



valid until: December 16, 2027

Fraunhofer

TESTED[®] DEVICE

HEIN Ind.-Schilder
GEM-MARK

Report No. HE 2209-1349

Single product Outgassing Behavior VOC/SVOC

Qualification Certificate

This is to certify that the product mentioned above, provided by

HEIN Industrieschilder GmbH
Sinsheim, Germany

has been awarded a Fraunhofer certificate TESTED DEVICE bearing the report number HE 2209-1349.

The outgassing behavior of the Cleanroom label „GEM-MARK“ (color: cyan, magenta, yellow, black, white) at the stated temperatures was investigated according to VDI 2083 Part 17 and ISO 14644-15. Based on the outgassing rates determined for the specific surfaces, the following material classification was made for the corresponding Contaminant Category:

Contaminant Category (x)	SER _a ¹⁾ 23 °C [g/m ² s]	SER _a ¹⁾ 90 °C [g/m ² s]	ISO-ACC _m Class (x) based on 23 °C
VOC	1.9 x 10 ⁻⁹	2.6 x 10 ⁻⁷	-8.7
SVOC	< 2.8 x 10 ⁻¹⁰	5.0 x 10 ⁻⁸	< -9.6
Amines	< 2.8 x 10 ⁻¹⁰	< 1.7 x 10 ⁻⁹	--
Organophosphates	< 2.8 x 10 ⁻¹⁰	< 1.7 x 10 ⁻⁹	--
Siloxanes	< 2.8 x 10 ⁻¹⁰	< 1.7 x 10 ⁻⁹	--
Phthalates	< 2.8 x 10 ⁻¹⁰	< 1.7 x 10 ⁻⁹	--

¹⁾SER_a: Area-specific emission rate

HE 2209-1349
Report No. first document

Stuttgart, December 16, 2022
Place, date of first document issued

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Report No. current document

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Place, current date

on behalf of 

DUPLICATE

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

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