

Test of Fundamental Principles

Bonding and Sealing Coated Glass

Date: 15.12.03	Author:	Ordered by/customer:
Report no.: 8177	Haschemi	Purratio
Project no.:		
Scope of Test: B		Test costs:
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(signed)

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Investigation report: 8177

The Task:

Bonding and Sealing Coated Glass

Summary:

The sample panes of glass coated with "Signapur" demonstrated no significant factors in the adhesion test.

Extremely good adhesion results can be achieved with our adhesive and sealant products by using the normal pre-treatment methods.

Investigations:

Adhesion test by peel test (peel test/bead test) in accordance with Sika test specification TA 301/95-09.

Products/batch:

Cleaner:

Sika Activator	Batch: 10640336
Sika Cleaner-205	Batch: 10616860

Primer:

Sika Primer 206 G+P	Batch: 10580515
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Adhesive:

Sikaflex-221(w)	Batch: 10679163
Sikaflex-222UV(w)	Batch: 10553791
Sikaflex-265VP	Batch: 10632503
SikaTack-Drive	Batch: 10619245
SikaTack-Ultrafast	Batch: 10583026
Sikaflex-291(w)	Batch:
Sikaflex-295	Batch:
Sikaflex-296	Batch:
Sikasil N-Plus	Batch: KA32711M8

Bonding surfaces/material group:

- 1) Sheet of glass coated with Signapur, glass type: SUN-GUARD 67 clear from Messrs. Polartherm (flat glass) light permeability: 67%, coating with anti-dirt and anti-scratch effect
- 2) Sheet of glass coated with Signapur, glass type: SUN-GUARD 52 clear from Messrs. Polartherm (flat glass) light permeability: 52%, coating with anti-dirt and anti-scratch effect

Remarks:

Results, see appendix

Subject: Bonding and Sealing Coated Glass

**Surface to be bonded: 1) Sheet of glass coated with Signapur (coating with anti-dirt and anti-scratch effect)
 Glass type: SUN-GUARD 67 clear
 Light permeability: 67%**

Remarks:

Pre-treatment	Cleaner	Drying time (min)	Primer	Drying time (min)	Adhesive	Bonding results						
						A	B	C	D	E	F	
	Activator	10	-	-	Sikaflex-221	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-222UV	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-265	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	SikaTack-Drive	-	1	1	1	1	1	4
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	SikaTack-Ultrafast	-	1	1	1	1	1	4
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-291	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-295UV	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-296	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikasil N-Plus	-	1	1	1	1	1	4
	Cleaner-205	10	-	-		-	1	1	1	1	1	4

Subject: Bonding and Sealing Coated Glass

Surface to be bonded: 2) Sheet of glass coated with Signapur (coating with anti-dirt and anti-scratch effect)

Glass type: SUN-GUARD 52 clear

Light permeability: 52%

Remarks:

Pre-treatment	Cleaner	Drying time (min)	Primer	Drying time (min)	Adhesive	Bonding results						
						A	B	C	D	E	F	
	Activator	10	-	-	Sikaflex-221	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-222UV	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	2P	1	1	1	1
	Activator	10	-	-	Sikaflex-265	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	SikaTack-Drive	-	1	1	1	1	1	4
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	SikaTack-Ultrafast	-	1	1	1	1	1	4
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-291	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikaflex-295UV	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	2P	1	1	1	1
	Activator	10	-	-	Sikaflex-296	-	1	1	1	1	1	1
	Activator	10	Primer-206 G+P	30		-	1	1	1	1	1	1
	Activator	10	-	-	Sikasil N-Plus	-	1	1	1	1	1	4
	Cleaner-205	10	-	-		-	1	1	1	1	1	4

Appendix to investigation report 8177

Grade	Assessment	Pattern of adhesion
1	Adhesion OK	> 95% cohesive failure
2	Adhesion OK	> 75% cohesive failure
3	Adhesion not OK	> 25% cohesive failure
4	Adhesion not OK	≤ 25% cohesive failure
L	Failure of the paint structure (define area of failure)	
P	Primer releases itself from the base material	
BK	Bubbles in the adhesive	
B	Bubbles/pores on the surface to be bonded	
T	Tunnel effect/adhesion at the edges	
K	Adhesive has not cured on the surface to be bonded	
FH	Film adhesion	
S	Foam structure on the surface to be bonded (fine bubbles)	
R	Edge is not adhering	
n	not tested	

Note:

If no additional designation is given, the failure area (if adhesive) is between the adhesive and the last layer applied. Deviating failure patterns are to be described.

Storage of Adhesive in Accordance with Sika Standard with Booster

Designation	Ageing
A	24 hours (only booster systems) Standard climate 23/50-2 (DIN 50014)
B	7 days Standard climate 23/50-2 (DIN 50014)
C	+ 7 days distilled H ₂ O/20°C + 2h standard climate 23/50-2 (DIN 50014)
D	+ 1 day +80°C (test immediately)
E	+ 2 h standard climate 23/50-2 (DIN 50014)
F	+ 7 days cataplasma (70°C/100% relative humidity) + 2 h standard climate 23/50-2 (DIN 50014)