



# Fraunhofer

## TESTED<sup>®</sup> DEVICE

MOGUL TEXTILE  
Madaline Cleanroom  
**Report No. MO 2301-1382**

Statement of  
Qualification

Single product  
Particle Emission

# Statement of Qualification · Single product

**Customer**  
 MOGUL TEKSTİL San. ee Tic. A.Ş.  
 11. Sokak  
 39780 Lüleburgaz/Kırklareli  
 Turkey

**Component tested**

Category: Materials  
 Subcategory: Consumables  
 Product name: Madaline Microfilament Cleanroom Wipe  
 (manufacturing date: 11/3/2022; color: white; charge number: 1006055;  
 serial number: 10000285; material: 70 % Polyester/30 % Polyamid)

## Random sampling of particle emissions (airborne)

Standards/Guidelines: ISO 14644-1, -14; VDI 2083 Part 9.2, Part 9.1 (without 24-hour running-in period)  
 The norms stated generally refer to the version valid at the time of the tests.

Test devices: Optical particle counter:  
 LasAir II 110 with measuring ranges  $\geq 0.1 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ ,  
 $\geq 1.0 \mu\text{m}$  and  $\geq 5.0 \mu\text{m}$

Test environment parameters:

- Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1
- Airflow velocity:.....0.45 m/s
- Airflow pattern:..... vertical laminar flow
- Temperature: .....22°C  $\pm$  0.5°C
- Relative humidity: ..... 45 %  $\pm$  5 %

Test procedure parameters:

Test bench according to ISO 9073-10:

- Sample clamping position:..... flat
- Length between clamping points: ..... 230 mm
- Motion cycle:
  - Linear compression s:..... 120 mm
  - Torsion: ..... 180°
- Cycle time t: .....1 s

## Test result / Classification

When operated in a dry state using the given test parameters, the Madaline Microfilament Cleanroom Wipe is suitable for use in cleanrooms up to the following Air Cleanliness Class according to ISO 14644-1:

Test parameter(s)	Air Cleanlines Class
Linear compression = 120 mm Torsion = 180° Cycle time t = 1 s	<b>4</b>
<b>Overall result</b>	

This corresponds with ISO-ACP<sub>c</sub> Class 4 according to VDI 2083 Part 9.2.

Please note: Transport damages, incorrect installation, aging behavior etc. can influence the test result.

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.