# webercolor HR

## High resistance tile grout for swimming pools, spas, steam rooms, and saunas

- Resist to water pressure
- For 2-10 mm joint width
- Resist to concentrate chemical agents like chlorine
- Anti black mold and fungus
- Resist to temperature from -40˚C to +100˚C
- Low VOCs


**PACKAGING :** 3.7 kg and 18.5 kg bucket

**COVERAGE :**
average 4 $m^2$ / 3.7 kg bucket
average 20 $m^2$/18.5 kg bucket

**COLOR :** 8 colors

white | grey | pearl grey | natural green | green | natural blue | blue | black

*These color presentations are as close as printing techniques permit.
It is recommended to use the actual grout presenter for final selection.

**webercolor HR** is high resistance tile grout specially designed to use in swimming pools, spas, and saunas providing resistance to water pressure and chlorine ideal for grouting in swimming pools, spas, saunas on both floors and walls

### APPLICATION

**Substrate preparation**

- Properly clean the joints until free from any dirt to make sure of good bonding and color uniformity
- Avoid the application in direct sunlight, cover the areas to have shade when working

**Mixing**

- Put 1 admixture in mixing bucket
- Gradually add 1 **webercolor HR** into the bucket and mix until obtaining homogeneous lump-free paste
- The mixture of **webercolor HR** can be used within 20 – 30 minutes after mixing when placing in shade

**Grouting**

- Use rubber trowel or grout trowel to diagonally fill up the joints.
- Wipe off excess grout with damp sponge 10 – 20 minutes before the grout sets.
- Leave for 1 hours and then clean tiles' surface with clean cloth
- Wait 12 hours for the grout to set and then sprinkle water thoroughly for 2 – 3 days for curing
- Leave for 3 days before filling in with water for reaching high resistance property and good bonding

### 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 bucket

| TECHNICAL DATA | |
|---|---|
| **Type** | **Cementitious grout** |
| Density of powder | 1.3 g/$cm^3$ |
| Chemical curing time | 3 – 4 minutes |
| Pot life (in shade) | 20 minutes |
| Waiting time after tiling before grouting | 24 hours |
| Recommended joint width | 2-10 mm |
| Waiting time before filling in with water | 3 days |

*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*

| CERTIFIED STANDARD | | |
|---|---|---|
| **International/European standard** | **Standard** | **Result** |
| Abrasion resistance ISO 13007 part 4.4.4 or EN 12808-2 | ≤ 2,000 $mm^3$ | 297 $mm^3$ |
| Flexural strength under standard condition ISO 13007 part 4-4.1.3 or EN 12808-3 | ≥ 2.5 $N/mm^2$ | 6.17 $N/mm^2$ |
| Compressive strength under standard condition ISO 13007 part 4-4.1.4 or EN 12808-3 | ≥ 15.0 $N/mm^2$ | 27.29 $N/mm^2$ |
| Shrinkage ISO 13007 part 4-4.3 or EN 12808-4 | ≤ 3 mm/m | 1.29 mm/m |
| Water absorption after 30 minutes ISO 13007 part 4-4.2 or EN 12808-5 | ≤ 5 g | 0.07 g |
| Water absorption after 240 minutes ISO 13007 part 4-4.2 or EN 12808-5 | ≤ 10 g | 0.23 g |

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## 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 grouts. The sample in the trademark of " weber.color HR " was submitted by the Saint - Gobain Weber Co.,Ltd. The series of test were detailed in according with ISO 13007 / European Norms (EN 13888:2009) test methods as follows:

Specification of cementitious grouts (CG)

| Fundamental Characteristics | | | |
|---|---|---|---|
| Characteristic | Requirement | Test Method | Results |
| Abrasion resistance * | ≤ 2 000 $mm^3$ | ISO 13007 part 4 clause 4.4 or EN 12808-2 | PASS |
| Flexural strength under standard conditions * | ≥ 2,5 $N/mm^2$ | ISO 13007 part 4 clause 4.1.3 or EN 12808-3 | PASS |
| Compressive strength under standard conditions * | ≥ 15 $N/mm^2$ | ISO 13007 part 4 clause 4.1.4 or EN 12808-3 | PASS |
| Shrinkage * | ≤ 3 mm/m | ISO 13007 part 4 clause 4.3 or EN 12808-4 | PASS |
| Water absorption after 30 min | ≤ 5 g | ISO 13007 part 4 clause 4.2 or EN 12808-5 | PASS |
| Water absorption after 240 min | ≤ 10 g | ISO 13007 part 4 clause 4.2 or EN 12808-5 | PASS |

* Note: The test performed by a manufacturer's laboratory, which uses own test equipment. AIT was witness for this test.

Regarding the testing results, it was found that the properties of " weber.color HR " are conformed to ISO 13007 / European Norms (EN 13888:2009) test methods as specified. These results certify the adequacy and representative character of test samples only.

Reference No: S0182-13

Date of Issue: 18 April 2013

**Checked by:**

**MR. EKKACHAI YOOPRASERTCHAI**
RESEARCH ASSOCIATE

**Approved by:**

**DR. PENNUNG WARNITCHAI**
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May 17, 2013

ASIAN INSTITUTE OF TECHNOLOGY AIT STRUCTURAL ENGINEERING

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## STRUCTURAL ENGINEERING LABORATORY

## STRUCTURAL ENGINEERING FIELD OF STUDY

## SCHOOL OF ENGINEERING AND TECHNOLOGY

**TYPE OF TEST:** **DETERMINATION OF RESISTANCE TO ABRASION ( EN 12808-2 )**

**TEST SPECIMEN:** Three (3) specimens in cubic shape having a nominal size of 100x100x10 mm. were prepared in SE laboratory. The mix proportion of water to " weber color HR " ratio was 20.0 % by weight.

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

**DATE OF TEST:** February 21, 2013

**TEST RESULTS:**

| Specimen | Length Point 1 (mm.) | Length Point 2 (mm.) | Length Point 3 (mm.) | Volume Point 1 ($mm^3$.) | Volume Point 2 ($mm^3$.) | Volume Point 3 ($mm^3$.) |
|---|---|---|---|---|---|---|
| weber color HR | 32.50 | 32.50 | 33.50 | 288.00 | 288.00 | 316.00 |

**Note:** 1) The test performed by a manufacturer's laboratory, which uses own test equipment. AIT was witness for this test.
2) This report certifies the adequacy and representative character of the test sample(s) only.

**TESTED BY:**

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**CHECKED BY:**

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**APPROVED BY:**

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## STRUCTURAL ENGINEERING LABORATORY

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

**TEST SPECIMEN:** Three (3) cubes having a nominal size of 40x40x40 mm made of " weber color HR " were prepared in SE laboratory. The mix proportion of water to " weber color HR " ratio was 20.0 % by weight.

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

**DATE OF TEST:** February 21, 2013

**TEST METHOD:** Test the prism halves broken in flexion. Centtre the prism halves laterally to the platens of machine and longitudinally such that the end face of the prism overhangs the platens or auxiliary plates by about 10 mm. Increase the load until fracture.

**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 ($mm^2$) | Maximum Load (N) | Compressive Strength ($N/mm^2$) | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | 24/01/13 | 21/02/13 | 28 | 1,600 | 45,235 | 28.27 | |
| 2 | 24/01/13 | 21/02/13 | 28 | 1,600 | 44,280 | 27.68 | |
| 3 | 24/01/13 | 21/02/13 | 28 | 1,600 | 41,492 | 25.93 | |
| | | | | | **Average** | **27.29** | |

**Note:**1) This testing machine was calibrated by Calibration Laboratory Co., Ltd, at the date of January 11, 2013

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

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## STRUCTURAL ENGINEERING LABORATORY

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

**TEST SPECIMEN:** Three (3) cubes having a nominal size of 40x40x160 mm made of " weber color HR " were prepared in SE laboratory. The mix proportion of water to " weber color HR " ratio was 20.0 % by weight.

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

**DATE OF TEST:** February 21, 2013

**TEST METHOD:** Keep the demolded prism in standard conditions for 27 days. After conditioning hass been completed, place the prism in the testing machine. Apply the load until fracture.

**TEST RESULTS:** The flexural 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) | Span Length (mm) | Maximum Load (N) | Flexural Strength ($N/mm^2$) | Remarks |
|---|---|---|---|---|---|---|---|
| 1 | 24/01/13 | 21/02/13 | 28 | 100 | 2,600 | 6.09 | |
| 2 | 24/01/13 | 21/02/13 | 28 | 100 | 3,000 | 7.03 | |
| 3 | 24/01/13 | 21/02/13 | 28 | 100 | 2,300 | 5.39 | |
| | | | | | **Average** | **6.17** | |

**Note:** 1) This testing machine was calibrated by Calibration Laboratory Co., Ltd, at the date of January 11, 2013
2) This report certifies the adequacy and representative character of the test sample(s) only.

**TESTED BY:**

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## STRUCTURAL ENGINEERING LABORATORY

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

**TEST SPECIMEN:** Three (3) specimens of standard prisms shape made of " weber color HR " were prepared in SE laboratory. ratio was 20.0 % by weight.

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

**DATE OF TEST:** February 21, 2013

**TEST RESULTS:**

| Specimen No. | Weight of Surface-dried Specimen After Immersion 30 min (g) | Weight of Surface-dried Specimen After Immersion 240 min (g) | Weight of the dry Specimen (g) | Water Absorption of Specimen 30 min (g) | Water Absorption of Specimen 240 min (g) |
|---|---|---|---|---|---|
| 1 | 442.00 | 442.20 | 442.00 | 0.00 | 0.20 |
| 2 | 446.00 | 446.10 | 446.00 | 0.00 | 0.10 |
| 3 | 452.50 | 452.70 | 452.30 | 0.20 | 0.40 |
| | | | Average | **0.07** | **0.23** |

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

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## STRUCTURAL ENGINEERING LABORATORY

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

**TEST SPECIMEN:** Three (3) specimens in prism shape were prepared in the SE laboratory. The mix proportion of water to " weber color HR " ratio was 20.0 % by weight.

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

**DATE OF TEST:** January 28, 2013 - February 25, 2013

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

| Specimen No. | Intial Measurement (mm.) | Final Measurement (mm.) | Drying Shrinkage of specimen (mm./m.) |
|---|---|---|---|
| 1 | 14.24 | 14.08 | 1.00 |
| 2 | 15.37 | 15.10 | 1.69 |
| 3 | 12.88 | 12.69 | 1.19 |

**Note:** 1) The test performed by a manufacturer's laboratory, which uses own test equipment. AIT was witness for this test.
2) This report certifies the adequacy and representative character of the test sample(s) only.

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