Das Kunststoff-Zentrum

SKZ

Test report no.: **208323/20**

Customer:
Sika Services AG
Stuttgarter Straße 117
72574 Bad Urach
GERMANY

Order:
Evaluation of the testing of the non-structural joint sealants **Sikaflex® PRO-3 Purform** in accordance with DIN EN 14187 Cold applied joint sealants - Test method - Part 6: Determination of the adhesion/cohesion properties after immersion in test fuels and liquid chemicals

Letter of: 2020-01-16 **Ref:** Mr Ralf Heinzmann

Sample receipt:
2020-01-16
and 2019-10-24 (Primer)
and 2020-01-31 (Aktivator)

Test period: 2020-02-05 to 2020-06-23

The test report comprises 5 pages.

Würzburg, 24 June 2020
Lg/km

i. V.

Dr.-Ing. Andrea Monami
Deputy Head of Testing Laboratory

International akkreditiert
SKZ – Testing GmbH

i. A.

Dr. Philipp Lang
Group Manager Testing Laboratory
Profiles and Sealants

SKZ – Testing GmbH
Prüfung, Überwachung, Zertifizierung
Friedrich-Bergius-Ring 22
97076 Würzburg

Geschäftsführer
Dr.-Ing. Gerald Aengenheyster
HRB 7840
Amtsgericht Würzburg

Tel. +49 931 4104-0
Fax +49 931 4104-477
testing@skz.de
www.skz.de

DAkkS
Deutsche Akkreditierungsstelle
D-PL-19033-01-00
D-ZE-19033-01-00
D-IS-19033-01-00

1. Order

The Company Sika Services AG, Stuttgarter Str. 117, 72574 Bad Urach, GERMANY, instructed SKZ - Testing GmbH by letter of 16 January 2020 to test the one-component joint sealant **Sikaflex® PRO-3 Purform** in accordance with DIN EN 14187:2017-07 Cold applied joint sealants - Test method - Part 6: Determination of the adhesion/cohesion properties after immersion in test fuels and liquid chemicals.

2. Test material

The SKZ - Testing GmbH received the following samples for testing (description is based on inspection of the samples at SKZ - Testing GmbH and on the manufacturer`s data):

10 film-bags one-component sealant

Designation:	**Sikaflex® PRO-3 Purform**
Type (chemical family):	---
Colour:	concrete grey
Batch number:	300440649
Sample receipt:	2020-01-16

250 ml one-component primer for absorbent substrates (mortar)

Designation:	**Sika Primer 3N**
Batch number:	3004092829
Sample receipt:	2019-10-24

250 ml one-component primer for non-absorbent substrates (stainless steel)

Designation:	**Sika Aktivator 205**
Batch number:	3004410932
Sample receipt:	2020-01-31

3. Test procedure

The test of the non-structural joint sealant **Sikaflex® PRO-3 Purform** was performed in accordance with DIN EN 14187:2017-07 Cold applied joint sealants - Test method - Part 6: Determination of the adhesion/cohesion properties after immersion in test fuels and liquid chemicals.

Usually we carry out tests according to standards for which we have an accreditation. The list of all standards for which we are accredited is shown on the homepage at www.skz.de. In case of non-accredited procedures they are marked with *.

Unless indicated otherwise, preconditioning and test procedure was performed at standard conditioning atmosphere 23/50, class 1 according to DIN EN ISO 291: 2008-08.

Production and pre-treatment of test specimens

For the test specimens with the joint dimensions 12 x 12 x 50 mm were produced according to ISO 8340:2005-06.

For the determination of all tensile properties and adhesion/cohesion properties substrate according to the following table was used and prepared:

Substrate according to ISO 13640:1999-12	Primer	Drying time of the primer up to the application of the sealant in the joints
Mortar M1	**Sika® Primer-3 N**	90 min
Stainless Steel	**Sika® Aktivator-205**	90 min

The preconditioning of the test specimens was carried out according to ISO 8340: 2005-06, method B.

Method A: Standard conditioning atmosphere 23/50, class 1 according to DIN EN ISO 291:2008-08

Method B: The test specimens were conditioned according to method A and subsequently, subjected three times to the following storage cycle:

a) 3 days in the oven at (70 ± 2) °C;
b) 1 day in distilled water at (23 ± 2) °C;
c) 2 days in the oven at (70 ± 2) °C;
d) 1 day in distilled water at (23 ± 2) °C

Deviating to DIN EN 14187:2017-07 the test fuels and liquid chemicals listed in table 1 were used. The exposure time of the samples in the test liquids was 8 h and 72 h, respectively. The immersion in the test liquids was performed at a temperature of 23 °C. Before the tensile test, the samples were released for one hour.

The secant tensile modulus was determined on test specimens, which were extended by 100 % of the original width at a temperature of 23 °C. After the extension the strain was maintained for 24 hours to examine the specimen for adhesive or cohesive failure.

Table 1: List of test fuels / liquid chemicals and used substrates

Medium	Substrate
Super gasoline	Mortar
Diesel	Mortar
10 % H_2SO_4	Stainless Steel
25 % NaOH	Mortar
5 % Acetic acid	Stainless Steel
25 % Ammoniac	Mortar
Tensid PF 14 Dibt	Mortar
5 % HCL	Stainless Steel
3 % H_2O_2	Mortar
Isopropanol	Mortar

4. Evaluation of test results [1]

Medium	Substrate	Exposure Time	Sikaflex® PRO-3 Purform
Super gasoline	Mortar	8 h	+++
		72 h	+
Diesel	Mortar	8 h	+++
		72 h	+++
10 % H_2SO_4	Stainless Steel	8 h	+++
		72 h	-
25 % NaOH	Mortar	8 h	+++
		72 h	+++
5 % Acetic acid	Stainless Steel	8 h	+++
		72 h	-
25 % Ammoniac	Mortar	8 h	+++
		72 h	++
Tensid PF 14 Dibt	Mortar	8 h	+++
		72 h	++
5 % HCL	Stainless Steel	8 h	+++
		72 h	++
3 % H_2O_2	Mortar	8 h	+++
		72 h	++
Isopropanol	Mortar	8 h	+++
		72 h	++

+ Neither adhesive nor cohesive failure (Requirement according to DIN EN 14187-6:2017-07).
++ Neither adhesive nor cohesive failure and change of secant tensile modulus after immersion in test liquids ≤ 50 %.
+++ Neither adhesive nor cohesive failure and change of secant tensile modulus after immersion in test liquids ≤ 20 % (Requirement according to draft of DIN EN 14188-2:2014-12).
- Adhesive or cohesive failure occurred.