

Dipl.-Chem.Ing. Burkhard Brandt

Von-Eichendorff-Str. 46A

33106 Paderborn

Client: TERRAMARK GmbH
Kreuzstr. 2
33602 Bielefeld

Purchase Order: 01.08.2013

Sample: Production in laboratory of MIG mbH Salzkotten

Content of the order: examine the effectiveness of the liquid building materials protection system *Metasiel Stone* to improve the water resistance of bricks.

Test material: - solid brick
- building materials protection system *Metasiel Stone*, which was described by the client as a mixture of water, soluble glass and Synergist

The tests were carried out in consultation with the client.

ICT INGENIEURBÜRO für CHEMIE und TECHNOLOGIE
Dipl.-Chem. Ing. Burkhard Brandt
Von Eichendorffstr. 46 a 33106 Paderborn
Tel.: 0 52 54 - 66 24 95 Fax: 0 52 54 - 66 24 94
Email: ICTBrandt@aol.com

Publications of test reports, including excerpts, and information for advertising purposes require at all time written consent of the company. Each individual page of this test report is stamped on with the official seal of ICT. Reference samples are kept no longer for two months.

1 Scope of testing

The tests performed include the determination of water penetration under pressure following the method applied to the testing of watertight concrete according to DIN EN 12390-8 in untreated solid bricks in halves and those treated with *Metasiel Stone* (dimensions 150 x 140 x 80mm).

2 Information on the test specimens used

Solid bricks with a gross density between 2.08 and 2.10 (kg/dm³) and a water absorption between 7.5 and 8.5 (mass%) according to DIN 52252 were used as specimen to test the effectiveness of the building materials protection system *Metasiel Stone*. The bricks were into halves. In order to improve the sealing ability of the surface exposed to water pressure, the rough bearing surfaces of the brick halves were sanded. The client treated the bearing surfaces with the building material protection system *Metasiel Stone* on each half of the three bricks, while the other three halves were left untreated.

3 Implementation of tests

The two specimen variants (treated and untreated specimens) were simultaneously tested in the testing device for water tightness according to DIN EN 12390-8. While examining the water tightness, a water pressure of 5bar operated on a circular surface with a diameter of 75mm over a period of 72 hours. As soon as the water stopped moving, the specimen was divided. The emerging water penetration was marked.

4 Test results

The calculated depths of water penetration in the brick can be taken from the records in Appendices 1 and 2.

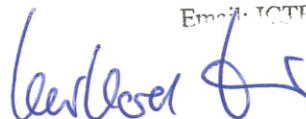
5 Evaluation and summary of test results

The waterproof effect of the building material protection system *Metasiel Stone* and its comparison to an untreated brick can be read clearly from the diagrams shown in Appendix 1 and 2.

A summary of the test results is shown in the following table.

Cube No.	Surface treatment	Max. water penetration depth (mm)	Remarks
1 treated	Sanded, treated with <i>Metasiel Stone</i> surface; not roughened	8	Minor efflorescence on lateral surfaces
2 treated		7	
3 treated		9	
1 untreated	Sanded, untreated surface; not roughened	>78	Specimen completely soaked
2 untreated			
3 untreated			

ICT INGENIEURBÜRO für CHEMIE und TECHNOLOGIE
Dipl.-Chem. Ing. Burkhard Brandt
Von Eichendorffstr. 46 a 33106 Paderborn
Tel.: 0 52 54 - 66 24 95 Fax: 0 52 54 - 66 24 94
Email: ICTBrandt@aol.com



Dipl. Chem.-Ing. Burkhard Brandt

ICT, Von-Eichendorff-Str. 46A, 33106 Paderborn

Paderborn, 31.08.2013