



AQUASCUD SYSTEM 420

PRODUCT DESCRIPTION

AQUASCUD System 420 is a waterproofing system, offering a definitive solution and without having to resort to demolition, for balconies, terraces, roof decks and all flat surfaces, even with flooring installed. It is a fast, practical and extremely elastic waterproof protective shield with CORE CURING TECHNOLOGY for effective curing even under low temperature conditions and partially damp surfaces. AQUASCUD System 420 consists of:

- AQUASCUD 420, elastic two-component waterproofing compound;
- AQUASCUD JOIN, elasticised staff bead;
- AQUASCUD JOIN BT, adhesive staff bead;
- BI FLEX SYSTEM, elastic tape with epoxy adhesive;
- AQUASCUD LINE, a draining gutter profile to finish and protect flooring edges
- AQUASCUD BASIC: elasticised microporous water-repellent polypropylene membrane, which is roughened thanks to special processing, allowing perfect adhesion to the waterproof coating;



PRODUCT APPLICATION

- Waterproofing of flat roofs, balconies, terraces and sloped floors, with flooring already installed, with waterproofing surface that can remain exposed protected by coatings (tiles, concrete floors, green roofs, etc.)
- Substrates in general, also lightened with expanded clay

ADVANTAGES

- Fast drying even in low temperature conditions (all within 24 hours)
- For waterproofing without demolition
- Resistant to U.V. radiation
- Low environmental impact thanks to reduced CO₂ emissions, very low Volatile Organic Compound emissions (VOC), components obtained from recycling processes
- No demolition and disposal, applicable on existing floor and surfaces with micro-cracks
- Final intervention less than 3mm thick
- Allows for direct application of the flooring
- Excellent adhesion to all cement, masonry, ceramic and marble surfaces
- Excellent protection of screed against the action of un/freezing and efflorescence
- The product helps earning points for LEED certification
- Effective curing on set surfaces, even partially wet
- Reduced risk of damage in case of sudden contact after work with rain, fog



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PREPARATION AND APPLICATION The preparation and installation data refer to normal environmental conditions (temperature +20 °C; relative humidity 60%).

Preparing the surfaces

Remove all dirt and any other material that could compromise adhesion of AQUASCUD.

Restore very irregular surfaces with FLEXOMIX 30 mortar (see the related technical data sheet).

If the surfaces are old or dusty, apply PROFIX 30 primer (see the related technical data sheet) with a roller, a brush or by spray, ensuring it does not bleed on the surface due to the surface not absorbing it.

For surfaces not totally dry but in which curing process is completed surface humidity must not be higher than 8% (measured with a Storch electric hygrometer).

Preparation of installation parts and set-ups

- **JOINTS** Any deformation joints (expansion and contraction/splitting) and construction joints on the surface must be covered by means of GARVO joint cover strips (see relevant technical data sheet); in case of structural joints, use BI FLEX System (see relevant technical data sheet)

- **CORNERS AND CONNECTIONS** In case of insulation joints, fill all wall/floor corners by means of AQUASCUD JOIN (see relevant technical data sheet) staff bead, placing the rubber-coated part in contact with the surface using AQUASCUD sealing material. Alternatively, it is possible to use the AQUASCUD JOIN BT adhesive strip (see relevant technical data sheet) laid on a cured AQUASCUD layer. At low-height situations use AQUASCUD JOIN BT or, alternatively, BI MASTIC adhesive mastic (see relevant technical data sheet)

- **DRAINS** Prepare the connections to the drains by using the relative DRAIN MANIFOLD

- **GUTTER** Along the external perimeter, set up the AQUASCUD LINE draining gutter profile and relative special pieces (see relative data sheet) to finish and protect the tiled edge

- **ELASTIC REINFORCEMENT** Prepare the AQUASCUD BASIC membrane, pre-cut to the required measurements, so that it can be applied with the first coat of waterproofing mixture

Preparing the mixture

Stir the liquid component in its container, then pour it into a bucket.

Gradually add the AQUASCUD powder component while continuing to stir; mix for 2÷3 minutes with a whip-fitted drill until the mixture is smooth and free of lumps.

If necessary, it tolerates the addition of water up to maximum 4% of the liquid component, equal to about a glass per package.

Application

Apply the first thick layer of AQUASCUD 420 on the surface, a minimum thickness of 1÷1.5 mm using a special Volteco 3.5 mm NOTCHED FLOAT and/or the Volteco NOTCHED or ROLLER SQUEEGEE, making sure the product penetrates well into the substrate and covers the surface completely (average consumption: 2-2.5 kg/m² depending on the flatness of the surface).

Place the AQUASCUD BASIC membrane on the first coat of mixture in the following manner: proceed in sectors, immediately laying AQUASCUD BASIC out on the fresh AQUASCUD 420 mixture, making it adhere uniformly to the surface by pressing with the Volteco NEEDLE ROLLER.

AQUASCUD BASIC membrane becomes darker when it is rolled on. This indicates correct application and proper impregnation and adhesion.

Overlap the edges of the AQUASCUD BASIC membrane by at least 10 cm and weld them together with the AQUASCUD mixture.

Where the horizontal and vertical surfaces join, make sure the AQUASCUD BASIC membrane adheres to the horizontal edge of the previously laid AQUASCUD JOIN joint band.

Never fold AQUASCUD BASIC vertically, always join it to the AQUASCUD JOIN joint band.

The AQUASCUD BASIC membrane must be interrupted in the centre line of the tape with GARVO or BI FLEX System at the joints treated.

If there is an AQUASCUD LINE gutter profile along the perimeter, overlap AQUASCUD BASIC by at least 6 cm over the profile anchoring flap.

Wait at least 2 hours (ambient temperature +20 °C; ambient humidity 60%) before using NOTCHED TROWEL 3.5 mm or NOTCHED SQUEEGEE to apply a second layer, at least 1 mm thick, of the AQUASCUD 420 mixture (average consumption 1.75÷2 kg/m²), being careful to evenly cover the AQUASCUD BASIC membrane.

When fresh, smooth with ROUNDED PLASTERING TROWEL.

For applications on balconies or on small surfaces (less than approximately 4 m²), it is possible to omit the use of the AQUASCUD BASIC membrane.

Always apply the AQUASCUD BASIC membrane on a substrate with marked cracks.

Watch the product video



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YOUTUBE VIDEO



Finishing

Ceramics must be laid on AQUASCUD System 420 after at least 16 hours, with a large grout gap and C2-type adhesive (preferably with an S1 and S2 deformation class).

Line grouting works must be carried out with CG2 class cement-based grouting mortars.

AQUASCUD System 420 can be left exposed if subjected to occasional foot traffic.



References available at www.volteco.com

CONSUMPTION AND YIELD

3,6÷4 kg/m² depending on the roughness of the surface.

PACKAGING AND STORAGE

AQUASCUD 420 is supplied in 20.7 kg packages (15 kg in powder + 5.7 kg in liquid).

The product must be stored in a dry place without being exposed to frost and heat (at a temperature ranging from +5°C to +40°C) or direct exposure to the sun before being applied.

ACCESSORIES	-
AQUASCUD JOIN	Elasticised staff bead 25 m package
AQUASCUD JOIN BT	Staff bead with adhesive butyl rubber 20 m package
BI FLEX SYSTEM	Elastic tape Packs of 15, 20 or 40 m Epoxy adhesive Packs of 5 or 10 kg
AQUASCUD BASIC	Water-repellent elasticised microporous membrane 30 m ² package
AQUASCUD LINE	Draining profile with gutter (version H.0 and H.10) 13.5 m package
SPECIAL PIECES	-
JOIN BT 90° Corner / JOIN BT 270° Corner	Pre-shaped staff bead, with adhesive butyl rubber 10 pc package
DRAIN/EXHAUST MANIFOLD	Rubber textile element Ø 80 mm and Ø 100 mm 2 pc package
SQUARE GARVO	Rubber textile element 40x40 cm Single package
AQUASCUD CORNER 90°	Corner for AQUASCUD LINE (version H.0 and H.10) Single package
AQUASCUD CORNER 270°	Corner for AQUASCUD LINE (version H.10) Single package
AQUASCUD FIXY	Connecting joints for AQUASCUD LINE (version H.0 and H.10) Single package
APPLICATION TOOLS	-
NEEDLE ROLLER – 7 kg	-
PLASTIVO ROLLER	-
ROUNDED PLASTERING TROWEL	-



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APPLICATION TOOLS	-
NOTCHED TROWEL 3.5 mm	-
NOTCHED SQUEEGEE	-

WARNINGS - IMPORTANT NOTES

Do not add cement or to the mixture or inert materials or alter the mixing ratio.
 The product must be used within 20 minutes after mixing.
 Do not use AQUASCUD 420 in thicknesses greater than 2 mm per coat.
 To help achieve the minimum thickness in each coat of the product, it is recommended to use the 3.5 mm NOTCHED TROWEL or NOTCHED SQUEEGEE as thickness regulators.
 Wait at least 7 days for the substrate to cure in case of application on traditional screeds that have just been made.
 Do not apply the product if the temperature is higher than +30 °C or lower than +5 °C or if it is expected to drop below this temperature within 24 hours.
 The curing times will be longer in the presence of rain and/or fog and/or a low temperature.
 The application of AQUASCUD on surfaces exposed to direct sunlight leads to a drastic reduction of the workability time. In this case the addition of water is tolerated as specified in the paragraph "Preparing the mixture".
 Applying AQUASCUD on a humid surface that is extensively exposed to the sun can cause the formation of vapour blisters on the surface.
 These do not alter the final characteristics of the product.
 Vapour blisters can also form if the 2nd layer is applied on the 1st layer if it has not cured enough or is too thin.
 Protect the fresh product from rain for at least 4 hours at the end of application, variable indicative limit depending on temperature and humidity conditions.
 Set-up suitable anti-root protection in the case of roof gardens.
 AQUASCUD BASIC can remain free of AQUASCUD protection mixture up to a maximum of 7 days.
 Wait at least 16 hours after the second coat before applying any type of protective or finishing layer.
 If more than 28 days have passed since the second coating, an additional layer must be applied to ensure the subsequent coating adheres well.

PHYSICAL AND TECHNICAL SPECIFICATIONS

Specification	Values
Appearance	Grey powder - white latex
Working temperature	-5 °C +60 °C
Liquid/powder mixing ratio	0,38/1
Workability time at +20 °C	20'
Maximum aggregate size	0.7 mm
Specific weight	> 1.7 kg/l

Feature	Test method	Performance requirements	Declared performance
Crack Bridging Ability (+23 °C)	UNI EN 14891 Met. A.8.2	> 0.75 mm	> 1.5 mm
Crack Bridging Ability (-5 °C)	UNI EN 14891 Met. A.8.3	> 0.75 mm	> 1.5 mm
Crack Bridging Ability (+23 °C)(with Aquascud Basic)	UNI EN 14891 Met. A.8.2	> 0.75 mm	> 2 mm
Crack Bridging Ability (-5 °C)(with Aquascud Basic)	UNI EN 14891 Met. A.8.3	> 0.75 mm	> 2 mm
Initial adhesion	UNI EN 14891 Met. A.6.2	> 0.5 N/mm ²	> 0.5 N/mm ²
Adhesion after immersion in water	UNI EN 14891 Met. A.6.3	> 0.5 N/mm ²	> 0.5 N/mm ²
Adhesion after heat application	UNI EN 14891 Met. A.6.5	> 0.5 N/mm ²	> 0.5 N/mm ²
Adhesion after un/freezing cycles	UNI EN 14891 Met. A.6.6	> 0.5 N/mm ²	> 0.5 N/mm ²
Adhesion after immersion in alkaline water	UNI EN 14891 Met. A.6.9	> 0.5 N/mm ²	> 0.5 N/mm ²
Water impermeability	UNI EN 14891 Met. A.7	150 KPa	150 KPa

Feature	Certifying body	Test method	Certified performance (**)
VOC content	Eurofins 392-2019-00444401	Directive 42/2004/EC ISO 11890-2	1,1 g/l

Parameters subject to company Quality Control	Values AQUASCUD BASIC	Values AQUASCUD JOIN
Water impermeability	-	No passage up to 100 kPa
Elongation at breaking point	> 40%	> 20%





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Parameters subject to company Quality Control	Values AQUASCUD BASIC	Values AQUASCUD JOIN
Resistance at breaking point	> 0.6 kN/m	> 267 N/5 cm

AQUASCUD 420 complies with the UNI 11928-1:2023 standard as an in-situ liquid-applied waterproofing product used as a sealing element in a continuous (new or existing) exposed practicable roofing system.

Initial requirements UNI 11928-1:2023

Feature	Test method	Performance requirements	Declared performance
Reaction to fire	UNI EN 13501-1	F	F
Watertightness (water passage with 60 KPa)	UNI EN 1928 (60 KPa)	No passage	No passage
Water vapour transmission properties	UNI EN ISO 7789	Class	Class I
Direct tensile adhesion, concrete type MC (0.40)	UNI EN 1542	$\geq 0,5 \text{ N/mm}^2$	$\geq 0,6 \text{ N/mm}^2$
Impact resistance	UNI EN 6272-1	Class	Class II
Static punching	UNI EN 12730	$\geq 50 \text{ N}$	$\geq 50 \text{ N}$
Dynamic crack bridging (23 °C)	UNI EN 1062-7	Class B2	Class B2
Dynamic crack bridging at low temperatures (-5 °C)	UNI EN 1062-7	Class B1	Class B2
Slipping resistance	UNI EN 13036-4	Class III	Class III
Capillary absorption	UNI EN 1062-1	$W \leq 0,1 \text{ Kg/m}^2 \cdot \text{h}^{-0,5}$	$W \leq 0,1 \text{ Kg/m}^2 \cdot \text{h}^{-0,5}$

Durability UNI 11928-1:2023

Feature	Test method	Performance requirements	Declared performance
Heat ageing resistance 7 days at 70±3 °C (Watertightness)	point 4.1 of EN 1062-11:2003	No passage	No passage
Acceptance criteria after exposure	UNI EN ISO 4628-2 UNI EN ISO 4628-4 UNI EN ISO 4628-5	No swelling No cracking No spalling	No swelling No cracking No spalling
Acceptance criteria after exposure	UNI EN ISO 4628-2 UNI EN ISO 4628-4 UNI EN ISO 4628-5	No swelling No cracking No spalling	No swelling No cracking No spalling
Frost/thaw Without thawing salts 20 cycles (Adhesion to substrate)	UNI EN 13687-3	$\geq 0,5 \text{ N/mm}^2$	$\geq 0,6 \text{ N/mm}^2$
UV (400 MJ/m ² , 2460 hours) and Spray (492 hours)	UNI EN ISO 4892-3		
Acceptance criteria after exposure	UNI EN ISO 4628-2 UNI EN ISO 4628-4 UNI EN ISO 4628-5	No swelling No cracking No spalling	No swelling No cracking No spalling
Hazardous substances			See safety data sheets

The quoted data are obtained in a laboratory at +20 °C and 60% RH.

SAFETY

Refer to the related Safety Data Sheet.



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CE	VOLTECO S.p.a Via delle Industrie, 47 - 31050 Ponzano Veneto (I)
18 0024-CPR-2018/10/09 EN 14891:2012 AQUASCUD 420 Two-component liquid waterproofing product modified with polymer (CM 01) for outdoor applications under ceramic tiles(applied with class C2 adhesive in compliance with EN 12004)	
Initial tensile adhesion strenght: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after water contact: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after heat ageing: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after freeze-thaw cycles: $\geq 0,5 \text{ N/mm}^2$ Tensile adhesion strength after contact with lime water: $\geq 0,5 \text{ N/mm}^2$ Water impermeability: No penetration and $\leq 20 \text{ g}$ weight gain Crack bridging ability under standard conditions (23°C): $\geq 0,75 \text{ mm}$ Crack bridging ability at low temperatures (-5°C): $\geq 0,75 \text{ mm}$ Hazardous substances: See SDS	

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