping which prevents water from running behind.</p> <p>SCHOMBURG reference products:</p> <p>Approx. 1 retaining clamp per 10 cm of sheet overlap. (50 retaining clamps are included in the scope of delivery with per 100 m of joint sheet.)</p> <p>1 pcs</p>		
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1.1.4.1.040	<p>Supplying omega clamps for securing in the reinforcement</p> <p>Supply of omega clamps for crystalline coated joint sheets for binding and securing the sheets in the reinforcement.</p> <p>SCHOMBURG reference products:</p> <p>Omega clamp Material requirement: approx. 1 clamp per m of joint sheet</p> <p>1 pcs</p>		
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Project: www.heinze.de/at-manager

LV name: SCHOMBURG

OZ	Quantity	Unit	Unit price EURO	Total amount EURO
Total 1.1.4.1	Construction joint sealing with crystalline coated joint sheet (AQUAFIN-CJ5)		
Total 1.1.4	Joint sheet		

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.5 **Waterstops**

1.1.5.1 **Waterproofing of construction and movement joints with joint tape made from PVC (AQUAFIN-EJ-W)**

The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.

AQUAFIN-EJ-W joint tapes in accordance with factory standard with abP

AQUAFIN-EJ is used for interior and exterior waterproofing of movement joints in concrete structures which are subject to continuous or occasional loads from pressure water and non pressure water.

Making connections on the building site

Joint strips are connected by means of welding. The halves to be connected are melted and joined together whilst in a plastic state. For this purpose, the two ends are cut straight and right-angled and then placed in a welding device (e.g. Formtri SG 320 L). The halves to be joined together are aligned; heated/melted; shifted; joined together and cooled by the ambient temperature. Each device comes with the applicable welding instructions. After the welding process, check the seam and rework or secure it if necessary.

The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.

1.1.5.1.010 **Preparation of the substrates**

Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.

Chosen procedure:

1 m

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO	
1.1.5.1.020	<p>Application of internal construction joint waterstop</p> <p>Internal construction joint tape made from PVC for construction joints in the concrete construction for coating horizontal and vertical construction joints from pressing and non-pressing as well as ground moisture.</p> <p>The allowed maximum water pressure is 5.0 bars.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-EJ-WHF-D-240 and AQUAFIN-EJ-WHF-D-300 Elongation at break: ≥ 300% Thickness of the expanding part: 3 mm Wide: 240 mm or 300 mm Required: approx 1.00m / linear meter</p>	1 m
1.1.5.1.030	<p>Application of external construction joint waterstop</p> <p>External construction joint tape made from PVC for construction joints in the concrete construction for sealing horizontal and vertical construction joints from pressing water and non-pressing water as well as ground moisture.</p> <p>The allowed maximum water pressure is 5.0 bars.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-EJ-WR-D300 Elongation at break: ≥ 300% Thickness of the expanding part: 3mm Wide: 300mm Required: approx. 1.00m / linear meter</p>	1 m	.....	.....
1.1.5.1.040	<p>Application of internal movement joint waterstop</p> <p>Internal movement joint tape made from PVC for expansion joints in the concrete construction for sealing horizontal and vertical joints from pressing and non-pressing water as well as ground moisture.</p> <p>The allowed maximum water pressure is 5.0 bars.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-EJ-WHF-D-240 and AQUAFIN-EJ-WHF-D-300 Elongation at break: ≥ 300% Thickness of the expanding part: 3 mm Stop anchor quantity: 4 Wide:240 mm or 300 mm Required: approx 1.00m / linear meter</p>	1 m

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.5.1.050	Application of external movement joint waterstop		
	External movement joint tape made from PVC for construction joints in the concrete construction for sealing horizontal and vertical construction joints from pressing water and non-pressing water as well as ground moisture.		
	The allowed maximum water pressure is 5.0 bars.		
	SCHOMBURG reference products:		
	AQUAFIN-EJ-WR-D300		
	Elongation at break: $\geq 300\%$		
	Thickness of the expanding part: 3 mm		
	Stop anchor quantity: 4		
	Width: 300mm		
	Required: approx. 1.00m / linear meter		
	1 m	.....	.....
1.1.5.1.060	Allowance for welded waterstop moulded parts, flat corners		
	Supply and installation of joint tape moulded parts, welded by the contractor in the plant, manufactured as an allowance for the joint tape in the above-mentioned position, here: flat corners.		
	1 pcs	.....	.....
1.1.5.1.070	Allowance for welded waterstop moulded parts, perpendicular corners		
	Supply and installation of joint tape moulded parts, welded by the contractor in the plant, manufactured as an allowance for the joint tape in the above-mentioned position, here: perpendicular corners.		
	1 pcs	.....	.....
1.1.5.1.080	Allowance for welded waterstop moulded parts, flat T-piece		
	Supply and installation of joint tape moulded parts, welded by the contractor in the plant, manufactured as an allowance for the joint tape in the above-mentioned position, here: flat T-piece.		
	1 pcs

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.5.1.090	Allowance for welded waterstop moulded parts, perpendicular T-piece Supply and installation of joint tape moulded parts, welded by the contractor in the plant, manufactured as an allowance for the joint tape in the above-mentioned position, here: perpendicular T-piece.		
	1 pcs	.....	.....
1.1.5.1.100	Allowance for welded waterstop moulded parts, flat junction Supply and installation of joint tape moulded parts, welded by the contractor in the plant, manufactured as an allowance for the joint tape in the above-mentioned position, here: flat junction.		
	1 pcs	.....	.....
1.1.5.1.110	Allowance for welded waterstop moulded parts, perpendicular junction Supply and installation of joint tape moulded parts, welded by the contractor in the plant, manufactured as an allowance for the joint tape in the above-mentioned position, here: perpendicular junction		
	1 pcs	.....	.....
1.1.5.1.120	Allowance for building site joining Joints are completed on-site in accordance with the manufacturer's specifications. They must be manufactured professionally and the technical notes of the manufacturer must be observed.		
	1 pcs	.....	.....
Total 1.1.5.1	Waterproofing of construction and movement joints with waterstops from PVC (AQUAFIN-EJ-W)	
Total 1.1.5	Waterstops	

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LV name: SCHOMBURG

OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.6 **Waterproofing with fresh concrete waterproofing membrane**

1.1.6.1 **Waterproofing with fresh concrete waterproofing membrane system (AQUAFIN-WM12)**

The bidder must obtain information about the situation on-site before submitting the offer. Claims arising from lack of knowledge about the situation will not be accepted.

Fresh concrete waterproofing membrane system

The sheet, consisting of a 1.2 mm thick, transparent PVC sheet with strengthened polypropylene fleece, is the main part of the fresh concrete waterproofing membrane system.

The sheet combined with waterproof concrete for external sealing from pressing and non-pressing water as well as ground moisture is used on components with demanding structural use (elevator shafts, computer centres, etc.). The sheet prevents water from running behind due to the mechanical bond with the fresh concrete. It corresponds to DIN SPEC 20000-202 as well as DIN EN 13967.

The sheet must be applied over construction joints. Additional measures are necessary for movement joints.

The technical documentation of SCHOMBURG GmbH, Aquafinstr. 2-8, 32760 Detmold, Tel. +49-5231-953-00 must be observed.

1.1.6.1.010 **Preparation of the substrates**

Manufacture of a load-bearing, mostly level, pressure resistant substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances, sharp-edged or pointed components. Laitance layers must be removed and cleared away mechanically.

Chosen procedure:

1 m

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OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.6.1.020	<p>Waterproofing with fresh concrete sheets</p> <p>The sheets must be laid in accordance with the manufacturer's laying guidelines in strips, overlapping in the horizontal and vertical area (min. 5 cm) before concreting. The ends are connected by means of welding or bonding (always welded when used as waterproofing in accordance with DIN 18533). Formwork may not become deformed during the concreting work. In the case of vertical applications, the top finishing rail must be secured using suitable measures.</p> <p>All overlaps and offcuts are included in the calculation of the unit price. Billing takes place in accordance with the actual area.</p> <p>The allowed maximum water pressure is 5.0 bars.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² Required: approx 1.00m²/m²</p> <p>PVC tape Dimensions: 180mm x 2mm x 50m or 500mm x 1.2mm x 50m Required: determined for the building site</p>	<p>.....</p>	<p>.....</p>
1.1.6.1.030	<p>Waterproofing butt joints, position requirements</p> <p>Butt joints in the fresh concrete composite system are technically coordinated to the corresponding object-related marginal conditions. Specifically, the following joining techniques can be applied:</p> <ul style="list-style-type: none"> () Jointing using thermal welding () Jointing using swell welding () Jointing using assembly adhesive <p>SCHOMBURG reference products AQUAFIN-CA assembly adhesive</p>	<p>.....</p>	<p>.....</p>
1.1.6.1.040	<p>Waterproofing with fresh concrete sheets, allowance for coves</p> <p>Complementary waterproofing on recesses designed as coves, e.g. foundations, elevators, sump pumps, etc., as an allowance for the waterproofing of the above-mentioned position,</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² Required: approx 1.00m²/m²</p>	<p>.....</p>	<p>.....</p>
	<p>1 m²</p>	<p>.....</p>	<p>.....</p>
	<p>1 pcs</p>	<p>.....</p>	<p>.....</p>
	<p>1 m²</p>	<p>.....</p>	<p>.....</p>

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OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.6.1.050	<p>Waterproofing with fresh concrete sheets, allowance for wall formwork</p> <p>Vertical fresh concrete sheets in the area of single and double-skin wall formwork, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² Required: approx 1.00m²/m²</p>	1 m ²
1.1.6.1.060	<p>Waterproofing with fresh concrete sheets, allowance for outer corners</p> <p>Prefabricated outer corners made from PVC suitable for fresh concrete waterproofing membrane system supplied for the waterproofing of outer corners and laid in accordance with the manufacturer's laying guidelines, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-WM12 outer corner Requirement: 1 pcs. per outer corner</p>	1 pcs	.....
1.1.6.1.070	<p>Waterproofing with fresh concrete sheets, allowance for inner corners</p> <p>Prefabricated inner corners made from PVC suitable for fresh concrete waterproofing membrane system supplied for the waterproofing of outside corners and laid in accordance with the manufacturer's laying guidelines, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-WM12 internal corner Requirement: 1 pcs. per outer corner</p>	1 pcs

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OZ	Quantity Unit	Unit price EURO	Total amount EURO
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1.1.6.1.080	<p>Waterproofing with fresh concrete sheets, allowance for floor slab protrusions</p> <p>Fresh concrete waterproofing membrane system supplied for the waterproofing of floor slab protrusions and laid in accordance with manufacturer's laying guidelines, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² Required: approx 1.00m²/m²</p> <p>1 m²</p>		
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1.1.6.1.090	<p>Waterproofing with fresh concrete sheets, allowance for concrete base / wall pipe penetrations</p> <p>Fresh concrete waterproofing membrane system supplied for the waterproofing of concrete base / wall pipe penetration and laid in accordance with manufacturer's laying guidelines, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² intersection diameter up to mm Required: approx. 1.00m²/m²</p> <p>1 pcs</p>		
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1.1.6.1.100	<p>Waterproofing with fresh concrete sheets, allowance for clamping location</p> <p>Fresh concrete waterproofing membrane system supplied for the waterproofing of the clamping location and laid in accordance with the manufacturer's laying guidelines, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² Required: approx 1.00m²/m²</p> <p>1 pcs</p>		
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OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.6.1.110	<p>Waterproofing with fresh concrete sheets, allowance for the bored pile head connection</p> <p>Fresh concrete waterproofing membrane system supplied for the waterproofing of the bored pile head connection and laid in accordance with the manufacturer's laying guidelines, as an allowance for the waterproofing of the above-mentioned position.</p> <p>SCHOMBURG reference products AQUAFIN-WM12 Dimensions: 1.20m x 25m x 1.2mm = 30m² bored pile head diameter up tomm Required: approx. 1.00m²/m²</p>		
	1 pcs	.....	.....
Total 1.1.6.1	Waterproofing with fresh concrete waterproofing membrane system (AQUAFIN-WM12)		.....
Total 1.1.6	Waterproofing with fresh concrete waterproofing membrane system	

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OZ	Quantity Unit	Unit price EURO	Total amount EURO
1.1.7	Waterproofing of pipe penetrations		
1.1.7.1	Waterproofing of pipe penetrations with swelling joint tape made from thermoplastic (AQUAFIN-CJ6)		
1.1.7.1.010	Preparation of the substrates		
	<p>Manufacture of a load-bearing, mostly level substrate with a sealed surface, free of gravel pockets, cavities, gaping cracks, dust and adhesion inhibiting substances. Laitance layers must be removed and cleared away mechanically.</p> <p>Chosen procedure:</p>		
	1 pcs	.....	.....
1.1.7.1.020	Sealing of intersections with thermoplastic swelling joint tape		
	<p>Supply and insertion of a thermoplastic swelling jointing tape into a suitable assembly adhesive on the intersection. The assembly adhesive is generously applied to the prepared substrate. The swelling joint tape must be pressed into the adhesive within the open time until it oozes out on the underside. The concreting process can take place no sooner than 8 hours after adhesion. The swelling joint tape must be arranged so that there is a concrete covering of at least 8 cm to the water-conducting side. When doing so, it must be ensured that it is pressed onto the subsurface over the entire area. Avoid loop formation and cavities.</p> <p>The swelling behaviour is approx. 460% within 24h of application - in demineralised water.</p> <p>The allowed maximum water pressure is 2.0 bars.</p> <p>SCHOMBURG reference products:</p> <p>AQUAFIN-CJ6 Material requirement: approx. 1.0 m / linear meter.</p> <p>AQUAFIN-CA Material requirement: approx. 1 cartridge (pcs.) per 8 linear metres.</p>		
	1 pcs	.....	.....
Total 1.1.7.1	Waterproofing of intersections with swelling joint tape made from thermoplastic (AQUAFIN-CJ6)	

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OZ	Compilation	Sum total
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1	Building Waterproofing
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	Sum total for composition:
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	Sum total, net:
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	Plus 19% VAT:
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	Sum total incl. VAT:
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