



# TECHNICAL SERVICE REPORT

# VULCAN CLADDING SYSTEMS

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## Adhesion of SikaTack Panel and SikaTack Panel 50 to various Vulcan Cladding Panel Samples

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**Project Number:**  
00433-UK-00001-AGr

**Test-costs:**  
240 EUR

**Requestor:**  
Andrew Hills

**Distribution List Sika:**  
Jeff Richards  
David Fraser

**SIKA LIMITED**  
Industry/Sealing & Bonding Technical Service

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Laboratory Technician

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00433-UK-00001-AGr  
06/02/2017  
Vulcan Cladding Systems

Sika Limited  
Watchmead  
Welwyn Garden City  
AL7 1BQ  
[www.sika.co.uk](http://www.sika.co.uk)

**TASK**

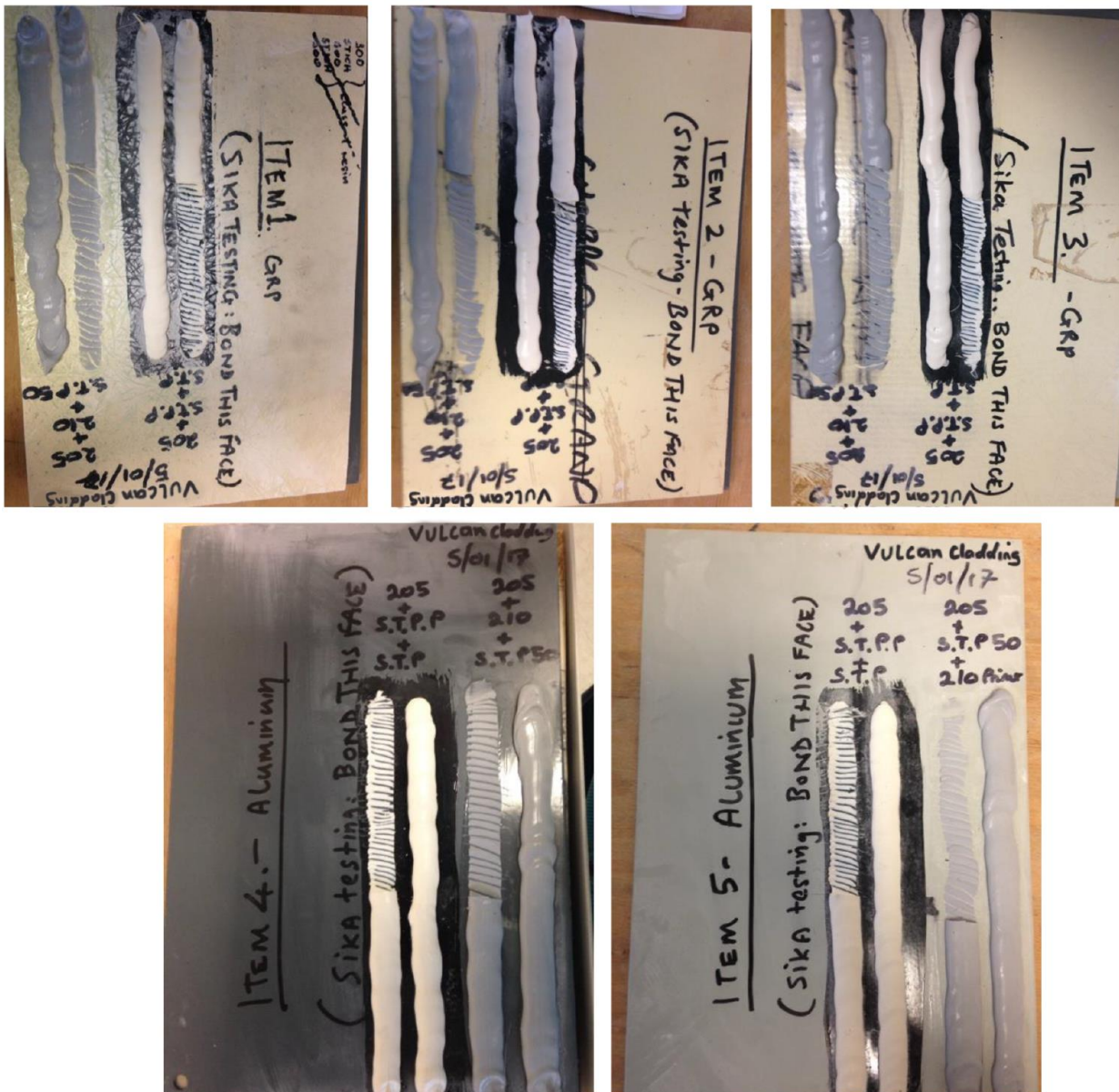
Standard adhesion test (CQP 033-1)

**SUMMARY**

Excellent adhesion was achieved to the various Vulcan panels using SikaTack Panel in conjunction with Sika Aktivator 205 and SikaTack Panel Primer. Also Excellent adhesion was achieved using SikaTack Panel 50 in conjunction with Sika Aktivator 205 and Sika Primer 210. All five panel types from Vulcan have passed all testing with the stated combinations.

Vulcan Panel types:

- 1 - GRP (Glass Reinforced Plastic) Rough 'Chopped strand fibreglass' - smooth mottled texture face
- 2 - GRP (Glass Reinforced Plastic) Smooth 'Chopped strand fibreglass' - fine textured face
- 3 - GRP (Glass Reinforced Plastic) Smooth 'woven fibreglass' - shallow crinkle textured face
- 4 - Aluminium Powder Coat Flat Sheet - Gloss Finish
- 5 - Aluminium Powder Coat Flat Sheet - Matt Finish



**TEST METHOD**

CQP 033-1 - Bead Adhesion

**UTILITIES**

Scotch-Brite

**CLEANER/ACTIVATORS**

Sika® Aktivator-205

**Batch No.**

3001919010

**PRIMER**

Sikatack® Panel Primer

Sika® Primer-210

**Batch No.**

3002356860

3002022760

**ADHESIVE/SEALANT**

SikaTack® -Panel

SikaTack® -Panel 50

**Batch No.**

3001959393

16-06227

**SUBSTRATE****DETAIL**

- 1 - GRP (Glass Reinforced Plastic) Rough 'Chopped strand fibreglass' - smooth mottled texture face
- 2 - GRP(Glass Reinforced Plastic) Smooth 'Chopped strand fibreglass' - fine textured face
- 3 - GRP(Glass Reinforced Plastic) Smooth 'woven fibreglass' - shallow crinkle textured face
- 4 - Aluminium Powder Coat Flat Sheet - Gloss Finish
- 5 - Aluminium Powder Coat Flat Sheet - Matt Finish

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Test method: CQP 033-1 - Bead Adhesion

Substrate: 1 - GRP (Glass Reinforced Plastic) Rough 'Chopped strand fibreglass' - smooth mottled texture face

Pre-Treatment 1	Pre-Treatment 2	t [min]	Pre-Treatment 3	t [min]	Adhesive	Results					
						B	C	H	J	K	L
Scotch-Brite	Sika® Aktivator-205	10	Sikatack® Panel Primer	30	SikaTack® -Panel	1	1	1	1	1	1
Scotch-Brite	Sika® Aktivator-205	10	Sika® Primer-210	30	SikaTack® -Panel 50	1	1	1	1	1	1

Test method: CQP 033-1 - Bead Adhesion

Substrate: 2 – GRP (Glass Reinforced Plastic) Smooth 'Chopped strand fibreglass' - fine textured face

Pre-Treatment 1	Pre-Treatment 2	t [min]	Pre-Treatment 3	t [min]	Adhesive	Results					
						B	C	H	J	K	L
Scotch-Brite	Sika® Aktivator-205	10	Sikatack® Panel Primer	30	SikaTack® -Panel	1	1	1	1	1	1
Scotch-Brite	Sika® Aktivator-205	10	Sika® Primer-210	30	SikaTack® -Panel 50	1	1	1	1	1	1

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Test method: CQP 033-1 - Bead Adhesion

Substrate: 3 – GRP (Glass Reinforced Plastic) Smooth 'woven fibreglass' - shallow crinkle textured face

Pre-Treatment 1	Pre-Treatment 2	t [min]	Pre-Treatment 3	t [min]	Adhesive	Results					
						B	C	H	J	K	L
Scotch-Brite	Sika® Aktivator-205	10	Sikatack® Panel Primer	30	SikaTack® -Panel	1	1	1	1	1	1
Scotch-Brite	Sika® Aktivator-205	10	Sika® Primer-210	30	SikaTack® -Panel 50	1	1	1	1	1	1

Test method: CQP 033-1 - Bead Adhesion

Substrate: 4 - Aluminium Powder Coat Flat Sheet - Gloss Finish

Pre-Treatment 1	Pre-Treatment 2	t [min]	Pre-Treatment 3	t [min]	Adhesive	Results					
						B	C	H	J	K	L
Scotch-Brite	Sika® Aktivator-205	10	Sikatack® Panel Primer	30	SikaTack® -Panel	1	1	1	1	1	1
Scotch-Brite	Sika® Aktivator-205	10	Sika® Primer-210	30	SikaTack® -Panel 50	1	1	1	1	1	1

Test method: CQP 033-1 - Bead Adhesion

Substrate: 5 - Aluminium Powder Coat Flat Sheet - Matt Finish

Pre-Treatment 1	Pre-Treatment 2	t [min]	Pre-Treatment 3	t [min]	Adhesive	Results					
						B	C	H	J	K	L
Scotch-Brite	Sika® Aktivator-205	10	Sikatack® Panel Primer	30	SikaTack® -Panel	1	1	1	1	1	1
Scotch-Brite	Sika® Aktivator-205	10	Sika® Primer-210	30	SikaTack® -Panel 50	1	1	1	1	1	1

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## Notation for the Results

Notation	Exposure
A	1d KLR
B	7d KLR
C	7d WL + 2h KLR
D	7d 40°C/95%rh. + 2h KLR
E	7d 70°C + 1d KLR
F	1d 80°C
G	1d 80°C + 2h KLR
H	3d -30°C + 2h KLR
I	7d 80°C + 2h KLR
J	3d 80°C
K	2h KLR
L	7d CP + 2h KLR
M	7d CP + 1d -30°C + 1d KLR
N	10 cycles VDA
O	20 cycles VDA
P	3x 7d WL 55°C
Q	7d 35°C/90%rh
R	7d WL 40°C
S	7d 70°C

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

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

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

#### 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.

**Legal Note:**

The information contained herein and any other advice are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. The information only applies to the application(s) and product(s) expressly referred to herein. In case of changes in the parameters of the application, such as changes in substrates etc., or in case of a different application, consult Sika's Technical Service prior to using Sika products. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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