



Fraunhofer

TESTED[®] DEVICE

icotek GmbH
KEL-U-B CR

Report No. IC 2104-1222

Statement of
Qualification

Product series
Particle Emission

| | |
|------------------|---|
| Customer | icotek GmbH Bischof-von-Lipp-Strasse 1 73569 Eschach Germany |
| Component tested | |
| Category: | Cleanroom Facilities |
| Subcategory: | Wall / Ceiling / Floor / Door |
| Product name: | KEL-U-B CR with cable grommets type KTxx-CR Tested Product: <ul style="list-style-type: none">Split cable entry frame KEL-U B1 CR black (manufacturing date: 5/5/2021) |

Random sampling of particle emissions (airborne) at representative sites

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|------------------------------|--|
| 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: | <ul style="list-style-type: none">Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1Airflow velocity:.....0.45 m/sAirflow pattern:..... vertical laminar flowTemperature:22 °C \pm 0.5 °CRelative humidity: 45 % \pm 5 % |
| Test procedure parameters: | The split cable entry frame was subjected to stress as follows: <ul style="list-style-type: none">Structure-borne noise: approx. 50 Hz |


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| Test result / Classification | When operated under the specified test conditions, the split cable entry frame series KEL-U-B CR with cable grommets type KTxx-CR 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 | 1 |
| Overall result | |

Please note: Transport damages, incorrect installation, aging behavior 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.

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| Fraunhofer Institute for Manufacturing Engineering and Automation IPA | IC 2104-1222 Report No. first document | Stuttgart, July 9, 2021 Place, date of first document issued |
| Department of Ultraclean Technology and Micromanufacturing | -- Report No. current document | -- Place, current date |
| Nobelstrasse 12 70569 Stuttgart Germany | on behalf of Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA |  |