Industry

Technical Service Report

Report-No.: 00097-UK-00002-GR
Date: 11/03/2011

Adhesion of Sikatack Panel to Vitrabond ACM

Customer: Valcan
Test-costs: 240 GBP

Requestor: David Fraser

Distributor Customer:

Distributor Sika: David Fraser

Sika Limited
Technical Service

Nigel Harris Gareth Ross

Important Note
This report has been carefully prepared based on the information received in writing. It does however not relieve the user of the product from testing the product’s suitability for the intended application and purpose. Our warranty in regard to our products is governed exclusively by our sales condition of which we gladly send you a copy.
Tests
Standard adhesion test (CQP 033-1)

Conclusion
Excellent adhesion was achieved to the Vitrabond ACM panels with the Sikatack Panel system and in conjunction with all alternative primers tested.
Adhesion of Sikatack Panel to Vitrabond ACM 00097-UK-00002-GR

Tests conducted
CQP 033-1 - Bead adhesion

<table>
<thead>
<tr>
<th>Cleaner</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotchBrite</td>
<td>-</td>
</tr>
<tr>
<td>Sika® Cleaner-205</td>
<td>0012472424</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primer</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sikatack® Panel Primer</td>
<td>0012360685/2299</td>
</tr>
<tr>
<td>Sika® Primer-206 G+P</td>
<td>0012579820</td>
</tr>
<tr>
<td>Sika® Primer-209 D</td>
<td>0012557734</td>
</tr>
<tr>
<td>Sika® Primer-209 N</td>
<td>0012571474</td>
</tr>
<tr>
<td>Sika® Primer-210</td>
<td>0012499725</td>
</tr>
<tr>
<td>Sika® Primer-215</td>
<td>0012624379</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adhesive</th>
<th>Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sikatack® Panel</td>
<td>0012671268</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substrate [Attribute]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitrabond ACM Marble Red</td>
</tr>
<tr>
<td>Vitrabond ACM Silver</td>
</tr>
</tbody>
</table>

Remarks
### Adhesion of Sikatack Panel to Vitrabond ACM

#### Panel Table

**Tests:** CQP 033-1 - Bead adhesion  

**Substrates:** Various / Various Vitrabond ACM Marble Red

<table>
<thead>
<tr>
<th>PreTreatment</th>
<th>Cleaner</th>
<th>t [min]</th>
<th>Primer</th>
<th>t [min]</th>
<th>Adhesive</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sikatack® Panel Primer</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>B 1 C 1 H 1 J 1 K 1 L 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sikatack® Primer-206 G+P</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>B 1 C 1 H 1 J 1 K 1 L 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sikatack® Primer-209 D</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>B 1 C 1 H 1 J 1 K 1 L 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sikatack® Primer-209 N</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>B 1 C 1 H 1 J 1 K 1 L 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-210</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>B 1 C 1 H 1 J 1 K 1 L 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-215</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>B 1 C 1 H 1 J 1 K 1 L 1</td>
</tr>
</tbody>
</table>
### Adhesion of Sikatack Panel to Vitrabond ACM

**Tests:** CQP 033-1 - Bead adhesion

**Substrates:** Various / Various Vitrabond ACM Silver

<table>
<thead>
<tr>
<th>PreTreatment</th>
<th>Cleaner</th>
<th>t [min]</th>
<th>Primer</th>
<th>t [min]</th>
<th>Adhesive</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sikatack® Panel Primer</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-206 G+P</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-209 D</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-209 N</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-210</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>ScotchBrite</td>
<td>Sika® Cleaner-205</td>
<td>10</td>
<td>Sika® Primer-215</td>
<td>30</td>
<td>Sikatack® Panel</td>
<td>1 1 1 1 1 1 1</td>
</tr>
</tbody>
</table>
Notation for the Results

<table>
<thead>
<tr>
<th>Notation</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1d KLR</td>
</tr>
<tr>
<td>B</td>
<td>7d KLR</td>
</tr>
<tr>
<td>C</td>
<td>7d WL</td>
</tr>
<tr>
<td>D</td>
<td>7d 40°C/95%rh. + 2h KLR</td>
</tr>
<tr>
<td>E</td>
<td>7d 70°C + 1d KLR</td>
</tr>
<tr>
<td>F</td>
<td>1d 80°C</td>
</tr>
<tr>
<td>G</td>
<td>1d 80°C + 2h KLR</td>
</tr>
<tr>
<td>H</td>
<td>3d -30°C + 2h KLR</td>
</tr>
<tr>
<td>I</td>
<td>7d 80°C + 2h KLR</td>
</tr>
<tr>
<td>J</td>
<td>3d 80°C</td>
</tr>
<tr>
<td>K</td>
<td>2h KLR</td>
</tr>
<tr>
<td>L</td>
<td>7d CP + 2h KLR</td>
</tr>
<tr>
<td>M</td>
<td>7d CP + 1d -30°C + 2h KLR</td>
</tr>
<tr>
<td>N</td>
<td>10 cycles VDA</td>
</tr>
<tr>
<td>O</td>
<td>20 cycles VDA</td>
</tr>
</tbody>
</table>

KLR = Exposure at 23°C/50%rh acc. to DIN 50'014
WL = Exposure in deionised water at 23°C
CP = Cataplasma at 70°C/100%rh.
VDA = Cycletest acc. to VDA 621-415
xh = x hour(s)
xd = x day(s)

The test results are analyzed as shown in the Table below:

<table>
<thead>
<tr>
<th>Note</th>
<th>Assessment</th>
<th>Bond</th>
<th>&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bond satisfactory</td>
<td>&gt; 95% cohesion failure</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Bond basically satisfactory</td>
<td>&gt; 75% cohesion failure</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Bond not satisfactory</td>
<td>&gt; 25% cohesion failure</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Bond not satisfactory</td>
<td>&lt; 25% cohesion failure</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>Failure of paint structure (define failure point)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Primer separates from substrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BK</td>
<td>Bubbles in adhesive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Bubbles/voids on the bond surface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Tunnel effect/edge bonding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td>Adhesive is not cured on the bond surface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FH</td>
<td>Film bonding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Foam structure on the bond surface (fine bubbles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RA</td>
<td>Edge separation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n</td>
<td>Not tested</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
If no additional designation is given, the failure area (if adhesive) is between the adhesive and the layer applied last. Different failure modes should be described.
Insulation continuous around supports

Silicone joint (optional)

10 nom.

SikaTack Panel Adhesive System

4mm VITRABOND

Adjustable Aluminium Support System

Breather Membrane

Thermal insulator

Wall

SHEET OF

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

DRAWING TITLE

FILE NAME: AdhFix1-TypJoint.dwg

SCALE: 1:1 @ A4

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

ANGLES ± 0.1°

2% ± 0.01mm

3% ± 0.001mm

MTC

CHECKED -

ENG APPR -

MGR APPR -
Insulation continuous around supports

Support for silicone joint between verticals

Silicone joint (optional)

Adjustable Aluminium Support System

SikaTack Panel Adhesive System

4mm VITRABOND

Thermal insulator

Wall

Breather Membrane

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

10nom.

2% ± 0.91mm

3FL ± 0.001mm

DATE 4.04.2011

FILE NAME: AdhFix2-HorizJoint.dwg

ENG APPR -

MGR APPR -

MTC -

CHECKED -

MTC DRAWING TITLE

ADHESIVE FIX DETAIL SHOWING HORIZONTAL JOINT with SEALANT
Concrete structure

Steel structure

Adjustable Aluminium Support System

Fixing to structure to engineers details

Drip groove

Silicone joint (optional)

Angle flashing fixed to slab with continuous sealant bead

4mm VITRABOND

SikaTack Panel Adhesive System

Insulation continuous around supports

Thermal insulator

Breather Membrane

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

ANGLES ± 0.1°

3FL ± 0.011mm

DRAWN: MTC
CHECKED: -
ENG APPR: -
MGR APPR: -

ADHESIVE FIX DETAIL SHOWING SLAB JUNCTION HEAD with SEALANT

DATE 4.04.2011

FILE NAME: AdhFix4-SlabHeadJct.dwg

SCALE: 1:1 @ A4

AFF-4
4mm VITRABOND

SikaTack Panel Adhesive System

10x50mm Drain slots
200mm from panel ends

Silicone joint (optional)

Adjustable Aluminium Support System

Fixing to structure to engineers details

Thermal insulator

Adjustable Aluminium Support System

SikaTack Panel Adhesive System

4mm VITRABOND

SHEET OF UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES 6*/(#)NQWEGUVGT).2<

DRAWING TITLE

DRAWING Number:

FILE NAME: AdhFix6-SoffitJct.dwg

SCALE: 1:1 @ A4

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

ANGLES ± 0.1°

2FL ± 0.01mm

3FL ± 0.001mm
Steel structure

3M VHB adhesive tape (or equal approved)

Fixing to structure to engineers details

Angle support

Insulation
continuous around supports

4mm VITRABOND

Adjustable Aluminium Support System

SikaTack Panel Adhesive System

Breather Membrane

Thermal insulator

Other cladding system

Silicone joint (optional)
Fixings to structure to engineers details

Steel structure

Breather Membrane

Thermal insulator

Adjustable Aluminium Support System

SikaTack Panel Adhesive System

Insulation continuous around supports

4mm VITRABOND

SikaTack Panel Adhesive System
Fixings to structure to engineers details

4mm VITRABOND

Steel structure

Insulation continuous around supports

SikaTack Panel Adhesive System

Adjustable Aluminium Support System

Thermal insulator

Breather Membrane
Adjustable Aluminium Support System

4mm VITRABOND

SikaTack Panel Adhesive System

Insulation continuous around supports

Kyrarch Window head flashing

Silicone joint (optional)

Window head

Steel structure

Fixing to structure to engineers details

Thermal insulator

Breather Membrane

VITRABOND

SHEET OF UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

DRAWING TITLE

DRAWING NO.

ENG APPR

MGR APPR

DATE 4.04.2011

FILE NAME: AdhFix11-WindowHd.dwg

SCALE: 1:1 @ A4

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES

ANGLES ± 0.1°
2FL ± 0.01mm
3FL ± 0.001mm

ADHESIVE FIX DETAIL SHOWING WINDOW HEAD with SEALANT

DRAWN: MTC

CHECKED - -

4.04.2011

THIS DRAWING IS STRICTLY CONFIDENTIAL AND MUST NOT BE COPIED, SHOWN TO, OR PLACED AT THE DISPOSAL OF A THIRD PARTY IN WHOLE OR IN PART WITHOUT WRITTEN PERMISSION FROM VALCAN ARCHITECTURAL.

valcan architectural
Century Court, Tuffley Lane
Tuffley, Gloucester, GL4 0PZ
tel: 0844 800 7131 fax: 0844 800 7130
email: enquiries@valcan.co.uk
10mm self-adhesive neoprene foam at every joint

4mm VITRABOND

Insulation continuous around supports

SikaTack Panel Adhesive System

Adjustable Aluminium Support System

Damp-proof Membrane

Kyrarch PPC Aluminium Secret-fix capping

Aluminium secret-fix capping bracket

18mm ply and packing to achieve 1.5° slope

Fixing to structure to engineers details

Fixing to structure to engineers details

Steel structure

Thermal insulator

Parapet lining

Breather Membrane

10mm self-adhesive neoprene foam at every joint

4mm VITRABOND

Insulation continuous around supports

SikaTack Panel Adhesive System

Adjustable Aluminium Support System

Damp-proof Membrane

Kyrarch PPC Aluminium Secret-fix capping

Aluminium secret-fix capping bracket

18mm ply and packing to achieve 1.5° slope

Fixing to structure to engineers details

Fixing to structure to engineers details

Steel structure

Thermal insulator

Parapet lining

Breather Membrane
10mm self-adhesive neoprene foam at every joint
4mm VITRABOND
18mm ply and packing to achieve 10° slope
Fixing to structure to engineers details
Damp-proof Membrane
Kyrarch PPC Aluminium Secret-fix capping
Aluminium secret-fix capping bracket
Adjustable Aluminium Support System
Insulation continuous around supports
SikaTack Panel Adhesive System
Fixing to structure to engineers details
Steel structure
Thermal insulator
Parapet lining
Breather Membrane
Fixing to structure to engineers details
SHEET UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES
SCALE: 1:1 A4