

Fraunhofer

TESTED® DEVICE

KANEKO CORD CO., LTD. G-FLON/UL2517-P-SB-CR AWG24 Report No. KA 1301-629

DI CATE

Statement of Qualification





Statement of Qualification

Customer: KANEKO CORD CO., LTD.

80 Nakagawa Hosoe-Cho

431-1304 Hamamatu-City, Shizuoka

Japan

Component tested:

Category: Energy Supply

Subcategory: Cable Systems

Type: G-FLON/UL2517-P-SB-CR AWG24 series:

• TP04: GF/2517-AWG24 x 1P-SB-CR (Manufacturing date: 01/12/2012)

- TP05: GF/2517-AWG24 x 6P-SB-CR (Manufacturing date: 01/12/2012)
- TP06: GF/2517-AWG24 x 15P-SB-CR (Manufacturing date: 01/12/2012)

Random check measurements of particle emission (airborne) at representative points

Test procedure:

Measuring instruments:

Test parameters of the test environment:

Test parameters of the test execution:

According to VDI 2083 Part 9.1

Optical Particle Counter:

Model LasAir II 110 manufactured by PMS with measuring channels of $0.1\,\mu\text{m}$, $\geq 0.2\,\mu\text{m}$, $\geq 0.3\,\mu\text{m}$, $\geq 0.5\,\mu\text{m}$, $\geq 1.0\,\mu\text{m}$ and $\geq 5.0\,\mu\text{m}$

•	Cleanroom Air Cleanliness Class (according to ISO 14644-1): ISO 1
•	Air flow velocity: 0.45 m/s
•	Air flow guidance:vertical unidirectional air flow
•	Temperature:

Energy chain (reference):	igus E3.15.060.032.0
Cable length (TP04):	I=1075 mm
Cable length (TP05):	I=1070 mm
Cable length (TP06):	l= 1070 mm
• Chain bending diameter (TP04 and TP05):	d=120 mm
Chain bending diameter (TP06):	d=180 mm
Stroke length:	s=820 mm
Parameter set 1:	$v_1 = 0.5 \text{m/s}$; $a_1 = 1.0 \text{m/s}^2$
Parameter set 2:	$v_2 = 1.0 \text{m/s}; a_2 = 2.0 \text{m/s}^2$
Parameter set 3:	$v_3 = 2.0 \text{m/s}$; $a_3 = 4.0 \text{m/s}^2$



Test results / Classification: (according to ISO 14644-1)

The G-FLON/UL2517-P-SB-CR AWG24 series is suitable for use in cleanrooms fulfilling Air Cleanliness Class 1.

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.

The validity of this certificate applies only to the mentioned product in this particular condition for a duration of 5 years.

Further information: **www.tested-device.com**.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

Department Ultraclean Technology and Micromanufacturing

Nobelstrasse 12 70569 Stuttgart Germany Stuttgart, February 14, 2013

Place, Date

i.A. D. Bridge