



Fraunhofer

TESTED[®]
DEVICE

item Industrietechnik
item Fixing System 0.0.717.15
Report No. IT 2207-1335

DUPLICATE

Statement of
Qualification

Single product
Particle Emission

Customer

item Industrietechnik GmbH
Friedenstrasse 107-109
42699 Solingen
Germany

Component tested

Category:

Cleanroom Facilities

Subcategory:

Wall/Ceiling/Floor/Door

Product name:

item Fixing System 0.0.717.15
(manufacturing date: 2022; article number: 0.0.717.15; dimensions: 1,24 x 1,24 x 2,00 m)
Consists of:

- double-Lip Seals
- wall elements
- glass elements
- exhaust air outlet

Random sampling of particle emissions (airborne) at representative sites

Standards/Guidelines:

ISO 14644-1, -14
The norms stated generally refer to the version valid at the time of the tests.

Test devices:

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
- Temperature: 22 °C \pm 0.5 °C
- Relative humidity: 45 % \pm 5 %

Test procedure parameters:

The fixing system was subjected to stress as follows:

- Structure-borne noise: approx. 50 Hz
- Oscillation velocity (\varnothing):..... $v = 1.6849\text{ mm/s}$
- Oscillation acceleration (\varnothing):..... $a = 0.5553\text{ m/s}^2$
- Deflection of the system (\varnothing):..... $s = 0.0191\text{ mm}$

Test result / Classification

When operated under the specified test conditions, the item Fixing System 0.0.717.15 is suitable for use in cleanrooms fulfilling the specifications of the following Air Cleanliness Class according to ISO 14644-1:

Test parameter(s)	Air Cleanlines Class
Structure-borne noise = approx. 50 Hz	4
Overall result	

Please note: Transport damages, incorrect installation, 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

Department of Ultraclean Technology and Micromanufacturing

Nobelstrasse 12
70569 Stuttgart
Germany

IT 2207-1335

Report No. first document

--

Report No. current document

on behalf of


Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA


Stuttgart, January 25, 2023

Place, date of first document issued

--

Place, current date



 **Fraunhofer**
IPA

This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under www.tested-device.com.