



Fraunhofer

**TESTED[®]
DEVICE**

Saint-Gobain Ecophon
Hygiene Advance A C3
Report No. EC 0912-502

DUPLICATE

Statement of
Qualification

Statement of Qualification

Customer:	Saint-Gobain Ecophon AB Box 500 26061 Hyllinge Sweden
Component tested:	Ceiling system
Type:	Hygiene Advance A C3
Tests performed:	<ul style="list-style-type: none">• Random check measurements of particle emission (airborne) at representative points.• Surface cleanability regarding particles
Test parameters:	<ul style="list-style-type: none">• For the particle emission tests the ceiling system was stressed with an impact sound:<ul style="list-style-type: none">– impact sound between approx. 5 Hz and 50 Hz– average oscillation velocity $v = 0.067 \text{ mm/s}$– average oscillation acceleration $a = 7.6 \text{ m/s}^2$– average oscillation of the system $s = 2.7 \text{ mm}$• Application of typical surface cleaning techniques with substance compound Elma Clean 100 on the tested material surface
Test results / classification:	<p>When the ceiling system is being operated at the above mentioned test parameters, it is suitable for use in cleanrooms fulfilling the Air Cleanliness Class 3 according to ISO 14644-1.</p> <p>With the tested surface, a cleaning success of 100 % of all detectable particles between $2 \mu\text{m}$ and $200 \mu\text{m}$ was achieved using Elma Clean 100. This result is an improvement of at least five (5) surface cleanliness classes as stated in VDI 2083 9.1.</p>

Standards / guidelines used for the qualification:	VDI 2083 Part 1, 4 and 9.1; ISO 14644-1
Test parameters of the cleanroom environment:	Cleanroom of Air Cleanliness Class ISO Class 1 (according to ISO 14644-1)
	Air flow velocity: 0.45 m/s
	Air flow guidance: vertical unidirectional air flow from ceiling to floor. (raised floor)
	Temperature: $22^\circ\text{C} \pm 0.5^\circ\text{C}$ ($71.6^\circ\text{F} \pm 0.9^\circ\text{F}$)
	Relative humidity: $45\% \pm 5\%$
	The measuring equipment used for the qualification is regularly calibrated and is based on national and international standards. In the case where no national standards exist, the measuring procedure used corresponds with technical regulations and norms valid at the time of the measurement. The documents drawn up for this procedure are available for viewing.