



valid until: April 24, 2029

# Fraunhofer

## TESTED<sup>®</sup> DEVICE

ebm-papst  
Fan impeller Latamid 66 H2  
**Report No. EB 2403-1502**

DUPLICATE

Statement of  
Qualification

Single product  
Outgassing Behavior  
VOC/SVOC

# Statement of Qualification · Single product

**Customer**  
 ebm-papst Mulfingen GmbH & Co. KG  
 Bachmühle 2  
 74673 Mulfingen  
 Germany

**Component tested**

Category: Materials  
 Subcategory: Plastics  
 Product name: Fan impeller Latamid 66 H2 G/25-V0HF1  
 (manufacturing date: 8/2022; color: black; serial number: 8217101676)

**Emission chamber 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 Part 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
- Sampling chamber:.....Markes International µCTE

Sample storage:
 

- Pre-conditioning:
  - Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1
  - Airflow velocity:.....0.45 m/s
  - Airflow type:..... vertical laminar flow
  - Temperature: .....22 °C ± 0.5 °C
  - Relative humidity: ..... 45 % ± 5 %
  - Purified air: ..... VOC-filtered

Test procedure parameters:
 

- Retention range (VOC): ..... C6 to C16
- Outgassing test temperatures: ..... 23 °C and 90 °C

**Test result / Classification**

The outgassing behavior of the material of the Fan impeller Latamid 66 H2 G/25-V0HF1 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 <sub>a</sub> <sup>1)</sup> 23 °C [g/m <sup>2</sup> s]	SER <sub>a</sub> <sup>1)</sup> 90 °C [g/m <sup>2</sup> s]	ISO-ACC <sub>m</sub> Class (x) based on 23 °C
VOC	< 2.8 x 10 <sup>-10</sup>	< 1.7 x 10 <sup>-9</sup>	< -9.6
SVOC	< 2.8 x 10 <sup>-10</sup>	< 1.7 x 10 <sup>-9</sup>	< -9.6
Amines	< 2.8 x 10 <sup>-10</sup>	< 1.7 x 10 <sup>-9</sup>	--
Organophosphates	< 2.8 x 10 <sup>-10</sup>	< 1.7 x 10 <sup>-9</sup>	--
Siloxanes	< 2.8 x 10 <sup>-10</sup>	< 1.7 x 10 <sup>-9</sup>	--
Phthalates	< 2.8 x 10 <sup>-10</sup>	< 1.7 x 10 <sup>-9</sup>	--

<sup>1)</sup>SER<sub>a</sub>: Area-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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Department of Ultraclean Technology and Micromanufacturing

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Nobelstrasse 12  
 70569 Stuttgart  
 Germany

on behalf of   
 Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA



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