



COMPLIANCE TESTED by berkeley analytical

VOC Emission Test Certificate

Product Name: CFS-S SIL GG - 2076729

| Product Sample Information | | Certificate Information | |
|----------------------------|-----------------------------|-------------------------|---|
| Company: | Hilti Inc. | Certificate No: | 190312-01 |
| Company Website: | www.hilti.com | Certified By: |  Raja S. Tannous, Laboratory Director |
| Product Type: | Sealant – Firestop Silicone | Date: | March 12, 2019 |
| Date Produced: | 1/23/2019 | | |

Reference Standard: California Department of Public Health CDPH/EHLB/Standard Method Version 1.2, 2017 (Emission testing method for CA Specification 01350)

Acceptance Criteria and Results Demonstrating Compliance of Product Sample to Referenced Standard:

| Exposure Scenario ¹ | Individual VOCs of Concern ² | | Formaldehyde ³ | | TVOC ⁴ |
|--------------------------------|---|------------|---------------------------|------------|-------------------------|
| | Criterion | Compliant? | Criterion | Compliant? | |
| School Classroom | ≤½ Chronic REL | YES | ≤9.0 µg/m ³ | YES | ≤ 0.5 mg/m ³ |
| Private Office | ≤½ Chronic REL | YES | ≤9.0 µg/m ³ | YES | ≤ 0.5 mg/m ³ |

Product Coverage⁵: 6,357 g/m²

1. Exposure scenarios & product quantities for classroom & office are defined in Tables 4-2 – 4-5 (CDPH Std. Mtd. V1.2-2017)
2. Maximum allowable concentrations of individual target VOCs are specified in Table 4-1 (*ibid.*)
3. Maximum allowable formaldehyde concentration is ≤9 µg/m³, effective Jan 1, 2012; previous limit was ≤16.5 µg/m³ (*ibid.*)
4. Informative only; predicted TVOC Range in three categories, i.e., ≤0.5 mg/m³, >0.5 – 4.9 mg/m³, and ≥5.0 mg/m³
5. Informative and applicable only to tests of wet-applied products; grams of sample applied per square meter of substrate

Standards & Codes Recognizing CDPH Standard Method V1.2 (partial list)

- USGBC LEED Version 4, BD&C, ID&C
- The WELL Building Standard
- ANSI/GBI 01, Green Building Assessment Protocol
- ANSI/ASHRAE/USGBC/IES Standard 189.1

Narrative: Hilti Inc. selected a sample representative of its CFS-S SIL GG - 2076729 firestop silicone sealant product and submitted it on 2/11/2019 for testing. Berkeley Analytical measured and evaluated the emissions of VOCs from this sample following CDPH/EHLB/Standard Method V1.2-2017. The results of the test are presented in Berkeley Analytical report, 1031-003-01A-Mar1219.

Berkeley Analytical is an independent, third-party laboratory specializing in the analysis of organic chemicals emitted by and contained in building products, finishes, furniture, and consumer products. We are an ISO/IEC 17025 accredited laboratory (IAS, [TL-383](#)); all standards used in performing this test are in Berkeley Analytical's scope of accreditation.

DISCLAIMER: THIS CERTIFICATE OF COMPLIANCE AFFIRMS THAT: 1) A SAMPLE OF THE LISTED PRODUCT WAS TESTED ACCORDING TO THE REFERENCED STANDARD; 2) THE MEASURED VOC EMISSIONS FROM THE SAMPLE WERE EVALUATED FOR THE DEFINED EXPOSURE SCENARIO(S); AND 3) THE RESULTS MEET THE ACCEPTANCE CRITERIA OF THE REFERENCED STANDARD(S). BERKELEY ANALYTICAL IS NOT RESPONSIBLE FOR ANY CLAIMS REGARDING A PRODUCT OR PRODUCTS ENTERED INTO COMMERCE THAT MAY BE BASED ON THIS TEST. BERKELEY ANALYTICAL PROVIDES THIS CERTIFICATE OF COMPLIANCE "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.



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RE: VOC Emission Testing; CDPH Standard Method V1.2; non-full spread application calculations

Below are the rational and the calculations for quantity of Hilti Firestop Silicone Sealant CFS-S SIL GG that would be used in the standard school classroom and the standard private office defined in CDPH Standard Method V1.2."

CLASSROOM

The dimensions of a typical classroom are given by the CDPH Standard: 40' x 24' (12,2 m x 7,3 m). When using a ¼ inch joint the amount of sealant used calculates to the following values:

Sealant bead: Width 7 mm Depth 4 mm
Linear Meters: (2 x 12,2 m) + (2 x 7,3 m) = 39 m
Volume of sealant needed: 1,1 Liters
Volume in one foil pack: 600 mm

Total Volume: 2 Foil packs of 600 ml content

OFFICE

The dimensions of a typical office room are given by the CDPH Standard: 12' x 10' (3,7 m x 3,0 m). When using a ¼ inch joint the amount of sealant used calculates to the following values:

Sealant bead: Width 7 mm Depth 4 mm
Linear Meters: (2 x 3,7 m) + (2 x 3,0 m) = 13,4 m
Volume of sealant needed: 0,4 Liters
Volume in one foil pack: 600 mm

Total Volume: 1 Foil pack of 600 ml content

If you have any further questions, please let me know.

With best regards

i.A. Peter Schulze
Technical Service BU Fire Protection

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Head of Technical Service BU Fire Protection

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