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## TEST REPORT

REPORT NO : 2023CB0678

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### THIS TEST REPORT IS ISSUED IN SECURED PDF SOFTCOPY

Applicant : OBAPROOF MANUFACTURING SDN BHD  
Lot 4049, Jalan 2D  
Kampung Baru Subang, Seksyen U6  
40150, Shah Alam,  
Selangor, Malaysia

Manufacturer : same as above

Product : Obaproof Adhesive F2-288

Reference Standard / Method of Test : 1) BS EN 12004-1: 2017  
Adhesives for ceramic tiles. Requirements, assessment, and verification of constancy of performance, classification and marking.  
2) BS EN 12004-2: 2017  
Adhesives for ceramic tiles. Test methods

Description of sample : One (1) bag of 25 kg Obaproof Adhesive F2-288 was received for testing.  
Brand: Obaproof  
Product Description: C2TE GRADE TILE ADHESIVE

Date Received of Complete Application : 04 July 2023

Job No. : J20231430382

Description of Test Results : The test result for the submitted test samples as described in this test report complied with the requirements of the above reference standard except clause 4.1 (c) High tensile adhesion strength after heat aging and 4.1 (e) Extended open time : tensile adhesion strength after not less than 30 min.

Issued Date : 19 October 2023

Approved Signatory;

(NUR AIN BINTI KHAIRUDDIN)  
Testing Executive



(RAJA NOR SIHA BINTI RAJA ABDUL HANAN)  
Head  
Civil & Construction Section  
Testing Services Department

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**TEST RESULTS:**

Product : Obaproof Adhesive F2-288  
 Mix ratio : 20 % of water  
 Method of test : 1) BS EN 12004-1: 2017  
 Adhesive for ceramic tiles. Requirements, assessment, and verification of constancy of performance, classification and marking.  
 2) BS EN 12004-2:2017  
 Adhesives for ceramic tiles. Test methods  
 Clause 8.3: Determination of tensile adhesion strength for cementitious adhesives (C)  
 Clause 8.3.3.2: Initial tensile adhesion strength  
 Clause 8.3.3.3: Tensile adhesion strength after water immersion

CLAUSE	REQUIREMENTS	TEST RESULT	REMARK*
4.1	Cementitious adhesives (C)  <b>Improved cementitious adhesive with reduced slip and extended open time C2TE</b>  Additional Characteristic: - a) High tensile adhesion strength: $\geq 1.0 \text{ N/mm}^2$  b) High tensile adhesion strength after water immersion: $\geq 1.0 \text{ N/mm}^2$	       1) 1.53 N/mm <sup>2</sup> 2) 1.40 N/mm <sup>2</sup> 3) 1.77 N/mm <sup>2</sup> 4) 1.53 N/mm <sup>2</sup> 5) 1.64 N/mm <sup>2</sup> Mean: 1.57 N/mm <sup>2</sup>   1) 1.15 N/mm <sup>2</sup> 2) 1.35 N/mm <sup>2</sup> 3) 1.12 N/mm <sup>2</sup> 4) 1.11 N/mm <sup>2</sup> 5) 0.96 N/mm <sup>2</sup> Mean: 1.14 N/mm <sup>2</sup>	       Pass       Pass

Note:

1) \*Simple acceptance rule is used for the conformity statement. The level of risk regarding the Probability of False Accept is up to 50% according to ILAC G8:09

2) Testing period – 8<sup>th</sup> August 2023 to 19<sup>th</sup> October 2023

3) Testing location – Civil & Construction Section, Building 22, SIRIM Complex, Shah Alam, Selangor



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Product : Obaproof Adhesive F2-288  
 Mix ratio : 20 % of water  
 Method of test : 1) BS EN 12004-1: 2017  
 Adhesives for ceramic tiles. Requirement, assessment, and verification of constancy of performance, classification, and marking  
 2) BS EN 12004-2:2017  
 Adhesives for ceramic tiles. Test methods  
 Clause 8.3: Determination of tensile adhesion strength for cementitious adhesives (C)  
 Clause 8.3.3.4: Tensile adhesion strength after heat aging  
 Clause 8.3.3.5: Tensile adhesion strength after freeze and thaw cycle

CLAUSE	REQUIREMENTS	TEST RESULT	REMARK*
4.1	Cementitious adhesives (C)  <b>Improved cementitious adhesive with reduced slip and extended open time C2TE</b>  Additional Characteristic: - c) High tensile adhesion strength after heat aging: $\geq 1.0 \text{ N/mm}^2$	1) $1.32 \text{ N/mm}^2$ 2) $1.30 \text{ N/mm}^2$ 3) $1.25 \text{ N/mm}^2$ 4) $1.30 \text{ N/mm}^2$ 5) $1.29 \text{ N/mm}^2$ Mean: $1.29 \text{ N/mm}^2$	Pass
	Additional Characteristic: - d) High tensile adhesion strength after freeze and thaw: $\geq 1.0 \text{ N/mm}^2$	1) $1.27 \text{ N/mm}^2$ 2) $1.28 \text{ N/mm}^2$ 3) $1.23 \text{ N/mm}^2$ 4) $1.35 \text{ N/mm}^2$ 5) $1.46 \text{ N/mm}^2$ Mean: $1.32 \text{ N/mm}^2$	Pass

Note:

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3) Testing location – Civil & Construction Section, Building 22, SIRIM Complex, Shah Alam, Selangor



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 Adhesives for ceramic tiles. Requirement, assessment, and verification of constancy of performance, classification, and marking  
 2) BS EN 12004-2:2017  
 Adhesives for ceramic tiles. Test methods  
 Clause 8.1: Determination of open time  
 Clause 8.2: Determination of slip

CLAUSE	REQUIREMENTS	TEST RESULT	REMARK*
4.1	Cementitious adhesives (C)  <b>Improved cementitious adhesive with reduced slip and extended open time C2TE</b>  e) Extended open time: tensile adhesion strength: $\geq 0.5 \text{ N/mm}^2$ after not less than 30 min  Special Characteristic: -  f) Slip: $\leq 0.5 \text{ mm}$	1) $0.77 \text{ N/mm}^2$ 2) $0.78 \text{ N/mm}^2$ 3) $0.78 \text{ N/mm}^2$ 4) $0.78 \text{ N/mm}^2$ 5) $0.79 \text{ N/mm}^2$ Mean: $0.78 \text{ N/mm}^2$  1) $0.16 \text{ mm}$ 2) $0.16 \text{ mm}$ Mean: $0.16 \text{ mm}$	Pass          Pass

Note:

1) \*Simple acceptance rule is used for the conformity statement. The level of risk regarding the Probability of False Accept is up to 50% according to ILAC G8:09

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