



Fraunhofer

TESTED[®]
DEVICE

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

DUPLICATE

Statement of
Qualification

Single product
Electrical
Resistance

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)

Electrical resistance measurements at representative points (resistance to groundable point (R_{gp}))

Standards/guidelines:	IEC 61340-4-1, -5-1 The norms stated generally refer to the version valid at the time of the tests.
Test equipment:	Data capture: – Type: Metriso 3000 – Manufacturer: Wolfgang Warmbier GmbH & Co. KG • Measuring probe: – Type: Model 850, ME 2,5 kg, Ø 63,5 mm, DIN IEC 61340-2-3, -4-1 – Manufacturer: Wolfgang Warmbier GmbH & Co. KG • Counter electrode: – Material: stainless steel plate – Dimensions: 500 mm x 500 mm (± 2 mm) – Thickness: 1,2 mm (± 0,1 mm)
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 ± 0.5 °C • Relative humidity: 45 % ± 5 %
Test procedure parameters:	• Assembly condition:..... insulated mounting – Type: flat PTFE-plate with R > 10 ¹⁴ Ω – Dimensions: 1210 mm x 1200 mm (± 5 mm) – Thickness: 5 mm (± 1 mm)

Test result / Classification	The Cleanroom stool WS 1733.20 RR ESD (color: black) was examined in accordance with IEC 61340-2-3 for resistance to a groundable point (R _{gp}). The measurement result is below the required limit value of 1 x 10 ⁹ Ω according to IEC 61340-5-1 for ESD protection elements.
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Measuring points	Operating voltage [V]	Mean value resistance to the groundable point (R _{gp}) [Ω]	Compliance with the limit value as per IEC 61340-5-1
Seat point 1	10	1.4 x 10 ⁵	fulfilled
Seat point 2	10	1.4 x 10 ⁵	fulfilled
Seat point 3	10	1.4 x 10 ⁵	fulfilled

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	