



Fraunhofer

TESTED[®]
DEVICE

igus GmbH
e-skin flat single pod system
Report No. IG 2110-1268

DUPLICATE

Statement of
Qualification

Single product
Outgassing Behavior
VOC/SVOC

Customer

igus GmbH
Spicher Strasse 1a
51147 Cologne
Germany

Component tested

Category: Energy Supply

Subcategory: Cable Systems

Product name: e-skin flat single pod system with CFCLEAN and support chain
(manufacturing date: 5/10/2020; color: white; article number: SKF12O/
SKF12C/CFCLEAN)

Emission measurements with purge-and-trap thermodesorption method and gas chromatography combined with mass spectrometry (TD-GC/MS)

Standards/Guidelines: ISO 14644-8, -15; ISO 16000-6, -9, -11, -25; VDI 2083 Blatt 17
The norms stated generally refer to the version valid at the time of the tests.

Testing equipment: Measuring station: PerkinElmer Clarus 600, Clarus SQ8, ATD 650

Test procedure parameters:

- Retention range (VOC): C6 to C16
- Outgassing test temperatures: 23 °C
- Duration of preconditioning: > 10h
- Flow rate purge gas: 6 l/h
- Flow rate sampling gas: 6 l/h
- Duration of sampling: 60 min
- Volume of the emission chamber: 10l

Test result / Classification

The outgassing behavior of e-skin flat single pod system with CFCLEAN and support chain at the stated temperatures was investigated according to ISO 14644-15. Based on the outgassing rates determined for the specific equipment, the following equipment classification was made for the corresponding Contaminant Category:

Contaminant Category (x)	SER _u ¹⁾ 23 °C [g/unit · s]	ISO ACC _e Class (x) based on 23° C
VOC	8.8 x 10 ⁻¹¹	- 10.1
SVOC	< 2.8 x 10 ⁻¹³	< - 12.6
Amines	5.9 x 10 ⁻¹³	--
Organophosphates	< 2.8 x 10 ⁻¹³	--
Siloxanes	1.2 x 10 ⁻¹²	--
Phthalates	< 2.8 x 10 ⁻¹³	--

¹⁾SER_u: Unit-specific emission rate

The measuring devices used for the qualification tests are calibrated at regular intervals; their results can be traced back to national and international standards. In cases where no national standards exist, the test procedure implemented complies with the technical regulations and norms applicable at the time of the test. The relevant documentation can be viewed on request at any time.

Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

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on behalf of 
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