BETONGUAINA.S

Highly elastic two-component liquid membrane
European Technical Approval - ETA No. 006/0109

Description

BETONGUAINA.S is an integrated water-based waterproofing system composed of:

• Component A: aqueous dispersion of polymers and additives;

• Component B: reactive fillers;

After film formation, BETONGUAINA.S forms a film with both excellent waterproofing and elasticity characteristics at low temperatures, up to -30°C reinforced with NYCON 200, up to -20°C with NYCON 100. BETONGUAINA.S is used for manufacturing “in-situ”waterproofing membranes.

Uses

BETONGUAINA.S reinforced with either NYCON 100 or NYCON 200, is used to waterproof flat roofs, terraces, balconies, solar pavings and flashings.

BETONGUAINA.S is used to waterproof foundation walls that remain perpetually wet, balcony risers, perimeter walls, chimneys, etc.

BETONGUAINA.S is highly suited for waterproofing walkable surfaces.

Tiles can be directly bonded onto BETONGUAINA.S with tile adhesive.

Advantages

BETONGUAINA.S:

- Can also be applied at low temperatures;
- Is resistant to ultra violet (UV) light;
- Is very fluid, without water addition;
- Easily impregnates any reinforcing meshes;
- Is easy to prepare and easy to apply;
- Forms a very compact film;
- Exhibits excellent adhesion to concrete and ceramics;
- Reinforced with NYCON 200 allows the obtainment of a waterproofing coating capable of withstanding substrate cracking up to 2.5 mm at -20°C and up to 1.5 mm at –30°C;
- Guaranteed minimum performance at temperatures ranging between –30°C and +80°C if reinforced with NYCON 200;
- Guaranteed minimum performance at temperatures ranging between –20°C and +60°C if reinforced with NYCON 100;

Average Coverage

The coverage of BETONGUAINA.S varies, depending on the reinforcing mesh:

• With NYCON 100: 2.1 kg/m2

• With NYCON 200: 2.4 kg/m2

Specifications

Bulk density (A+B), ISO 1657	g/ml	1.45 ± 0.05
Viscosity (A), prEN 1781	Pa·s	53 (at 3 rpm)
Viscosity (A), prEN 1781	Pa·s	1,5 (at 128 rpm)
PH (A), UNI 8311 -	--	7.2
Pot-life at 23°C, UNI 9598 (A+B liquid mixture viscosity doubling)	hours	8 ± 2
Ppen time at 23°C	min	10
Minimum film formation temperature	°C	+0.5
Surface drying time at, (*)	hours	6 ± 2
Curing time	hours	24 ± 6
Disbondment, UNI EN 28510 at 180°C on concrete	N	> 40
Disbonding, UNI EN 28510 at 180°C on ceramic	N	> 95
Ratio A : B		

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Note: test methods according to the standard shown in the table.
(*): Internal test method

Features of BETONGUAINA.S system (according to ETAG 005 parts 1 and 8)

Reinforced with NYCON 200 NYCON 100			
water vapour permeability, DIN 52615, EN 1931	μ	≈6630	≈13060
ultimate tensile stress (23°C), ISO 527	MPa	1,26	
tensile elongation (23°C), ISO 527 (23°C) ISO 527-3	%	100,1	
euroclass reaction to fire, UNI EN 13501-1	-	E	
water tightness; EOTA TR003 (hydrostatic pressure: 1000 mm, time 24 hours)	- -	Passed	Passed
wind load resistance, EOTA TR 004	kPa	>50	>50
resistance to dynamic punching, EOTA TR 006	-	I_3	I_2
resistance to static punching, EOTA TR 007	-	L_3	L_2
resistance to fatigue movement, EOTA TR 008	-	Passed	Passed
resistance to the effects of low temperature,	-	Passed	—
dynamic punching at –30°C, EOTA TR 006	-	I_3 (-30°C)	I_2 (-20°C)
resistance to the effects of high temperature: punzonamento statico, EOTA TR 007	- -	L_3 (80°C)	L_2 (60°C)
Resistance to heat ageing, EOTA TR 011 (testing after conditioning at 70°C for 200 days)			
dynamic punching at –30°C, EOTA TR 006	-	I_3 (-30°C)	I_2 (-20°C)
fatigue mouvement (50 Cycles), EOTA TR 008	-	Passed	Passed
ultimate tensile strength, EN ISO 527-3	MPa	0,98	
tensile elongation at break, EN ISO 527-3	%	64,9	
Resistance to UV-radiation in the presence of moisture, EOTA TR 010 (testing after UV radiation conditioning for 2470 hours):			
dynamic punching at –10°C, EOTA TR 006	-	I_3	I_2
ultimate tensile strength, EN ISO 527-3	MPa	1,48	
tensile elongation at break, EN ISO 527-3	%	129,0	
Resistance to water ageing, EOTA TR 012 (testing after water contact at 60°C for 30 days)			
static punching at 80°C, EOTA TR 007	-	L_3 (80°C)	L_2 (60°C)
delamination stress (concrete), EOTA TR 004	kPa	1317	
delamination stress (bitumen based waterproofing), EOTA TR 004	kPa	328	

Surface preparation

The base concrete surface should be structurally sound and free from excessive dust, laitance, dirt and contaminants such as oil and grease. To properly clean the surface, the whole area should be brushed over with a stiff bristle broom and water.

Preparing substrate with existing cracks

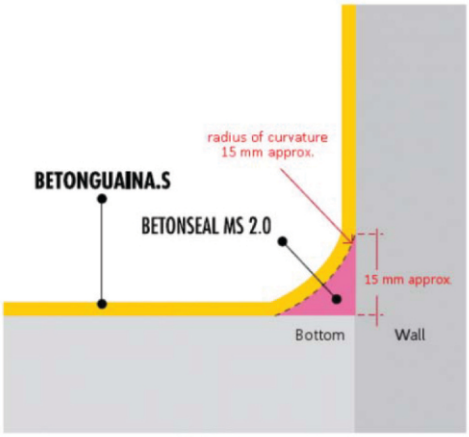
All cracks should be sealed with BETONSEAL MS 2.0 prior to the installation of BETONGUAINA.S, according to instructions provided in the specific Technical Data Sheet,

Preparing the substrate at vertical turn-ups

Turn-ups at floor wall junctions of terraces and balconies should be applied to the plaster (even if painted) after treatment with FONDO IGRO.

After 10-15 minutes, a cove with a radius of curvature of about 15 mm shall be created at the internal angle between the vertical and horizontal plane applying BETONSEAL MS 2.0 with a round toe trowel. Wet on wet proceed with the installation of BETONGUAINA.S.

ECMAS



picture 3

MIXING BETONGUAINA (A+B)

- To prepare the liquid mixture of BETONGUAINA.S (A + B), proceed as follows:
- homogenize component A, mixing with a low speed professional mixer equipped with helix impeller of a suitable size according to the dimensions of the container (10 cm diameter for the 10 kg pack, 15 cm for the 20 kg pack);
- enter approx. half the weight of component A into a mixing container ;
- pour the entire contents of component B into the same container;
- mix thoroughly to obtain a homogeneous, lumps free mixture;
- add remaining compound A (liquid), mix and proceed with the application.

Applying Betonguaina.s

- Pour BETONGUAINA.S (A+B) on the laying surface spreading an amount of approx.1.5 x kg/m2 with a steel trowel, then, immediately after, place over the entire surface the reinforcing mesh NYCON 100;
- Make NYCON 100 perfectly adhere to the laying surface with a trowel by vigorously spatulating on the reinforcing mesh: in this way BETONGUAINA.S (A+B) will start to impregnate the reinforcing mesh from the substrate up;
- Pour another amount of BETONGUAINA.S (A+B) on the reinforcing mesh and impregnate to saturation.

The formation of bubbles in the membrane during the drying process can occur when:

a) The amount of product applied to the installation substrate was not enough to fully impregnate the reinforcing mesh from the bottom up;

b) the laying support is not perfectly smooth and exhibits some small depressions.

The technical specifications of this waterproofing membrane are guaranteed provided that consumption and thickness values are within the allowable range shown in the following table:

coverage (A+B) [kg/m2]	2.2
thickness [mm]	1.2

Minimum curing time:

- 24 hours in summer, at temperatures above +20°C;
- 15 days in winter, at temperatures close to 0°C

Maximum curing time before laying any additional finishing

- no limit.

Packaging and Storage

Packaging	20 kg packs
Storage	COMPONENT A: 24 months in its original packaging, in a covered, dry area at temperatures from +5°C to +40°C. The product is cold sensitive. COMPONENT B: 6 months in its original packaging, in a covered dry place at temperatures from +5°C to +40°C.

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