



Fraunhofer

TESTED[®] DEVICE

Fural Metalit Dipling
clip in window tile 625 x 625
Report No. FU 2605-1774

DUPLICATE

Statement of
Qualification

Single product
Particle Emission
in Cleanroom
(atmospheric)

Customer	Fural Systeme in Metall GmbH Cumberlandstrasse 66 4810 Gmunden Austria
Tested product	
Category:	Cleanroom Facilities
Subcategory:	Wall/Ceiling/Floor/Door
Product name:	FK with sharp edges; quick suspension; with double grid (manufacturing date: 5/12/2026; color: lacquered in parzifal light white; dimensions: 625 x 625 mm; article number: 1000079)

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:	The ceiling system was subjected to stress as follows: - Structure-borne noise: approx. 50 Hz - Oscillation velocity (Ø):.....v = 8.5558 mm/s - Oscillation acceleration (Ø):.....a = 2.9604 m/s² - Deflection of the system (Ø):..... s = 0.0534 mm

Test result / Classification	The ceiling system FK with sharp edges; quick suspension; with double grid 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 Classes according to ISO 14644-1:
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Test parameter(s)	Air Cleanlines Class
Structure-borne noise = approx. 50 Hz	1
Overall result	

It should be noted that cleanrooms of class 1 to 5 according to ISO 14644-1 have a higher filter occupancy, which may restrict the use of ceiling systems. Cleanrooms with a horizontal displacement flow form an exception to this.

The test result may be affected by the surrounding ceiling system, in particular the material pairing between lights and ceiling frames, as well as other mounting accessories. Particle emission behavior should be reassessed in each assembly situation.

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.