AIT
Asian Institute of Technology

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 vis " was submitted by the Saint - Gobain Weber Co.,Ltd. The series of test were detailed in according with ISO 13007 / European Norms (EN 12004:2007+A1:2012) test methods as follows:

Specification of cementitious adhesives

Fundamental Characteristics

1a Normal setting adhesives			
Characteristic	Requirement	Test Method	Results
Tensile adhesion strength	≥ 0.5 N/mm^2	ISO 13007 part 2 4.4.4.2 or EN 1348 § 8.2	PASS
Tensile adhesion strength after water immersion	≥ 0.5 N/mm^2	ISO 13007 part 2 4.4.4.3 or EN 1348 § 8.3	PASS
Open time : tensile adhesion strength	≥ 0.5 N/mm^2 after not less than 20 min	ISO 13007 part 2 4.1 or EN 1346	PASS

Regarding the testing, it was found that the properties of weber.tai vis are conformed to ISO 13007 / European Norms (EN 12004:2007+A1:2012) test methods as specified. These results certify the adequacy and representative character of test samples only.

Reference No: S0161-13

Date of Issue: 3 April 2013

Checked by:

MR. EKKACHAI YOOPRASERTCHAI
RESEARCH ASSOCIATE

Approved by:

ASIAN INSTITUTE OF TECHNOLOGY
AIT
STRUCTURAL ENGINEERING

DR. PENNUNG WARNITCHAI
LEADER OF CIVIL AND INFRASTRUCTURE ENGINEERING GROUP
May 17, 2013

AIT

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 vis " were prepared in the SE laboratory. The mix proportion of water to " weber.tai vis " ratio was 25.0 % by weight.

CLIENT: **SAINT - GOBAIN WEBER CO., LTD.**

DATE OF TEST: February 22, 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 (mm^2)	Maximum Load (N.)	Tensile Adhesion Strength (N/mm^2)	Remarks
1	50	50	2,500	1,863	0.75	Cohesive failure within the adhesive
2	50	50	2,500	1,324	0.53	Cohesive failure within the adhesive
3	50	50	2,500	1,618	0.65	Cohesive failure within the adhesive
4	50	50	2,500	1,824	0.73	Cohesive failure within the adhesive
5	50	50	2,500	1,697	0.68	Cohesive failure within the adhesive
6	50	50	2,500	1,991	0.80	Cohesive failure within the adhesive
7	50	50	2,500	2,550	1.02	Cohesive failure within the adhesive
8	50	50	2,500	1,648	0.66	Cohesive failure within the adhesive
9	50	50	2,500	2,520	1.01	Cohesive failure within the adhesive
10	50	50	2,500	3,011	1.20	Cohesive failure within the adhesive
				Average	**0.80**	

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:

ASIAN INSTITUTE OF TECHNOLOGY ★ AIT ★ STRUCTURAL ENGINEERING

DR. PENNUNG WARNITCHAI
LEADER OF CIVIL AND INFRASTRUCTURE ENGINEERING THEMATIC (CIE)
April 3, 2013

AIT

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 vis " were prepared in the SE laboratory. The mix proportion of water to " weber.tai vis " ratio was 25.0 % by weight.

CLIENT: **SAINT - GOBAIN WEBER CO., LTD.**

DATE OF TEST: February 22, 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 (mm.)	Length of Specimen (mm.)	Area (mm^2)	Maximum Load (N.)	Tensile Adhesion Strength (N/mm^2)	Remarks
1	50	50	2,500	1,079	0.43	Adhesive failure between tile and adhesive
2	50	50	2,500	1,618	0.65	Adhesive failure between tile and adhesive
3	50	50	2,500	991	0.40	Cohesive failure within the adhesive
4	50	50	2,500	1,569	0.63	Adhesive failure between tile and adhesive
5	50	50	2,500	1,275	0.51	Cohesive failure within the adhesive
6	50	50	2,500	1,226	0.49	Cohesive failure within the adhesive
7	50	50	2,500	1,206	0.48	Cohesive failure within the adhesive
8	50	50	2,500	1,716	0.69	Cohesive failure within the adhesive
9	50	50	2,500	1,697	0.68	Cohesive failure within the adhesive
10	50	50	2,500	1,432	0.57	Cohesive failure within the adhesive
				Average	**0.55**	

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:

ASIAN INSTITUTE OF TECHNOLOGY ★ AIT ★ STRUCTURAL ENGINEERING

DR. PENNUNG WARNITCHAI
LEADER OF CIVIL AND INFRASTRUCTURE ENGINEERING THEMATIC (CIE)
April 3, 2013

Doc. No. S0161H-13

AIT

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 vis " were prepared in the SE laboratory. The mix proportion of water to " weber.tai vis " ratio was 25.0 % by weight.

CLIENT: **SAINT - GOBAIN WEBER CO., LTD.**

DATE OF TEST: February 22, 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/mm^2)		
	5 (min.)	10 (min.)	20 (min.)
1	0.92	1.02	0.80
2	0.73	0.50	0.61
3	0.75	1.03	0.68
4	0.73	0.67	0.68
5	0.62	0.63	0.55
6	1.13	0.61	0.67
7	0.88	0.80	0.79
8	0.88	0.59	0.64
9	0.44	0.79	0.48
10	0.84	0.62	0.54
Average	0.79	0.73	0.64

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:

ASIAN INSTITUTE OF TECHNOLOGY ★ AIT ★ STRUCTURAL ENGINEERING

DR. PENNUNG WARNITCHAI
LEADER OF CIVIL AND INFRASTRUCTURE ENGINEERING THEMATIC (CIE)
April 3, 2013 .