

AIT

Asian Institute of Technology

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Doc. No. S0588AP-06

STRUCTURAL ENGINEERING LABORATORY
STRUCTURAL ENGINEERING FIELD OF STUDY
SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST : WATER ABSORPTION (EN 12808-5)

TEST SPECIMEN:

Three (3) specimens in prism shape were cast in the SE laboratory.
The mix proportion of water to ' weber.color power ' ratio was 33% by weight.

CLIENT:

SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST:

November 1, 2006

TEST RESULTS:

The water absorption of specimens at the age of 28 days are shown as follows.

Specimen No.	Weight of Dry Specimen (g)	Weight of Specimen After Immersion of 30 min. (g)	Weight of Specimen After Immersion of 240 min. (g)	Water Absorption After Immersion of 30 min. (g)	Water Absorption After Immersion of 240 min. (g)
1	444.52	444.90	445.88	0.38	1.36
2	424.24	424.98	425.42	0.74	1.18
3	437.00	437.62	438.40	0.62	1.40

Note : This results certify the adequacy and representative character of the test samples only.

CHECKED & APPROVED BY :



DR. SUN SAYAMIPIUK
SENIOR LABORATORY SUPERVISOR
November 2, 2006



Structural Engineering and Technology
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EXECUTIVE SUMMARY

The Structural Engineering and Construction Program, 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 cementitious grouts. The sample in the trademark of "weber.color power" was submitted by the Saint-Gobain Weber Co., Ltd. The series of test were detailed according to ISO 13007 / European Norms (EN 12004:2001) test methods as follows:

Specification of cementitious grouts (CG)

Fundamental Characteristics

Characteristic	Requirement	Test Method	Results
Flexural strength under standard conditions	$\geq 3.5 \text{ N/mm}^2$	ISO 13007 part 4 clause 4.1.3 or EN12808-3	PASS
Compressive strength under standard conditions	$\geq 15 \text{ N/mm}^2$	ISO 13007 part 4 clause 4.1.4 or EN12808-3	PASS
Shrinkage	$\leq 2 \text{ mm/m}$	ISO 13007 part 4 clause 4.3 or EN12808-4	PASS
Water absorption after 30 min	$\leq 5 \text{ g}$	ISO 13007 part 4 clause 4.2 or EN12808-5	PASS
Water absorption after 240 min	$\leq 10 \text{ g}$	ISO 13007 part 4 clause 4.2 or EN12808-5	PASS

Regarding the testing results, it was found that the properties of "weber.color power" are conformed to ISO 13007 / European Norms (EN 12004:2001) test methods as specified. These results certify the adequacy and representative character of test samples only.



Reference No: S0588-06 Date of Issue: 2 November 2006

Tested by: SE.laboratory Approved by: 
(Dr. Sup. Sayamipuk)
Senior Laboratory Supervisor

Asian Institute of Technology

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STRUCTURAL ENGINEERING LABORATORY
STRUCTURAL ENGINEERING FIELD OF STUDY
SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST : DETERMINATION OF SHRINKAGE (EN 12808-4)

TEST SPECIMEN:

Three (3) specimens in prism shape were cast in the SE laboratory.
The mix proportion of water to 'weber.color power ' ratio was 33% by weight.

CLIENT: SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST: September 7 - October 5, 2006

TEST RESULTS: The shrinkage of specimens at the age of 28 days are shown as follows.

Specimen No.	Initial Length (mm.)	Final Length (mm.)	Drying Shrinkage of Specimen (mm./m.)
1	162.35	162.10	1.54
2	161.43	161.21	1.36
3	161.41	161.17	1.49

Note : This results certify the adequacy and representative character of the test samples only.

CHECKED & APPROVED BY :



DR. SUN SAYAMIPIUK
SENIOR LABORATORY SUPERVISOR
November 2, 2006.

AIT

Doc. No. S0589AL-06

Asian Institute of Technology

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STRUCTURAL ENGINEERING LABORATORY

STRUCTURAL ENGINEERING FIELD OF STUDY

SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST : FLEXURAL STRENGTH TEST (EN 12808-3)

TEST SPECIMEN: Three (3) specimens in prism shape were cast in the SE laboratory.
The mix proportion of water to ' weber.color power ' ratio was 33% by weight.

CLIENT: SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST: October 5, 2006

TEST METHOD: After mixing them thoroughly, the specimen was cast in the standard molds having a size of 40 x 40 x 160 mm. The specimens are cured for 24 hours in molds, then stripped and cured in standard condition until conducting the test.

TEST RESULTS : The flexural strength of specimens at the age of 28 days are shown below.

Specimen No.	Width of Specimen B (cm.)	Thickness of Specimen D (cm.)	Length of Specimen L (cm.)	Maximum Load P (kgf)	Flexural Strength Sf (kgf/cm ²)	Remarks
1	4.03	4.06	16	235	53.06	The flexural strength, Sf = $3 P l / (2 b d^2)$, where l (span length) is 10 cm. * 1 kgf/cm ² = 0.0981 MPa. Average flexural strength is 5.42 MPa. at 28-days age.
2	4.01	4.06	16	250	56.73	
3	4.08	4.09	16	255	56.04	
				Average	55.28	

Note : This results certify the adequacy and representative character of the test samples only.

CHECKED & APPROVED BY :



DR. SUN SAYAMIPIUK
SENIOR LABORATORY SUPERVISOR
November 2, 2006

STRUCTURAL ENGINEERING LABORATORY

STRUCTURAL ENGINEERING FIELD OF STUDY

SCHOOL OF ENGINEERING AND TECHNOLOGY

TYPE OF TEST : COMPRESSIVE STRENGTH TEST (EN 12808-3)

TEST SPECIMEN: Three (3) specimens in prism shape were tested in the SE laboratory. The mix proportion of water to 'weber,color power ' ratio was 33% by weight.

CLIENT: SAINT - GOBAIN WEBER CO., LTD.

DATE OF TEST: October 5, 2006

TEST METHOD: After flexural test, the halves broken specimens were kept in standard condition until conducting the compression test.

TEST RESULTS: The compressive strength of specimens at the age of 28 days are shown as follows.

Specimen No.	Date of Cast	Date of Test	Age of Specimen (days)	Cross Sectional Area (cm ²)	Maximum Load (kgf)	Compressive Strength (kgf/cm ²)	Remarks
1	07/09/06	05/10/06	28	16.00	3,680	230.01	* 1 kgf/cm ² = 0.0981 MPa.
2	07/09/06	05/10/06	28	16.00	3,580	223.74	Average compressive strength of specimens is 22.36
3	07/09/06	05/10/06	28	16.00	3,680	230.01	MPa. at 28-days age.
Average						227.92	

Note : This results certify the adequacy and representative character of the test samples only.



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November 2, 2006