TEST REPORT

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Report Number: 3148-21001 **Project Number:** 36509

Report Issued: December 16, 2021

Client: Bascrete Technologies LLC
6148 Clark Center Ave
Sarasota, FL 34238
Ph: 844-207-1607

Contact: Vito Mariano

Code/Standard: ANSI A118.10, American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin-set Ceramic Tile and Dimension Stone Installation, December 2014

Product(s) Tested: Basecrete Flexible Waterproofing Bondcoat

Test Date(s): From 7/8/2021 to 11/20/2021

Conclusion: The Basecrete Flexible Waterproofing Bondcoat complies with all relevant requirements of ANSI A118.10- December 2014.

Prepared & Submitted By:

Sanjay "Jay" Mishra
Vice President of Building Product Testing

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1.0 INTRODUCTION

The tests listed in Section 3.0 below were conducted on the Basecrete Flexible Waterproofing Bondcoat to determine compliance with ANSI A118.10-2014.

2.0 TEST SPECIMENS

Basecrete Flexible Waterproofing Bondcoat pails were received at the IAPMO R&T Lab on July 08, 2021 in good condition. All test specimens were fabricated by IAPMO IBT Lab personnel at the IAPMO R&T Lab in Ontario, CA. The manufacturers' published installation instructions were followed in the preparation of the test specimens.

3.0 TEST PROGRAM

1	Fungus and Micro-Organism Resistance, ANSI A118.10
2	Seam Strength, ASTM D751
3	Breaking Strength, ASTM D751
4	Dimensional Stability, ASTM D1204
5	Waterproofness, ASTM D4068
6	Shear Strength, ASTM C482 • 7-day dry • 7-day water immersion • 28-day oven • 4-week dry • 12-week dry • 100-day water immersion

4.0 TESTS FOR MATERIAL PROPERTIES

Conditioning and Test Conditions: All test specimens were conditioned for a minimum of 48 hours at 73.4 ± 4 ^{O}F (23 ± 2 ^{O}C) and 50 ± 5% relative humidity. Unless otherwise noted or specifically required by the test method, all tests were conducted under these same conditions.

4.1 Fungus and Micro-Organism Resistance, ANSI A118.10-2014

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Samples were prepared as specified in section 4.1 of ANSI A118.10-2014. The organism used for this test was Aspergillus Brasiliensis (formally known as Aspergillus Niger).

All samples were placed in a temperature and humidity-controlled incubator for 14 days. During the 14-day period the temperature and humidity were monitored and maintained at 82.4 to 86ºF and 85-96% relative humidity.

Requirement: The membrane shall not support mold growth.

Findings: The Basecrete Flexible Waterproofing Bondcoat did not support mold growth; no traces of growth were observed.

Note: This test was conducted by QAI Laboratories, Tulsa, OK. The QAI test report is attached in the appendix.

4.2 Seam Strength, ASTM D751-06(2011)

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

The tests were conducted on 2" (50.8 mm) wide samples on a United Universal Testing Machine (SFM-150KN) equipped with an electronic load cell and a computerized data acquisition system. The speed of testing was 12 inches (305 mm) per minute.

Sample	*Ultimate Load (lbs./2-inch width)*	*Minimum Requirement*
1	27.46	8 lbs. per in. width minimum or 16 lbs. / 2-inch width
2	29.70	
3	21.12	
4	47.92	
5	39.57	
Average	**33.15**	
Standard Deviation	10.59	

4.3 Breaking Strength, ASTM D751-06(2011)

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

The tests were conducted on 1" (25.4 mm) wide samples on a United Universal Testing Machine (SFM-150KN) equipped with an electronic load cell and a computerized data acquisition system. The speed of testing was 12 inches (305 mm) per minute. Procedure B of ASTM D751-06 was followed:

Sample	*Breaking Strength (psi)*		*Minimum Requirement*
	Transverse	*Longitudinal*	
1	207.3	193.1	170 psi
2	150.2	204.5	
3	141.2	196.2	
4	169.1	205.7	
5	241.2	195.7	
Average	**181.8**	**199.1**	
Standard Deviation	41.8	5.7	

4.4 Dimensional Stability, ASTM D1204-2008

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Tests were conducted on 10"x10" (254 x 254 mm) samples. One set of samples were conditioned for four (4) hours in an oven at +158 ^{O}F (70 ^{O}C) and a second set of samples were conditioned for four (4) hours in a freezer at -15 ^{O}F (-26 ^{O}C). Dimensions were taken before and after exposure, the dimensional changes are tabulated below.

Temperature	*Sample Direction*	*Results (%)*	*Requirement*
+158 ^{O}F (70 ^{O}C)	Transverse	-0.018	0.7% maximum length change (expansion or contraction)
	Longitudinal	-0.055	
-15 ^{O}F (-26 ^{O}C)	Transverse	-0.016	
	Longitudinal	-0.039	

4.5 Waterproofness, ASTM D4068-1999

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Three 3 in. x 3 in. (76 x 76 mm) specimens of membrane were tested in accordance with ASTM D4068 (Annex 2: Hydrostatic Pressure Test) for 48 hours. The water column height was 24 inches (609 mm).

Test Sample	*Observation after 48 hours*	*Requirement*
1	Pass	No evidence of visible water penetration.
2	Pass	
3	Pass	

5.0 Shear Strength, ASTM C482-2002

5.1 Preparation of Mortar Blocks – FOLLOWED

The lab prepared 20 mortar blocks as specified in ASTM C482; Section 9.1.2. Blocks were stored for 25 additional days at a room temperature of 70 ^{O}F to 77 ^{O}F (21.1 ^{O}C to 25.0 ^{O}C) and a relative humidity of 45% to 55% prior to use.

5.2 Preparation of Shear Bond Assemblies – FOLLOWED

The manufacturer's instructions were followed and the membrane was applied to the entire face of the mortar blocks molded in Section 5.1. 4"x4" Type X tile was applied to the membrane, offset ¼ in. (6.4 mm), using an ANSI A118.1 and A118.4 compliant thin set mortar that was obtained locally.

The bonded assemblies were allowed to cure for seven days at a room temperature of 70 ^{O}F to 77 ^{O}F (21.1 ^{O}C to 25.0 ^{O}C) and a relative humidity of 45% to 55%. Further dry or wet conditioning was as described in ANSI A118.10.

Test Setup: The tests were conducted on a United Universal Testing Machine (SFM-150KN) equipped with an electronic load cell and a computerized data acquisition system. The speed of testing was 200 ± 20 psi per minute (1.4 ± 0.1 MPa/min.).

5.3 Seven Day Shear Strength, ASTM C482

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Four (4) specimens were prepared and cured for 7 days in accordance with Section 5.2. At the end of the seven day conditioning period the samples were tested for shear strength in accordance with ASTM C482.

Sample	*Ultimate Load (lbs)*	*Shear Strength (psi)*	*Requirement*
1	1815.85	121.1	Average shear strength greater than 50 psi.
2	2444.83	163.0	
3	2058.47	137.2	
4	2261.03	150.7	
Average	**2145.05**	**143.0**	
Standard Deviation	**270.30**	**18.0**	

5.4 Seven Day Water Immersion Shear Strength, ASTM C482

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Four (4) specimens, prepared as specified in Section 5.2 were immersed in water immediately after the seven-day conditioning described in Section 5.2. After seven days water immersion, the samples were tested for shear strength in accordance with ASTM C482.

Sample	*Ultimate Load (lbs)*	*Shear Strength (psi)*	*Requirement*
1	2340.75	156.0	Average shear strength greater than 50 psi.
2	3811.01	254.1	
3	3034.32	202.3	
4	2883.10	192.2	
Average	**3017.29**	**201.2**	
Standard Deviation	**607.18**	**40.5**	

5.5 Shear strength after accelerated aging

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Four (4) specimens prepared as specified in Section 5.2 were placed in an oven maintained at 140 ^{0}F immediately after the seven-day conditioning described in Section 5.2. After 28-days accelerated aging in the oven, the samples were tested [after 24-hours conditioning] for shear strength in accordance with ASTM C482.

Note: This is a test described in ANSI A118.12-2014.

Sample	*Ultimate Load (lbs)*	*Shear Strength (psi)*	*Requirement*
1	4530.01	302.0	Average shear strength greater than 50 psi.
2	3299.99	220.0	
3	3714.25	247.6	
4	2238.84	149.3	
Average	**3445.77**	**229.7**	
Standard Deviation	**953.17**	**63.5**	

Additional Requirement: The product qualifies for *High Performance Systems.*

Performance Category	*Average Load at Specified Deflection (psi)*
Specimens must remain bonded at 0.0625 in. deflection while supporting a load of at least 20 psi for standard performance systems.	52.0
Specimens must remain bonded at 0.125 in. deflection while supporting a load of at least 20 psi for high performance systems.	190.1

5.6 Four Week Shear Strength, ASTM C482

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Four (4) specimens, prepared as specified in Section 5.2 were cured for an additional three (3) weeks at the temperature and relative humidity specified in Section 5.2. The specimens were then tested for shear strength in accordance with ASTM C482.

Sample	*Ultimate Load (lbs)*	*Shear Strength (psi)*	*Requirement*
1	3688.11	245.9	Average shear strength greater than 50 psi.
2	3746.35	249.8	
3	3712.81	247.5	
4	3774.05	251.6	
Average	**3730.33**	**248.7**	

5.7 Twelve Week Shear Strength, ASTM C482

Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Four (4) specimens, prepared as specified in Section 5.2 were cured for an additional eleven (11) weeks at the temperature and relative humidity specified in Section 5.2. The specimens were then tested for shear strength in accordance with ASTM C482.

Sample	*Ultimate Load (lbs)*	*Shear Strength (psi)*	*Requirement*
1	4399.99	293.3	Average shear strength greater than 50 psi.
2	3895.17	259.7	
3	3533.58	235.6	
4	2762.89	184.2	
Average	**3647.91**	**243.2**	
Standard Deviation	**688.74**	**45.9**	

5.8 One-Hundred Day Water Immersion Shear Strength, ASTM C482

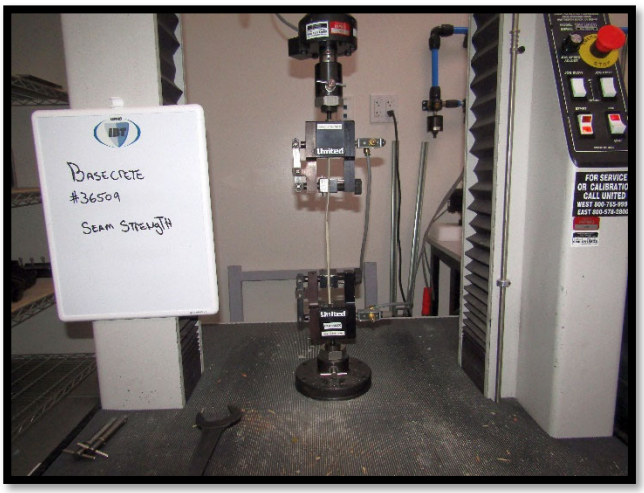
Test Result	
Basecrete Flexible Waterproofing Bondcoat	COMPLIED

Four (4) specimens, prepared as specified in Section 5.2 were immersed in water immediately after the seven-day conditioning described in Section 5.2. After 100 days water immersion, the samples were tested for shear strength in accordance with ASTM C482.

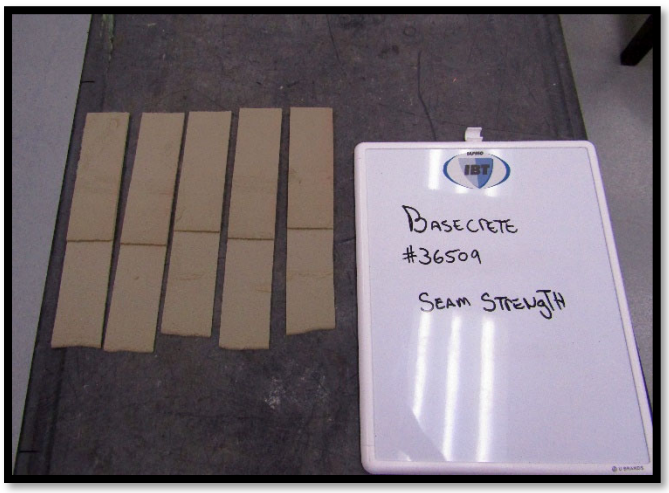
Sample	*Ultimate Load (lbs)*	*Shear Strength (psi)*	*Requirement*
1	3633.98	242.3	Average shear strength greater than 50 psi.
2	3435.95	229.1	
3	3910.21	260.7	
4	4202.64	280.2	
Average	**3795.70**	**253.0**	
Standard Deviation	**333.81**	**22.3**	

Fabrication of Shear Bond Blocks

Test Specimen Construction



Seam Strength Test



Seam Strength Test Samples

Shear Strength Test

APPENDIX

QAI Fungus Resistance test report (3 pages)

Product Literature (3 pages)

QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

5110 N. Mingo Road
Tulsa, OK 74117
918.437.8333 ph. | 918.437.8487 fx.

CLIENT: **IAPMO R&T LAB**
5001 E. Philadelphia Street
Ontario, CA 92761

Test Report No: TJ8347-1	Date: November 19, 2021

SAMPLE ID: Sample identified as: **Basecrete Flexible Waterproofing Bondcoat**

REFERENCE: Project No. 36510

SAMPLING DETAIL: Test samples were submitted to the laboratory directly by the client. No special sampling conditions or sample preparation were observed by QAI.

DATE OF RECEIPT: Samples were received at QAI on October 18, 2021

TESTING PERIOD: November 2 - November 19, 2021

AUTHORIZATION: Signed QAI Proposal No: 20DN061905 by Jay Mishra, on October 10, 2021. PO#IB0294

TEST PROCEDURE: Testing to ANSI A118.12-2014 Section 4 only (fungus & microorganism resistance).

TEST RESULTS: The sample **meets** the criteria of ANSI A118.12-2014 Section 4. Detailed test results are presented in the subsequent pages of this report.

PREPARED BY

Rocky Hale

Rocky Hale
Materials Technician

SIGNED FOR ON BEHALF OF QAI LABORATORIES INC

Digitally signed by Joe Cavett, PE
Date: 2021.11.19 15:05:29 -06'00'

Project Manager

4.1 Fungus and Micro-Organism Resistance — Pass

Samples were prepared as required per section 4.1, which stipulates the following method: 39 grams of Agar were dissolved in 1 liter of heated water. The agar medium and two 2-inch square pieces of tile were autoclaved at 15psi for 15 minutes. A section of the sample was bonded to one tile, and then placed in a Petri dish. The other tile (control) was then placed in a Petri dish. The agar medium was then introduced to both petri dishes. The entire surfaces were then inoculated with Aspergillus Brasiliensis (formally known as Aspergillus Niger).

All samples were placed in a temperature and humidity-controlled incubator for 14 days. During the 14-day period the temperature and humidity were monitored and maintained at 82.4 to 86ºF and 85-96% relative humidity.

Following the 14 days, the samples were removed and evaluated for fungus and micro-organism growth. Table 1 is the ratings the samples may receive. Table 2 is the results after 14 days of incubation. Photographic evidence can be seen in Figure 1.

Table 1

Observation	Rating
No Traces of Growth	0
Traces of Growth (less than 10%)	1
Light Growth (10 to 30%)	2
Medium Growth (30 to 60%)	3
Heavy Growth (60% to complete coverage)	4

Table 2-Results

Test Start Date:	11/5/21	Test End Date:	11/19/21
Total Incubation Period:		14 Days	
Specimen		Rating	
1		0	
2		0	
Control		3	

Requirement: The membrane shall not support mold growth.

Figure 1

***** END OF TEST REPORT*****

2.5 TEMPERATURE & WEATHER FACTORS

A. ***Product limitations***
Do not allow BaseCrete to freeze or overheat

B. ***Site temperature***
Do not apply BaseCrete to frozen substrate or in conditions hotter than 105 degrees or colder than 40 degrees

Check local weather for temperature variations, precipitation etc that will affect your application.

2.6 MIXING INSTRUCTIONS

Mix on site using 5 gallon pails and paddle mixer. Blend product according to manufacturer's instructions on product label. Keep product out of direct sun. Allow product to false set (approximately 5 minutes) and re mix. Pot life is approximately 30 minutes depending on the temperature and humidity. Use mix ratio depending on application method.

A. ***Special Note***
Use BaseCrete liquid to change consistency of mix.
Do not add water to the mix.

B. ***Clean up after mixing***
Clean all tools and spills immediately with clean water.

2.7 COLD JONTS and CRACKS

Use BaseCrete Mesh to build rounded coves in corners on all cold joints. Build up with BaseCrete mix.
Use BaseCrete Mesh to fill in and bridge cracks.

3.1 HANDLING AND STORAGE

Keep BaseCrete products off the ground. Keep dry and out of direct sun/heat/cold.

4.1 CUSTOMER SERVICE

We recommend a BaseCrete Representative attend initial applications.

5.1 STANDARDS

A. **IMPACT STRENGTH 19 lbs / 8.6 kg**
B. **COMPRESSIVE STRENGTH 7050 psi / 48.61 MPa**
C. **TENSILE STRENGTH 732 psi / 5.05 MPa**
D. **FLEXURAL STRENGTH 2380 psi / 16.41 MPa**
E. **ADHESIVE STRENGTH**
Concrete : 1372 psi / 9.46 MPa
Steel : 1144 psi / 7.89 MPa
F. **SHEAR BOND ADHESION 720 psi / 4.96 MPa**
G. **ASTM E96 – Vapor transmission**
H. **ASTM C321 – Bond Strength**
I. **ASTM C672 – Freeze-Thaw**
J. **ASTM d4541.02 – Pull Off Test**

info@basecreteUSA.com

BASECRETE

CONCRETE WATERPROOFING BOND COAT

PRODUCT SPECIFICATION

1.1 DESCRIPTION

BASECRETE IS A WATERPROOFING BONDCOAT / UNDERLAYMENT / MICRO TOPPING FOR USE IN ALL APPLICATIONS WHERE A SOLID AND DURABLE WATERPROOF BARRIER IS REQUIRED. BASECRETE WILL ADHERE TO MOST SURFACES, IS RESISTANT TO MOST CHEMICALS AND CORROSIVE AGENTS AND CAN WITHSTAND A HIGH DEGREE OF MOVEMENT WHILE MAINTAINING ITS INTEGRITY. BASECRETE IS A LIQUID AND COMPOUND MIX DESIGN AVAILABLE IN 1 & 5 GALLON PAILS AND 50LB BAGS. BASECRETE IS JOB SITE READY.

2.1 WATERPROOFING APPLICATIONS

WATERPROOF BONDCOAT	POOL DECKS	CISTERNS & WATER RESERVOIRS	SUSPENDED POOLS
UNDERLAYMENT	PLANTERS	CATWALKS & WALKWAYS	COMMERCIAL POOLS
MICRO TOPPING	SCRATCH COAT	BREAK WALLS	RESIDENTIAL POOLS
STUCCO	CRACK REPAIRS	PARKING GARAGES	WATER FEATURES
BARN FOUNDATIONS	FISH PONDS	AQUATIC ENCLOSURES	SUSPENDED DECKS
ANIMAL ENCLOSURES	MAN HOLES	WILDLIFE WATERING PONDS	BYLANDS, DOCKS, PIERS
NATURAL RESERVOIRS	ICF & EIF	ZOO ENCLOSURES	TUCK POINTING
PARGING	MAN MADE REEFS	MOORINGS/JETTY'S	ELEVATOR FOUNDATIONS

2.2 APPLICATION METHODS

A. Tools

BaseCrete can be applied by Trowel, Roller (1" nap), Brush, Squeegee or Spray

B. Thickness

Apply BaseCrete in two (2) layers, one vertically, one horizontally. Each layer should be 1/16" thick for a total of 1/8" thickness to achieve a waterproof bond coat. The second layer can be applied once the first layer is dry to the touch.

C. Special Applications

BaseCrete can be built up in 2" increments and feather edged.

2.3 COVERAGE

Coverage is approximate for one coat. Slump can be adjusted to accommodate specific job requirements by adjusting the liquid or the compound – do not add water to the mix.

A. Trowel... 1 gallon & 1 x 50lb bag = 40–50 sq ft @ 1/8"

B. Roller... 5 gallons & 3 x 50lb bags = 450-500 sq ft @ 1/16"

C. Squeegee... 5 gallons & 3 x 50lb bags = 450-500 sq ft @ 1/16"

D. Spray... 5 gallons & 3 x 50lb bags = 400-500 sq ft @ 1/16"

2.4 SUBSTRATE PREPARATION

A. Initial inspection

Inspect job site. Determine if any pervious material used is incompatible with BaseCrete.

B. Preparing Site

Remove all previous material and any loose debris. Check and repair any cracks or voids with BaseCrete repair mortar. Once the site is clean and clear of any old material, loose debris, cracks etc., pressure wash for final preparation. Protect adjacent areas to prevent material from going beyond designated site.

C. Substrate surface preparation

Begin with a SSD (Saturated Surface Dry) substrate that is clearly damp below the immediate surface, has no standing water and has a surface that is showing no signs of a "film" of water on the surface. Ideally the concrete will be clearly damp (typically much darker than dry concrete) but the surface will have no water present and will be showing "signs" of drying.

info@basecreteUSA.com

Contains:
(3) 42oz jug of Basecrete Resin
(3) 10lbs bags of compound

Please use (1) jug per (1) bag compound

Mixing instructions on the sticker below

Concrete substrates should be clean and clear of dust & debris per ASTM standards. Look for cracks, cold joints before application. Concrete substrate should be SSD – Saturated Surface Dry. This is an industry term that describes a concrete that is wet, but there is no standing water. This is what is required for a good Basecrete application. For more information on proper surface prep visit **Training.BasecreteUSA.com**

Los substrates de hormigón deben estar limpios y libre de polvo y escombros según las normas ASTM. Busque grietas, juntas frías antes de la aplicación. *El sustrato de hormigón debe ser SSD – Superficie saturada seca. Este es un término de la industria que describe un hormigón que está mojado, pero no hay agua estancada. Esto es lo que se requiere para una buena aplicación de Basecrete. Para obtener más información sobre la preparación adecuada de la superficie, visite* **Training.BasecreteUSA.com**

MIXING INSTRUCTIONS | INSTRUCCIONES DE MEZCLA

Step 1 | Paso 1

Pour Basecrete Liquid into a clean pail & add Basecrete Dry Compound.
Vierte el liquido de Basecreto en una cubeta limpia y agregue el compuesto seco de Basecrete.

Step 2 | Paso 2

Blend until mixture is uniform. Let FALSE SET for 4 minutes.
Mezcla todo junto hasta que sea uniforme Deje que FALSE SET durante 4 minutos.

Step 3 | Paso 3

Blend Basecrete for 1 minute.
*Add more Basecrete liquid to thin
*Mezclar Basecrete durante 1 minuto
Añadir más liquido de Basecrete para Diluirlo.

NEVER ADD WATER | NO AÑADIR AGUA Basecrete consistency = to watery milkshake | Consistencia de basecrete = aguado batido de leche

Caution: Follow Best Safety Practices. Medical conditions aggravated by exposure: Hypersensitivity to product, skin or respiratory disorders, and allergies. Contains a polymer that may cause irritation. If contact with eyes, thoroughly rinse with water and contact physician immediately. Precaución: Siga las mejores prácticas de seguridad condiciones médicas agravadas por la exposición: Hipersensibilidad a los trastornos del producto, la piel o las vías respiratorias, y las alergias. Contiene un polímero que puede causar irritación. Si tiene contacto con los ojos, enjuague bien con agua y póngase en contacto con un médico inmediatamente.

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BASECRETE