



from 60x60 cm like granito tiles,

granites and marbles

**webertai gres** is pre-mixed high performance tile adhesive to mix with water giving excellent bonding strength for laying large size tiles and swimming pool tiles

• SUITABLE FOR: ceramic tiles, granito tiles, marbles,

granites, artificial tiles size up to 1.2 x 1.2 m  $\,$ 

PACKAGING: 20 kg bagCOLOR: grey / white

weber

• COVERAGE: average 4-7 m<sup>2</sup>/20 kg bag

APPLICATION

#### Substrate preparation

- New substrate should be sound, level, and clean with normal absorption rate
- Case of existing substrate; check bonding. Remove peel-off paint and de-bonded tiles and lay the new ones. Clean off any excess dirt and laitance.
- In case of porous substrate with high absorption, dampen the surface before tiling
- For new render or screed, it should be fully cured at the rate of 7 days per 1 cm thickness before tiling

#### Mixing

Mixing webertai gres in water with the ratio of 1:3 by volume (1 part of water + 3 parts of webertai gres). Using slow-speed electric mixer to mix or gradually mix by hand until obtaining homogeneous lump-free paste. Leave for 3 – 4 minutes for chemical curing before using.

#### Tiling

- 1. Using notched trowel to spread tile adhesive onto substrate
- 2. Back buttering in case of laying tile bigger than 10 x 10 inches
- 3. Placing tiles on tile adhesive and knock gradually with rubber hammer
- 4. Clean the excess tile adhesive on tile surface
- 5. Tiles can be adjusted within 15 minutes after laying
- 6. Leave for 24 hours before grouting

#### • SHELF LIFE AND STORAGE

One year after manufacturing date when stored unopened in dry and ventilated place. Store airtight in dry and ventilated conditions if remained in opened bag

TECHNICAL DATA	
Туре	High performance tile adhesive
Density of powder	1.40 g/cm³
Chemical curing time	3 – 4 minutes
Pot life (in shade)	4 hours
Open time	20 - 30 minutes
Adjusting time	15 minutes
Recommended thickness	2 – 10 mm
Waiting time before grouting	24 hours

TECHNICAL DATA

Low VOCs

Laying tiles on internal existing tiles

Remark: These test results are from laboratory test. They could be slightly different from on-site results because of the differences in applications and conditions

#### **CERTIFED STANDARD**

International/European star	International/European standard		
Initial tensile adhesion strength ISO 13007 part 2-4.4.4.2 or EN 1348-8.	5		2.06 N/mm²
Tensile adhesion strength after water ISO 13007 part 2-4.4.4.3 or EN 1348-8.		≥ 1.0 N/mm²	1.60 N/mm²
Open time tensile adhesion strength ISO 13007 Part 2-4 or EN 1346		≥ 0.5 N/ mm²	0.83 N/mm²
American StandardANSI A11	8.4	Standard	Result
Shear strength according to ANSI A 118 - To glazed wall tiles - To porcelain mosaics - To guarry tiles	3.4 – 2012 7 days 1 day 7 days 28 days 84 days 28 days	> 2.07 MPa > 0.50 MPa > 1.38 MPa > 1.38 MPa > 1.38 MPa > 1.03 MPa	2.34 MPa 1.73 MPa 3.41 MPa 3.15 MPa 3.63 MPa 2.74 MPa
Water immersion shear strength acco ANSI A 118.4 – 2012 - To glaze wall tiles - To porcelain mosaic	rding to 7 days 7 days	> 1.38 MPa > 1.03 MPa	1.84 MPa 2.65 MPa
Freeze-thaw shear strength according ANSI A 118.4-2012 - To porcelain mosaics - To guarry tiles	to 28 days 28 days	> 1.21 MPa > 0.69 MPa	3.08 MPa 2.84 MPa





School of Engineering and Technology

Postal Address: P.O. Box 4, Klong Luang Pathumthani 12120 Thailand Street Address: Km. 42 Paholyothin Highway Klong Luang, Pathumthani 12120 Thailand

Tel: (66-2) 524-6051-57 Fax: (66-2) 524-5509, 6059 http://www.ait.ac.th

#### **EXECTUTIVE SUMMARY**

The Structural Engineering Laboratory, School of Engineering and Technology, Asian Institute of Technology (AIT) was engaged by the Saint - Gobain Weber Co.,Ltd., to conduct the performance test of cementitlious tile adhesive. The sample in the trademark of "weber.tai gres" was submitted by the Saint - Gobain Weber Co.,Ltd. The series of test were detailed in according with ISO 13007 / European Norms (EN 12004:2005) test methods as follows:

Specification of cementitious adhesives

Characteristic	Requirement	Test Method	Results
Tensile adhesion strength	≥ 1 N/mm <sup>2</sup>	ISO 13007 part 2 4.4.4.2 or EN 1348 § 8.2	PASS
Tensile adhesion strength after water immersion	≥ 1 N/mm²	ISO 13007 part 2 4.4.4.3 or EN 1348 § 8.3	PASS

Fundamental Characteristics

Regarding the testing, it was found that the properties of weber.tai gres are conformed to ISO 13007 / European Norms (EN 12004:2005) test methods as specified. These results certify the adequacy and representative character of test samples only.

Reference No: S0161-13

Checked by:

MR. EKKACHAI YOOPRASERTCHAI

RESEARCH ASSOCIATE

Approved by:

Date of Issue: 3 April 2013

DR. PENNUNG WARNITCHAI
LEADER OF CIVIL AND INFRASTRUCTURE
ENGINEERING THEMATIC (CIE)

Doc. No. S0161M-13



#### Asian Institute of Technology

Km. 42 Paholyothin Highway, Klong Luang, Pathumthani, Thailand 12120

P. O. Box 4 Klong Luang, Pathumthani 12120, Thailand. Tel. (66-2) 524-5527, 524-6427 Fax. (66-2) 524-5544

#### STRUCTURAL ENGINEERING LABORATORY

STRUCTURAL ENGINEERING FIELD OF STUDY

SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST:

INITIAL ADHESION STRENGTH (EN 1348:2007)

TEST SPECIMEN:

Ten (10) specimens of Ceramic tile of size 50 x 50 x 5 mm. installed by using "weber.tai gres" were prepared in the SE laboratory. The mix proportion of

water to "weber.tai gres" ratio was 25.0 % by weight.

CLIENT:

SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST:

February 26, 2013

**TEST METHOD:** 

After finish the preparation, the test units were placed in standard conditions for 27 days. Bond the pull head plate to the tile with the high strength epoxy and keep the test units for a further 24 hour in standard condition. Determine the tensile adhesive strength.

#### TEST RESULTS:

Specimen No.	Width of Specimen (mm.)	Length of Specimen (mm.)	Area (mm²)	Maximum Load (N.)	Tensile Adhesion Strength (N/mm <sup>2</sup> )	Remarks
1	50	50	2,500	4,962	1.98	Adhesive failure between tile and adhesive
1 2 3 4 5 6 7 8 9	50	50	2,500	4,992	2.00	Cohesive failure within the adhesive
3	50	50	2,500	5,021	2.01	Cohesive failure within the adhesive
4	50	50	2,500	4,501	1.80	Cohesive failure within the adhesive
5	50	50	2,500	6,002	2.40	Cohesive failure within the adhesive
6	50	50	2,500	5,031	2.01	Adhesive failure between tile and adhesive
7	50	50	2,500	3,942	1.58	Adhesive failure between tile and adhesive
8	50	50	2,500	4,698	1.88	Adhesive failure between tile and adhesive
9	50	50	2,500	6,757	2.70	Cohesive failure within the adhesive
10	50	50	2,500	5,678	2.27	Cohesive failure within the adhesive
				Average	2.06	

Note: This report certifies the adequacy and representative character of the test sample(s) only.

TESTED BY:

MR. APIRAK POORAT

**TECHNICIAN** 

CHECKED BY:

MR. EKKACHAI YOOPRASERTCHAI

RESEARCH ASSOCIATE

APPROVED BY:

DR. PENNUNG WARNITCHAI

LEADER OF CIVIL AND INFRASTRUCTURE ENGINEERING THEMATIC (CIE)





### Asian Institute of Technology

Km. 42 Paholyothin Highway, Klong Luang, Pathumthani, Thailand 12120

P. O. Box 4 Klong Luang, Pathumthani 12120, Thailand. Tel. (66-2) 524-5527, 524-6427 Fax. (66-2) 524-5544

#### STRUCTURAL ENGINEERING LABORATORY

STRUCTURAL ENGINEERING FIELD OF STUDY

SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST:

ADHESIVE STRENGTH AFTER WATER IMMERSION (EN1348:2007)

TEST SPECIMEN:

Ten (10) specimens of Ceramic tile of size 50 x 50 x 5 mm. installed by using "weber.tai gres" were prepared in the SE laboratory. The mix proportion of

water to "weber.tai gres" ratio was 25.0 % by weight.

CLIENT:

SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST:

February 26, 2013

**TEST METHOD:** 

After finish the preparation, the test units were placed in standard conditions for 7 days and stored in water for 20 days. Bond the pull head plate to the tile with the high strength epoxy and keep the test units for a further 24 hour in in water at the standard temperature. Determine the tensile adhesive strength.

#### TEST RESULTS:

Specimen No.	Width of Specimen	Length of Specimen	Area	Maximum Load	Tensile Adhesion Strength	Remarks
	(mm.)	(mm.)	(mm <sup>2</sup> )	(N.)	(N/mm <sup>2</sup> )	
4	50	50	2,500	3,393	1.36	Adhesive failure between tile and adhesive
2 3 4 5 6 7 8 9	50	50	2,500	4,580	1.83	Cohesive failure within the adhesive
3	50	50	2,500	3,727	1.49	Adhesive failure between tile and adhesive
4	50	50	2,500	4,237	1.69	Adhesive failure between tile and adhesive
5	50	50	2,500	4,011	1.60	Adhesive failure between tile and adhesive
6	50	50	2,500	4,796	1.92	Cohesive failure within the adhesive
7	50	50	2,500	3,874	1.55	Cohesive failure within the adhesive
8	50	50	2,500	3,511	1.40	Adhesive failure between tile and adhesive
9	50	50	2,500	4,021	1.61	Cohesive failure within the adhesive
10	50	50	2,500	3,844	1.54	Cohesive failure within the adhesive
				Average	1.60	

Note: This report certifies the adequacy and representative character of the test sample(s) only.

TESTED BY:

MR. APIRAK POORAT

**TECHNICIAN** 

CHECKED BY:

MR. EKKACHAI YOOPRASERTCHAI

RESEARCH ASSOCIATE

APPROVED BY:

DR. PENNUNG WARNITCHAN
LEADER OF CIVIL AND INFRASTRUCTURE
ENGINEERING THEMATIC (CIE)



Doc. No. S0161P-13



### Asian Institute of Technology

Km. 42 Paholyothin Highway, Klong Luang, Pathumthani, Thailand 12120

P. O. Box 4 Klong Luang, Pathumthani 12120, Thailand. Tel. (66-2) 524-5527, 524-6427 Fax. (66-2) 524-5544

#### STRUCTURAL ENGINEERING LABORATORY

STRUCTURAL ENGINEERING FIELD OF STUDY

SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST:

OPEN TIME (EN1346)

TEST SPECIMEN:

Thirty (30) specimens of Ceramic tile of size 50 x 50 x 5 mm. installed by using "weber.tai gres" were prepared in the SE laboratory. The mix proportion of water to "weber.tai gres" ratio was 25.0 % by weight.

CLIENT:

SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST:

February 26, 2013

TEST METHOD:

Apply a thin layer of the adhesive to the concrete slab with a straight edge trowel. After 5, 10 and 20 minutes place the tiles on the adhesive and storage them under standard conditions for 27 days. Bond the pull head plates to the tiles with the high strength epoxy and keep the test units for a further 24 hour in standard condition. Determine the tensile adhesive strength.

TEST RESULTS:

Specimen No.	Tensile adhesion strength of specimen in different open time (N/mm²)				
3	5 (min.)	10 (min.)	20 (min.)		
1	1.57	1.22	0.82		
2	1.71	1.03	0.80		
3	2.14	1.29	0.95		
4	1.79	0.97	0.81		
5	1.66	1.33	0.89		
6	1.97	1.27	0.87		
7	1.82	1.41	0.72		
8	1.91	1.15	0.76		
9	1.56	1.14	0.79		
10	1.58	1.26	0.90		
Average	1.77	1.21	0.83		

Note: This report certifies the adequacy and representative character of the test sample(s) only.

TESTED BY:

MR. APIRAK POORAT

**TECHNICIAN** 

CHECKED BY:

MR. EKKACHAI YOOPRASERTCHAI

RESEARCH ASSOCIATE

APPROVED BY

DR. PENNUNG WARNITCHAI

LEADER OF CIVIL AND INFRASTRUCTURE ENGINEERING THEMATIC (CIE)





iParque - Parque Tecnológico de Coimbra - Lotes 6 e 7 | contr. PT 501 632 174 3040-540 ANTANHOL | Portugal

Rua Coronel Veiga Simão - Loreto (sede) 3025-307 COIMBRA | Portugal

T +351 239499200 centro@ctcv.pt www.ctcv.pt

## Tests of modified dry-set cement mortar according ANSI A118.4:2012 weber tai.gres

Working report N° 315.34860-01/17

Client: Saint-Gobain Weber Co., Ltd - Thailand

Contact at client: Luis Silva

Contact at CTCV: J. Valente de Almeida Work period: January - April 2017

Proj. n° 315.34860

Rep. n° 02

Revision:

Date: December 2917

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# Tests of modified dry-set cement mortar according ANSI A118.4:2012 - weber tai.gres

Saint Gobain Weber Co Ltd - Thailand

#### Aim

Evaluate compliance of the test results with the requirements of ANSI A118.4: 20121.

#### 1. Introduction

Saint Gobain Weber Co Ltd - Thailand requested the CTCV to carry out tests on modified dry-set cement mortar - weber tai.gres - in accordance with the American Standard ANSI A118.4.

This report presents the methodology of the tests, the results of the tests carried out and their comparison with the applicable regulatory requirements

#### 2. Methodology

The methodology used in the study was the following:

- -carrying out the tests
- -processing of data
- reporting

#### 2.1. Tests

The tests carried out are presented at table 1.

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<sup>&</sup>lt;sup>1</sup> ANSI A118.4:2012 - American National Standard Specifications for Modified Dry-Set Cement Mortar.



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Table 1 - Tests according ANSI A118.4

Property	Test duration and/or conditions
Glazed wall tile shear strength (A1)	7 days
Glazed walt tite shear strength (AT)	7 days water immersion
	1 day
	7 days
Porcelain mosaic tile shear strength	7 days water immersion
(C)	28 days
	28 days w/freeze-thaw cycling
	12 weeks
Quarry tile shear strength (D)	28 days
Quarry tite shear strength (b)	28 days w/freeze-thaw cycling

#### 2.2. Test results

The test results are presented at tables 2 and 3.

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#### Table 2 - Test results (A1 and C)

Ceramic	Test duration/condition	Specimen	Force (kN)	Tension (MPa)	Average (MPa)
		1	11,38	2,21	
	Shear initial, 7d	2	12,15	2,35	2,34
	Shear initiat, 7a	3	11,17	2,16	
A1		4	13,62	2,64	
^'		1	7,81	1,51	1,84
	Shear, after 7 d water immersion	2	12,91	2,50	
	Siledi , diter / d Water ininiersion	3	7,37	1,43	1,04
ey.		4	9,97	1,93	
		1	3,07	1,64	ė
	Shear initial, 1d	2	3,00	1,60	1,73
	Shear initiat, 1d	3	3,59	1,92	1,73
		4	3,27	1,75	
	Shear initial, 7d	1	6,31	3,37	3,41
		2	6,43	3,44	
		3	6,30	3,37	3,41
\ \		4	6,44	3,44	
		1	6,03	3,22	
	Shear initial, 28d	2	5,35	2,86	3,15
		3	5,75	3,07	5,15
c		4	6,46	3,45	
	Shear initial, 12 weeks	1	5,92	3,17	
		2	<i>7</i> ,11	3,80	3,63
		3	7,17	3,83	3,03
		4	6,94	3,71	
		1	4,42	2,36	ł.
	Shear, after 7 day water immersion	2	5,30	2,83	2,65
	Silear, arter 7 day water militer ston	3	4,95	2,65	2,03
		4	5,12	2,74	
		1	5,19	2,78	
	Shear, after freeze-thaw	2	4,83	2,58	3,08
	Shear, after freeze-thaw	3	6,95	3,72	3,00
		4	6,06	3,24	

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 T +351 239499200

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 centro@ctcv.pt

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Table 3 - Test results (D)

		1	28,45	3,06	
	Shear initial, 28d	2	24,77	2,66	2,74
	Siedi Illian, 200	3	22,49	2,42	2,73
D		4	26,22	2,82	
		1	27,90	3,00	
	Shear, after freeze-thaw	2	22,41	2,41	2,84
	Shear, arter meeze than	3	28,78	3,09	
		4	26,74	2,88	

#### 3. Comparation with standard requirements

The comparation of test results with standard requirements is presented at Table 4.

Table 4 - Comparation of test results with standard requirements

Ceramic	Test duration/condition	Test result (MPa)	Requirements (MPa)	Compliance
A1	Shear initial, 7d	2,34	>2,07	Complies
AI	Shear, after 7 d water immersion	1,84	>1,38	Complies
	Shear initial, 1d	1,73	>0,50	Complies
	Shear initial, 7d	3,41	>1,38	Complies
6	Shear initial, 28d	3,15	>1,38	Complies
С	Shear initial, 12 weeks	3,63	>1,38	Complies
	Shear, after 7 day water immersion	2,65	>1,03	Complies
	Shear, after freeze-thaw	3,08	>1,21	Complies
-	Shear initial, 28d	2,74	>1,03	Complies
D	Shear, after freeze-thaw	2,84	>0,69	Complies

Coimbra, 05 December 2017

Joaquim Valente de Almeida

Testing Materials Laboratory

Proj. n° 315.34860

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# **ANNEX**

Test reports

Os resultados apresentados neste trabalho referem-se apenas às amostras ensaiadas. Não se assume qualquer responsabilidade relativa à exatidão da amostragem, a menos que seja efetuada sob a direta responsabilidade do CTCV. A reprodução deste trabalho é autorizada apenas na sua forma integral. Para qualquer reprodução parcial será indespensável autorização do CTCV por escrito.

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CTCV - Medição e Ensaio Laboratório de Ensaios de Produtos TEST REPORT Nº 1.5.1918/2017

Sample ref.

Client SAINT-GOBAIN WEBER Co., Ltd. - Thailand

Process nº

3.1.5. 34860

Adress

Bangkok - Thailand

Test date

25-01-2017

Material Client ref. Cimenticious adhesive

Entrance date

09-01-2017

DETERMINATION OF SEVEN DAY SHEAR STRENGTH TO

**GLAZED WALL TILE** (according ANSI A118.4:2012)

Number of an aciman	L = E EL VISKI)	Shear stren	Shear strength (MPa)		
Number of specimens	Load (kN)	Ind. values	Mean		
1	11,38	2,2			
2	12,15	2,4	2.2		
3	11,17	2,2	2,3		
4	13,62	2,6			

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H. Amount of water admix: 22 %(w/w) Sampling made by manufacturer

COIMBRA, 11 July 2017

Head of Laboratory

Joaquim Valente de Almeida

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T +351 239499200 centro@ctcv.pt www.ctcv.pt

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CTCV - Medição e Ensaio Laboratório de Ensaios de Produtos TEST REPORT Nº 1.5.1921/2017

Sample ref. 2017.03.62/CIC

 Client
 SAINT-GOBAIN WEBER Co., Ltd. - Thailand
 Process no
 3.1.5. 34860

 Adress
 Bangkok - Thailand
 Test date
 01-02-2017

 Material
 Cimenticious adhesive
 Test date
 01-02-2017

 Client ref.
 Weber.tai grés
 Entrance date
 09-01-2017

# DETERMINATION OF SEVEN DAY WATER IMMERSION SHEAR STRENGTH TO GLAZED WALL TILE

(according ANSI A118.4:2012)

Number of specimens	Load (kN)	Shear strength (MPa)	
		Ind. values	Mean
1	7,81	1,5	1,8
2	12,91	2,5	
3	7,37	1,4	
4	9,97	1,9	

Condition of all test materials to be tested 24 h under standard conditions Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w) Sampling made by manufacturer

COIMBRA, 11 July 2017

Laboratory rechnician

Jorge Deveza

Head of Laboratory

lo,

Joaquim Valente de Almeida

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Client

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CTCV - Medição e Ensaio Laboratório de Ensaios de Produtos TEST REPORT Nº 1.5.1925/2017 Sample ref. 2017.03.63/CIC

3.1.5. 34860

19-01-2017

SAINT-GOBAIN WEBER Co., Ltd. - Thailand Process no

Adress Bangkok - Thailand

Material Cimenticious adhesive Test date

Client ref. Weber.tai grés Entrance date 09-01-2017

# DETERMINATION OF ONE DAY SHEAR STRENGTH TO PORCELAIN MOSAIC TILE

(according ANSI A118.4:2012)

Number of an esimon	Land (IsN)	Shear stren	Shear strength (MPa)	
Number of specimens	nens Load (kN)	Ind. values	Mean	
1	3,07	1,6		
2	3,00	1,6	1,7	
3	3,59	1,9	1,7	
4	3,27	1,7		

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w) Sampling made by manufacturer

COIMBRA, 11 July 2017

Laboratory Technician

Jorge Deveza

Head of Laboratory

Joaquim Valente de Almeida

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Client

#### CENTRO TECNOLÓGICO DA CERÂMICA E DO VIDRO

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CTCV - Medição e Ensaio Laboratório de Ensaios de Produtos TEST REPORT Nº 1.5.1928/2017
Sample ref. 2017.03.63/CIC

SAINT-GOBAIN WEBER Co., Ltd. - Thailand Process no

3.1.5. 34860

Adress Bangkok - Thailand

Material Cimenticious adhesive Test date

25-01-2017 09-01-2017

Client ref. Weber.tai gré

Entrance date

# DETERMINATION OF SEVEN DAY SHEAR STRENGTH TO PORCELAIN MOSAIC TILE

(according ANSI A118.4:2012)

Number of specimens	Load (kN)	Shear strength (MPa)	
		Ind. values	Mean
1	6,31	3,4	2.4
2	6,43	3,4	
3	6,30	3,4	3,4
4	6,44	3,4	

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w) Sampling made by manufacturer

COIMBRA, 11 July 2017

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Head of Laboratory

Joaquim Valente de Almeida

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Sample ref.

Process nº

3.1.5. 34860

Client Adress

Bangkok - Thailand

Material

Cimenticious adhesive

Test date

12-04-2017

Client ref.

Entrance date

09-01-2017

### DETERMINATION OF TWELVE WEEK SHEAR STRENGTH TO PORCELAIN MOSAIC TILE

(according ANSI A118.4:2012)

Nila av af an a sim an a	Laad (IAN)	Shear stren	gth (MPa)
Number of specimens	Load (kN)	Ind. values	Mean
1	5,92	3,2	3.0
2	7,11	3,8	
3	7,17	3,8	3,6
4	6,94	3,7	

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H. Amount of water admix: 22 %(w/w) Sampling made by manufacturer

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 Process no 3.1.5. 34860

 Adress
 Bangkok - Thailand
 Test date

 Material
 Cimenticious adhesive
 Test date
 15-02-2017

 Client ref.
 Weber.tai grés
 Entrance date
 09-01-2017

### DETERMINATION OF FOUR WEEK SHEAR STRENGTH TO PORCELAIN MOSAIC TILE

(according ANSI A118.4:2012)

Number of specimens	Load (kN)	Shear strength (MPa)	
		Ind. values	Mean
1	6,03	3,2	3,2
2	5,35	2,9	
3	5,75	3,1	
4	6,46	3,5	

Condition of all test materials to be tested 24 h under standard conditions Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w)

Sampling made by manufacturer

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nº 3.1.5. 34860

Adress Bangkok - Thailand

Material Cimenticious adhesive Test date

te 01-02-2017

09-01-2017

Client ref.

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Weber.tai grés Entrance date

# DETERMINATION OF SEVEN DAY WATER IMMERSION SHEAR STRENGTH TO PORCELAIN MOSAIC TILE

(according ANSI A118.4:2012)

Number of specimens	Load (kN)	Shear strength (MPa)	
		Ind. values	Mean
1	4,42	2,4	2,6
2	5,30	2,8	
3	4,95	2,6	
4	5,12	2,7	

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w) Sampling made by manufacturer

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Adress Bangkok - Thailand

Material Cimenticious adhesive Test date

13-03-2017

Client ref. Weber.tai g

Entrance date

09-01-2017

# DETERMINATION OF FOUR WEEK FREEZE-THAW SHEAR STRENGTH TO PORCELAIN MOSAIC TILE

(according ANSI A118.4:2012)

Number of specimens	Load (kN)	Shear strength (MPa)	
		Ind. values	Mean
1	5,19	2,8	2.4
2	4,83	2,6	
3	6,95	3,7	3,1
4	6,06	3,2	

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w) Sampling made by manufacturer

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Process nº

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Adress

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Test date

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Material

Cimenticious adhesive

Entrance date

09-01-2017

Client ref.

### DETERMINATION OF FOUR WEEK SHEAR STRENGTH TO **QUARRY TILE**

(according ANSI A118.4:2012)

Number of an animone	L a a al (IaNI)	Shear stren	igth (MPa)
Number of specimens	Load (kN)	Ind. values	Mean
1	28,45	3,1	
2	24,77	2,7	2.7
3	22,49	2,4	2,7
4	26,22	2,8	

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H. Amount of water admix: 22 %(w/w) Sampling made by manufacturer

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### DETERMINATION OF FOUR WEEK FREEZE-THAW SHEAR STRENGTH TO QUARRY TILE

(according ANSI A118.4:2012)

Number of specimens	Load (kN)	Shear strength (MPa)	
		Ind. values	Mean
1	27,90	3,0	2,8
2	22,41	2,4	
3	28,78	3,1	
4	26,74	2,9	

Condition of all test materials to be tested 24 h under standard conditions

Test conditions: (23±2) °C, (50±5) % R.H.

Amount of water admix: 22 %(w/w) Sampling made by manufacturer

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Joaquim Valente de Almeida

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Os resultados apresentados neste trabalho referem-se apenas ás