valid until: November 6, 2029

Fraunhofer

TESTED®
DEVICE

TROX GmbH
MFPCR series H14 Filter
Report No. TR 2408-1540

Statement of
Qualification

Single product
Outgassing Behavior
VOC/SVOC

Fraunhofer
IPA

Statement of Qualification · Single product

Customer

TROX GmbH
Heinrich-Trox-Platz 1
47504 Neukirchen-Vluyn
Germany

Component tested

Category: Cleanroom Facilities

Subcategory: Filtration Systems

Product name: MFPCR series H14 Filter
(manufacturing date: 6/2024; filter class: H14; article number: MFPCR-H14-ALD/1314x600x66x46/PD/RAL9010/0/CSU; serial number: DE1793466/20)

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
The norms stated generally refer to the version valid at the time of the tests.

Testing equipment: Measuring station: ..... PerkinElmer Clarus 680, Clarus SQ8, ATD 650

Test procedure parameters:

- Retention range (VOC): ..... C6 to C16
- Outgassing test temperatures: ..... 23 °C
- Duration of preconditioning: ..... 24 h
- Flow rate sampling gas: ..... 10 l/h
- Duration of sampling: ..... 1 h
- Velocity at outlet side of filter: ..... 0.45 m/s

Test result / Classification

The outgassing behavior of MFPCR series H14 Filter at the stated temperatures was investigated according to ISO 14644-15. Based on the outgassing rates determined for the specific equipment, the following material 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	< 6.6 x 10^{-10}	**< -9.2**
SVOC	9.0 x 10^{-11}	**-10.0**
Amines	< 8.6 x 10^{-12}	**--**
Organophosphates	< 8.6 x 10^{-12}	**--**
Siloxanes	< 8.6 x 10^{-12}	**--**
Phthalates	< 8.6 x 10^{-12}	**--**

[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
Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA

This document only applies to the named product in its original state and is valid for a period of 5 years from the current date the document was issued. The document can be verified under **www.tested-device.com**.