



Srinakharinwirot University

63 Moo 7 Ongkharak, Nakornnayok, Thailand 26120

Department of Civil Engineering, Faculty of Engineering, 63 Moo 7 Ongkharak, Nakornnayok, Thailand 26120, Tel.Telephone/Fax (662) 649-546

EXECUTIVE SUMMARY

Department of Civil Engineering, Faculty of Engineering, Srinakharinwirot University (SWU) was engaged by Ferro Construction Products Co., Ltd. To conduct the performance test of cementitious tile adhesive. The sample in the trademark of "Ferrocem 523" was submitted by the Ferro Construction Products Co., Ltd. The series of test were detailed in according with ISO 13007/European Norms (EN 12004:2001) test methods as follows:

Specification of cementitious adhesives (C)

Fundamental Characteristics

| Normal setting adhesives | | | |
|---|---------------------------|--------------------------------|---------|
| Characteristic | Requirement | Test Method | Results |
| Tensile adhesion strength | $\geq 0.5 \text{ N/mm}^2$ | ISO 13007 part 2 or EN 1348 | PASS |
| Tensile adhesion strength after water immersion | $\geq 0.5 \text{ N/mm}^2$ | ISO 13007 part 2 or EN 1348 | PASS |

CHECKED BY :

Rattapoom P.

DR. RATTAPOOHM PARICHATPRECHA

Engineer

JANUARY 21, 2013



APPROVED BY :

Attasit S.

DR. ATTASIT SIRIVACHIRAPORN

Director of Civil Engineering Laboratory

JANUARY 21, 2013



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Department of Civil Engineering, Faculty of Engineering, 63 Moo 7 Ongkharak, Nakornnayok, Thailand 26120, Tel.Telephone/Fax (662) 649-5469

CIVIL ENGINEERING LABORATORY

DEPARTMENT OF CIVIL ENGINEERING

TYPE OF TEST : INITIAL ADHESION STRENGTH (EN 1348:1999)

TEST SPECIMEN Ten (10) specimens of 'Ferrocem 523' were prepared in the civil laboratory.
The mix proportion of water to 'Ferrocem 523' ratio was 23% by weight of product.

CLIENT : FERRO CONSTRUCTION PRODUCTS CO., LTD.

DATE OF TEST : January 19, 2013

TEST METHOD : After finish 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 (KN) | Tensile Adhesion Strength (N/mm ²) | Remark |
|--------------|------------------------|-------------------------|-------------------------|-------------------|--|--------|
| 1 | 50 | 50 | 2,500 | 2.5 | 1.00 | - |
| 2 | 50 | 50 | 2,500 | 2.4 | 0.96 | |
| 3 | 50 | 50 | 2,500 | 2.3 | 0.92 | |
| 4 | 50 | 50 | 2,500 | 2.2 | 0.88 | |
| 5 | 50 | 50 | 2,500 | 2.3 | 0.92 | |
| 6 | 50 | 50 | 2,500 | 2.4 | 0.96 | |
| 7 | 50 | 50 | 2,500 | 2.4 | 0.96 | |
| 8 | 50 | 50 | 2,500 | 2.5 | 1.00 | |
| 9 | 50 | 50 | 2,500 | 2.3 | 0.92 | |
| 10 | 50 | 50 | 2,500 | 2.2 | 0.88 | |
| | | | | Average | 0.94 | |

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

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TYPE OF TEST : ADHESION STRENGTH AFTER WATER IMMERSION (EN 1348:1999)

TEST SPECIMEN Ten (10) specimens of 'Ferrocem 523' were prepared in the civil laboratoly.
The mix proportion of water to 'Ferrocem 523' ratio was 23% by weight of product.

CLIENT : FERRO CONSTRUCTION PRODUCTS CO., LTD.

DATE OF TEST : January 19, 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 water at the standrad temperature. Determine the tensile adhesive strength.

TEST RESULTS :

| Specimen No. | Width of Specimen (mm) | Length of Specimen (mm) | Area (mm ²) | Maximum Load (KN) | Tensile Adhesion Strength (N/mm ²) | Remark |
|--------------|------------------------|-------------------------|-------------------------|-------------------|--|--------|
| 1 | 50 | 50 | 2,500 | 3.2 | 1.28 | - |
| 2 | 50 | 50 | 2,500 | 2.8 | 1.12 | - |
| 3 | 50 | 50 | 2,500 | 3.0 | 1.20 | - |
| 4 | 50 | 50 | 2,500 | 3.3 | 1.32 | - |
| 5 | 50 | 50 | 2,500 | 2.8 | 1.12 | - |
| 6 | 50 | 50 | 2,500 | 2.8 | 1.12 | - |
| 7 | 50 | 50 | 2,500 | 3.2 | 1.28 | - |
| 8 | 50 | 50 | 2,500 | 3.2 | 1.28 | - |
| 9 | 50 | 50 | 2,500 | 2.7 | 1.08 | - |
| 10 | 50 | 50 | 2,500 | 2.8 | 1.12 | - |
| | | | | Average | 1.19 | |

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

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DR. RATTAPOOHM PARICHATPRECHA

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Attasit S.

DR. ATTASIT SIRIVACHIRAPORN

Dirctor of Civil Engineering Laboratory
JANUARY 21, 2013

