



# Fraunhofer TESTED<sup>®</sup> DEVICE

LEONI Cable systems  
Cleanroom Line (CRL)  
Report No. LE 0705-405

DUPLIKAT

Statement of  
Qualification

# Statement of Qualification

**Manufacturer of object to be tested:** LEONI Kabel GmbH  
Stieberstraße 5  
D-91154 Roth

**Component tested:** cable systems

**Type:** LEONI Cleanroom Line (CRL) LEC 002686 Rev.0  
LEONI Cleanroom Line (CRL) LEC 002463 Rev.0

**Test parameters:** Stroke length: 820 mm  
Set of parameters 1:  $v_1$ : 0.2 m/s;  $a_1$ : 0.2 m/s<sup>2</sup>  
Set of parameters 2:  $v_2$ : 0.6 m/s;  $a_2$ : 1.0 m/s<sup>2</sup>  
Set of parameters 3:  $v_3$ : 1.2 m/s;  $a_3$ : 2.0 m/s<sup>2</sup>  
Set of parameters 4:  $v_4$ : 2.0 m/s;  $a_4$ : 5.0 m/s<sup>2</sup>

**Performed tests:** Random sample measurements of particle emission (airborne) at representative points.

**Test results / classification:** When the specimen are being operated at the conditions of the following table, they are suitable for use in cleanrooms fulfilling the air cleanliness specifications of according to ISO 14644-1.

Type	Air Cleanliness Class according to ISO 14644-1			
	$v_1 = 0.2 \text{ m/s}$	$v_2 = 0.6 \text{ m/s}$	$v_3 = 1.2 \text{ m/s}$	$v_4 = 2.0 \text{ m/s}$
LEONI Cleanroom Line (CRL) LEC 002686 Rev.0	2	2	3	4
LEONI Cleanroom Line (CRL) LEC 002463 Rev.0	3	3	3	4

**Standards used for the qualification:** VDI 2083 Part 1, 4 and 8; ISO 14644-1

**Test 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: 71.6°F ± 0.9°F  
Relative humidity: 45% ± 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.