



Fraunhofer

TESTED[®] DEVICE

Fural Metalit Dipling
clip-in system 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:KQK with bevelled edges; nonius suspension; without double grid
(manufacturing date: 5/12/2026; color: RAL 9010 powder-coated;
dimensions: 625 x 625 mm article number: 1000024)

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

Test procedure parameters:The ceiling system was subjected to stress as follows:

- Structure-borne noise: approx. 50 Hz
- Oscillation velocity ($\varnothing$):.....v = 5.7793 mm/s
- Oscillation acceleration ($\varnothing$):.....a = 2.4404 m/s²
- Deflection of the system ($\varnothing$):..... s = 0.0551 mm

Test result / Classification

The ceiling system KQK with bevelled edges; nonius suspension; without double grid is suitable for use under the specified test parameters (room temperature: 22 °C $\pm$ 0.5 °C; relative humidity: 45 % $\pm$ 5 %) in cleanrooms of the following Air Cleanliness Classes according to ISO 14644-1:

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.