



Fraunhofer

**TESTED[®]
DEVICE**

Werksitz GmbH
WS 1733.20 RR ESD
Report No. WE 2503-1607

DUPLICATE

Statement of
Qualification

Single product
Particle Emission
in Cleanroom
(atmospheric)

Customer	Werksitz GmbH Telefunkenstrasse 9 97475 Zeil am Main Germany
Tested product	
Category:	Working Place and Operator
Subcategory:	Chairs
Product name:	Cleanroom stool WS 1733.20 RR ESD (manufacturing date: 2/25/2025; color: black; article number: 105015)

Random sampling of particle emissions (airborne) at representative sites in cleanroom under atmospheric conditions

Standards/guidelines:	ISO 14644-1, -14 The norms stated generally refer to the version valid at the time of the tests.
Test equipment:	Optical particle counter: LasAir II 110 and LasAir III 110 with measuring ranges $\geq 0.1\text{ }\mu\text{m}$, $\geq 0.2\text{ }\mu\text{m}$, $\geq 0.3\text{ }\mu\text{m}$, $\geq 0.5\text{ }\mu\text{m}$, $\geq 1.0\text{ }\mu\text{m}$ and $\geq 5.0\text{ }\mu\text{m}$
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 - Room temperature:22 °C ± 0.5 °C - Relative humidity: 45 % ± 5 %
Test procedure parameters:	- Type of stress applied:pulsating vertical force - Location of stress impact: midpoint of the seat - Seat: - Force:.....F = 1200 N - Cycles: 12/min

Test result / Classification	The Cleanroom stool WS 1733.20 RR ESD is suitable for use under the specified test parameters (room temperature: 22 °C ± 0.5 °C; relative humidity: 45 % ± 5 %) in cleanrooms of the following Air Cleanliness Class according to ISO 14644-1:					
	<table><tr><th>Test parameter(s)</th><th>Air Cleanliness Class</th></tr><tr><td>Seat (F = 1200 N; 12 cycles/min)</td><td rowspan="2">5</td></tr><tr><td>Overall result</td></tr></table>	Test parameter(s)	Air Cleanliness Class	Seat (F = 1200 N; 12 cycles/min)	5	Overall result
Test parameter(s)	Air Cleanliness Class					
Seat (F = 1200 N; 12 cycles/min)	5					
Overall result						
	Please note: Transport damages, incorrect installation, oil leakage, aging behavior, corrosion 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.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA	WE 2503-1607 Report No. first document	Stuttgart, October 10, 2025 Place, date of first document issued
Business unit Testing and Certification	-- Report No. current document	-- Place, current date
Nobelstrasse 12 70569 Stuttgart Germany	on behalf of Dr.-Ing. Frank Bürger, head of business unit Testing and Certification	