



valid until: February 6, 2031

# Fraunhofer

## TESTED<sup>®</sup> DEVICE

Ritterwand GmbH & Co. KG  
PE powdercoating PO-658-9010-001

**Report No. RI 2603-1734**

DUPLICATE

Statement of  
Qualification

Single product  
Outgassing Behavior  
VOC/SVOC

# Statement of Qualification · Single product

**Customer** Ritterwand GmbH & Co. KG  
Roesseweg 5-7  
71154 Nufringen  
Germany

**Tested product**

Category: Materials

Subcategory: Coatings

Product name: Polyester powdercoating PO-658-9010-001  
(manufacturing date: 4/2025; color: RAL 9010; article number: PO-658-9010-001)

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

Test 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 temperature: ..... 23 °C

## Test result / Classification

The outgassing behavior of Polyester powdercoating PO-658-9010-001 at the stated temperatures was investigated according to 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> [g/m <sup>2</sup> s]	ISO-ACC <sub>m</sub> Class (x)
VOC	6.6 x 10 <sup>-9</sup>	-8.2
SVOC <sup>2)</sup>	2.7 x 10 <sup>-9</sup>	-8.6
Sum of VOC and SVOC	9.3 x 10 <sup>-9</sup>	--
Refractories <sup>3)</sup>	9.3 x 10 <sup>-10</sup>	--
Siloxanes <sup>4)</sup>	9.3 x 10 <sup>-10</sup>	--

<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> SVOC are airborne 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 Si-containing organic substances. Siloxanes also count 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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Business unit Testing and Certification

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