

Test Report No. R2EM-SIST-18-26072373/B

This test report attests only to the characteristics of the object being tested and does not prejudge the characteristics of similar products. It does not constitute a certification of products within the meaning of Articles L 115-27 to L 115-33 and R115-1 to R115-3 of the Consumer Code. In the event that this report is issued electronically or in physical electronic form, only a report in paper form signed by CSTB shall prevail in the event of a dispute. This report in paper form is kept at CSTB for a minimum of 10 years. Reproduction of this test report is only authorized in its entirety. It consists of 4 pages.

AT THE REQUEST OF:
BASECRETE France
554 Chemin des Bulliances
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MARNE-LA-VALLÉE / PARIS / GRENOBLE / NANTES / SOPHIA ANTIPOLIS

Test Report No. R2EM-SIST-18-26072373/B

OBJECT

The tests reported in this document were performed as part of on-request testing.

REFERENCE TEXTS

The tests are carried out according to the methods described in:

- Standard NF EN 13529:2004, "Products and systems for the protection and repair of concrete structures - Test methods for resistance to strong chemical attacks" specified and adapted as below in agreement with the applicant.

TEST SUBJECT

Description: Coating system based on cement binder and polymers, applied to the support described below (see page 3)

Date of receipt: 11/09/2017

Origin: The application to CSTB was carried out by the applicant

Identification: 72373/E: "BASECRETE" system on fiber-cement support

Date of each test: See "Test results" paragraph

Test operator(s): Christophe MICHEL

Marne-la-Vallée, February 21, 2018

Head of Industrial Flooring and Coatings

[Signature]

Gilbert FAU

CSTB

The Future in Construction

Test Report No. R2EM-SIST-18-26072373/B

DETAILED DESCRIPTION OF THE TEST SUBJECT:

The "BASECRETE" kit (mixture of polymers and cement) is composed of:

- One 18.9 liter bucket (polymer blend)
- Four 22.67 kg bags (mixture of Portland cement, silica, and patented components)

Description

- Application in three layers using a trowel, to obtain a total thickness of 3 mm.
- Or a total consumption of 5 kg / m²

The application at CSTB of the tested system is carried out by the applicant on the support described below, with the components and under the conditions specified in this test report.

- Asbestos-free fiber-cement support provided by CSTB:
Nominal thickness: 6.00 mm

A minimum setting period of 28 days after implementation was respected.

TYPE OF SUPPORT USED:

Designation of the test	Type of support
	Asbestos-free fiber-cement
Determination of resistance to chemical stress	X

Test Report No. R2EM-SIST-18-26072373/B**TEST RESULTS****1.1. Determination of chemical resistance**

The chemical resistance test was carried out according to Standard NF EN 13529:2004 "Products and systems for the protection and repair of concrete structures - Test methods for resistance to strong chemical attacks" specified and adapted as below in agreement with the applicant:

Chemical agents (supplied by the applicant)

- 10% hydrochloric acid (23% concentration commercial);
- 10% sulfuric acid (37% commercial concentration);
- 15% bleach (15% commercial concentration);
- 100 g/l salt (sodium chloride);
- 35 g/l hydrogen peroxide (350 g/kg hydrogen peroxide commercial concentration);
- 100 g/l trichloroisocyanic acid chlorine tablet (960 g/kg trichloroisocyanic acid commercial concentration).

Test tubes

The test tubes are conditioned for at least 24 hours at $(23 \pm 5)^\circ\text{C}$ before testing.

Procedure

The temperature conditions are $(23 \pm 5)^\circ\text{C}$.

PVC tubes are used to determine the contact surface.

The tubes are then glued with a silicone sealant.

The liquid level should reach a height of 10 mm.

The test is carried out without pressure and the tubes are covered by depositing a watch glass or an aluminum cup.

The duration of application is 24 hours and 48 hours.

The presence of visual anomalies is determined according to the following table:

Index according to NF EN 423:2002	0	1	2	3	4
Test effect after cleaning abrasion	Undetectable	Very slightly detectable	Slightly detectable	Detectable	Very detectable

Observations and results

Test conditions: 22°C and 46%RH

Test date: 12/18/2017

Ref 72373/E

Chemical Agent	24-hour exposure	48-hour exposure
10% hydrochloric acid	0	0
10% sulfuric acid	0	0
15% bleach	0	0
100 g/l salt (sodium chloride)	0	0
Hydrogen peroxide at 35 g/l oxygenated water	0	1 (Light bleaching)
100 g/l trichloroisocyanic acid chlorine tablet	0	0

END OF REPORT

Test Report No. R2EM-SIST-18-26072373/A

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Test Report No. R2EM-SIST-18-26072373/B

OBJECT

The tests reported in this document were performed as part of on-request testing.

REFERENCE TEXTS

The tests are carried out according to the methods described in:

- Standard NF EN 13892-8:2003, entitled "Test method for screed materials - Part 8: Determination of the adhesion strength" specified and adapted as follows.

TEST SUBJECT

Description: Coating system based on cement binder and polymers, applied to various supports described below (see page 3)

Date of receipt: 11/09/2017

Origin: The application to CSTB was carried out by the applicant

Identification: 72373/A: "BASECRETE" system on concrete support
72373/B: "BASECRETE" system on polystyrene block support
72373/C: "BASECRETE" system on concrete block support
72373/D: "BASECRETE" system on glass tile support

Date of each test: See "Test results" paragraph

Test operator(s): Christophe MICHEL

Marne-la-Vallée, February 21, 2018

Head of Industrial Flooring and Coatings

[Signature]

Gilbert FAU

CSTB

The Future in Construction

Test Report No. R2EM-SIST-18-26072373/A

DETAILED DESCRIPTION OF THE TEST SUBJECT:

The "BASECRETE" kit (mixture of polymers and cement) is composed of:

- One 18.9 liter bucket (polymer blend)
- Four 22.67 kg bags (mixture of Portland cement, silica, and patented components)

The application of the tested system was carried out at CSTB by the applicant on the various supports described below, with the components and under the conditions specified in this test report.

Description of the implementation of the models according to the support:

- Support other than glass tiles:
 - Application in three layers using a trowel to obtain a total thickness of 3 mm.
 - Or a total consumption of 5 kg / m²
- Glass tile support
 - Application of a first coat, using a brush, to fill the joints between the glass panes.
 - Application of two layers using a trowel to obtain a total thickness of 3 mm.
 - Or a total consumption of 7 kg / m².

- Reference concrete support provided by CSTB:

Concrete as prescribed by Standard NF P 11-213-1 (DTU 13.3-1), Class C25 / 30 under compression for 28 days in air and with the following characteristics:

CEM Cement II / B-M (LL-S) 32.5 R: 350 kg/m³

E_{eff} / C < 0.6 (i.e., E / C about 0.7)

Support thickness: 60 mm

Poured, vibrated, and measured by CSTB.

Surface preparation:

The concrete support was prepared by sandblasting its six faces with the "RUGOS 2000" abrasive, based on aluminum silicate, particle size No. 20/30 (0.40 to 1.60 mm), Mohs hardness 6 to 7, and with an average apparent density 1.3 g/cm³.

- Glass tile support glued on concrete support provided by the applicant:

Tiles based on standard 22 x 22 x 5 mm glass paste assembled on a 30 x 30 cm grid and glued to a concrete slab using VICAT glue (without additional information).

- Concrete block support provided by the applicant:

Without information from the applicant.

- Polystyrene block support supplied by the applicant:

"Solidbric" brand block with a density of 25 kg/m³.

A minimum 28-day setting period after implementation was respected.

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Test Report No. R2EM-SIST-18-26072373/A

Designation of the test	Type of support			
	Concrete	Glass tile	Concrete block	Polystyrene block
Determination of dry adhesion	X	X	X	X

Test Report No. R2EM-SIST-18-26072373/A**TEST RESULTS****1. Determination of dry adhesion**

The test was carried out according to Standard NF EN 13892-8:2003, entitled "Test method for screed materials - Part 8: Determination of the adhesion strength" specified and adapted as follows:

1-1. Reference concrete support**Test tubes**

Two test tubes of dimensions 350 x 350 x 60 mm (described on page 4) were tested and conditioned for at least 24 hours at $(23 \pm 5)^\circ\text{C}$ before testing.

Procedure

The adhesion force was determined as the tensile stress applied by a direct load perpendicular to the adhesion zone. 50 mm diameter circular adhesion pads were used.

Five test samples were taken per test tube.

Observations and results

The value of the adhesion force is determined by the average of the ten values obtained

Test conditions: 23°C and 35%RH

Test date: 12/11/2017

Ref 72373/A

Test tube A			Test tube B		
Tensile stress (N/mm ²)	Failure	% failure	Tensile stress (N/mm ²)	Failure	% failure
1.0	Y	100	0.9	Y	100
0.9	Y	100	0.9	Y	100
0.9	Y	100	1.0	Y	100
0.9	Y	100	0.9	Y	100
0.9	Y	100	0.9	Y	100
Average stress 0.9 N/mm ² 100% cohesive failure in the coating					

Y: Cohesive failure in the coating

Test Report No. R2EM-SIST-18-26072373/A**1-2. Polystyrene block support****Test tubes**

Two test tubes of dimensions 350 x 350 x 60 mm (described on page 4) were tested and conditioned for at least 24 hours at $(23 \pm 5)^\circ\text{C}$ before testing.

Procedure

The adhesion force was determined as the tensile stress applied by a direct load perpendicular to the adhesion zone. 50 mm diameter circular adhesion pads were used.

Five test samples were taken per test tube.

Observations and results

The value of the adhesion force is determined by the average of the ten values obtained

Test conditions: 23°C and 35%RH

Test date: 12/11/2017

Ref 72373/B

Test tube A			Test tube B		
Tensile stress (N/mm ²)	Failure	% failure	Tensile stress (N/mm ²)	Failure	% failure
0.3	X	100	0.3	X/Y Y	85 15
0.2	X/Y	100	0.2	X/Y	100
0.2	X/Y	100	0.3	X	100
0.3	X/Y	100	0.3	X	100
0.2	X/Y Y	80 20	0.2	X/Y Y	40 60
Average stress 0.3 N/mm ² 30% cohesive failure in the polystyrene support 60% adhesive failure between the polystyrene support and the coating 10% cohesive failure in the coating					

X: Cohesive failure in the polystyrene support

X/Y: Adhesive failure between the polystyrene support and the coating

Y: Cohesive failure in the coating

Test Report No. R2EM-SIST-18-26072373/A**1-3. Concrete block support****Test tubes**

Two test tubes of dimensions 350 x 350 x 60 mm (described on page 4) were tested and conditioned for at least 24 hours at $(23 \pm 5)^\circ\text{C}$ before testing.

Procedure

The adhesion force was determined as the tensile stress applied by a direct load perpendicular to the adhesion zone. 50 mm diameter circular adhesion pads were used.

Five test samples were taken per test tube.

Observations and results

The value of the adhesion force is determined by the average of the ten values obtained

Test conditions: 23°C and 35%RH

Test date: 12/11/2017

Ref 72373/C

Test tube A			Test tube B		
Tensile stress (N/mm ²)	Failure	% failure	Tensile stress (N/mm ²)	Failure	% failure
0.7	Y	100	0.6	Y	100
0.6	Y	100	0.5	Y	100
0.6	Y	100	0.6	Y	100
Average stress 0.6 N/mm ² 100% cohesive failure in the coating					

Y: Cohesive failure in the coating

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1-2. Glass tile support

Test tubes

Two test tubes of dimensions 350 x 350 x 60 mm (described on page 4) were tested and conditioned for at least 24 hours at $(23 \pm 5)^\circ\text{C}$ before testing.

Procedure

The adhesion force was determined as the tensile stress applied by a direct load perpendicular to the adhesion zone. 50 mm diameter circular adhesion pads were used.

Five test samples were taken per test tube.

Observations and results

The value of the adhesion force is determined by the average of the ten values obtained

Test conditions: 23°C and 35%RH

Test date: 12/11/2017

Ref 72373/D

Test tube A			Test tube B		
Tensile stress (N/mm ²)	Failure	% failure	Tensile stress (N/mm ²)	Failure	% failure
0.6	Cohesive coating Adhesive tile / coating	90 10	0.8	Cohesive coating Adhesive tile / coating	90 10
0.9	Adhesive backing / tile Adhesive tile / coating	50 50	0.5	Adhesive backing / tile	100
0.9	Adhesive backing / tile Adhesive tile / coating	80 20	0.6	Cohesive coating	100
0.7	Cohesive coating Adhesive backing / tile Adhesive tile / coating	50 25 25	0.9	Cohesive coating Adhesive tile / coating	40 60
0.7	Cohesive coating Adhesive backing / tile Adhesive tile / coating	50 40 10	0.7	Cohesive coating Adhesive tile / coating	50 50
Average stress 0.7 N/mm ² 47% cohesive failure in the coating 23% adhesive failure between the glass tiles and the coating 30% adhesive failure between the backing and the glass tiles					

X: Cohesive failure in the polystyrene support

X/Y: Adhesive failure between the polystyrene support and the coating

Y: Cohesive failure in the coating

END OF REPORT