



Fraunhofer

TESTED<sup>®</sup>  
DEVICE

ROCKFON  
Ceiling system MediCare Air  
Report No. RO 1808-1064

DUPLICATE

Statement of  
Qualification

Particle Emission

Statement of Qualification

Customer	Rockwool International A/S, Rockfon Hovedgaden 584 2640 Hedehusene Denmark
Component tested	
Category:	Cleanroom Facilities
Subcategory:	Wall/Ceiling/Floor/Door
Product name:	Ceiling system MediCare Air (manufacturing date: 3/2/2018; color: white; article number: 98908; dimension: 600 x 600 x 25 mm)

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:	<ul style="list-style-type: none"><li>Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1</li><li>Airflow velocity:.....0.45 m/s</li><li>Airflow pattern:..... vertical laminar flow</li><li>Temperature: .....22 °C <math>\pm</math> 0.5 °C</li><li>Relative humidity: ..... 45 % <math>\pm</math> 5 %</li></ul>
Test procedure parameters:	The ceiling system was subjected to stress as follows: <ul style="list-style-type: none"><li>Structure-borne noise: ..... approx. 5 to 50 Hz</li><li>Oscillation velocity (<math>\varnothing</math>):.....v = 4.2218 mm/s</li><li>Oscillation acceleration (<math>\varnothing</math>):.....a = 1.5550 m/s<sup>2</sup></li><li>Oscillation of the system (<math>\varnothing</math>): ..... s = 0.0633 mm</li></ul>

Test result / Classification

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

Test parameter(s)	Air Cleanliness Class
Structure-borne noise = approx. 5 to 50Hz	2
Overall result	2

It must be pointed out, that according to ISO 14644-1 cleanroom classes 1 to 5 have a high filter occupancy, with the result that ceiling panels cannot be used in some cases. Cleanrooms with a horizontal displacement flow form an exception to this.

The test result may be influenced by the surrounding ceiling system, in particular the material pairing between the ceiling panel and ceiling frame, as well as other assembly accessories. Particle emission behavior should be re-assessed in the respective assembly situation.

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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Nobelstrasse 12 70569 Stuttgart Germany	on behalf of Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA	