



valid until: November 26, 2030

**Fraunhofer**  
TESTED<sup>®</sup>  
DEVICE  
Ziehl-Abegg SE  
PA6-GF30 blue  
Report No. ZI 2507-1655

DUPPLICATE

Statement of  
Qualification

Single product  
Outgassing Behavior  
VOC/SVOC

# Statement of Qualification • Single product

## Customer

Ziehl-Abegg SE  
Heinz-Ziehl-Strasse  
Künzelsau  
Germany

## Test result / Classification

The outgassing behavior of PA6-GF30 blue at the stated temperature was investigated according to ISO 14644-15, ISO 16000-25 and VDI 2083 Part 17. Based on the outgassing rates determined for the specific surfaces, the following material classification was made for the corresponding Contaminant Category:

## Tested product

Category: Materials  
Subcategory: Plastics  
Product name: PA6-GF30 blue  
(manufacturing date: 5/2025; color: blue; article number: 00412286)

Contaminant Category (x)	SER <sup>1)</sup> 23°C [g/m <sup>2</sup> ·s]	ISO-ACC <sup>2)</sup> Class (x)
VOC	4.7 x 10 <sup>-9</sup>	<b>-8.3</b>
SVOC <sup>3)</sup>	< 2.8 x 10 <sup>-10</sup>	<b>&lt; -9.6</b>
Sum VOC+SVOC	4.7 x 10 <sup>-9</sup>	--
Refractories <sup>3)</sup>	< 2.8 x 10 <sup>-10</sup>	--
Siloxanes <sup>4)</sup>	< 2.8 x 10 <sup>-10</sup>	--

## 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 16000-25; VDI 2083 Part 17  
The norms stated generally refer to the version valid at the time of the tests.

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

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
- Retention range (VOC): ..... C6 to C16
- Retention range (SVOC): ..... > C16
- Temperature during emission sampling: ..... 23 °C
- Preconditioning time: ..... > 5 min
- Sampling flow rate: ..... 100 ml/min
- Duration of emission sampling: ..... 60 min
- Volume of micro emission chamber: ..... 45 cm<sup>3</sup>

Test procedure parameters:

<sup>1)</sup> The emission rate is calculated using the detected mass based on the response of the standard, the analyzed unit and the sampling duration.  
<sup>2)</sup> According to ISO 16000-25, SVOC is the sum of airborne and condensable SVOC  
<sup>3)</sup> Refractories are compounds containing elements other than C, H and O (for example S, P, N, Si,...).  
<sup>4)</sup> Siloxanes and other organic substances containing silicon. Siloxanes are also classified as refractories.

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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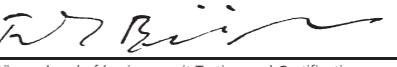
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Business unit  
Testing and Certification

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Place, current date

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on behalf of   
Dr.-Ing. Frank Bürger, head of business unit Testing and Certification

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