



**Fraunhofer**

**TESTED<sup>®</sup>  
DEVICE**

LEONI Kerpen GmbH  
MegaLine D1-20 S/U 11Y superflex  
**Report No. LE 1212-626**

DUPLICATE

Statement of  
Qualification

# Statement of Qualification

**Customer:** LEONI Kerpen GmbH  
Zweifaller Str. 275 - 287  
52224 Stolberg  
Germany

**Component tested:**

Category: Energy Supply

Subcategory: Cable Systems

Type: MegaLine D1-20 S/U superflex 4P 11Y SPICE Code 10124

## Determination of resistance to chemicals

**Test procedure:** In accordance to ISO 2812-1 and ISO 4628-1  
Each standard stated refers to the version valid at the time of testing.

**Test parameters of the test environment:**

- Microbiological Laboratory: .....S1
- Temperature: .....22 °C ± 0.5 °C (71.6 °F ± 0.9 °F)

**Devices used for the analysis:**

- Stereo Microscope: .....Zeiss, Stemi SV 11
- Camera: ..... Zeiss, AxioCam HRc

**Test parameters of the test execution:**

- Immersion test
- Incubation time: ..... 1 h, 3 h, 6 h, 24 h

## Test results / Classification:

(according to ISO 4628-1)

Chemical restistance	1 h	3 h	4 h	24 h
Formalin 37 %	0	0	0	0
Ammoniac 25 %	0	0	0	0
Hydrogen peroxide 30 %	0	0	0	0
Sulphuric acid 5 %	0	0	0	0
Phosphoric acid 30 %	0	0	0	0
Peracetic acid 15 %	0	0	0	0
Hydrochloric acid 5 %	0	0	0	0
Isopropanol 100 %	0	0	0	0
Sodium hydroxide 5 %	0	0	0	0
Sodium hypochlorite 15 %	0	0	0	0
<b>Classification</b>	<b>0 / excellent</b>			

The CSM classification according to chemical resistance is based on a worst-case consideration. Therefore, the damages according to ISO 4628-1 is transferred in following CSM classification:

0 = excellent	3 = weak
1 = very good	4 = very weak
2 = good	5 = none

## Assessing the ability to remove particles

**Test procedure:** Based on the VDMA information sheet »Riboflavin test for low-germ or sterile process technologies«.  
Each standard stated refers to the version valid at the time of testing.

**Measuring instruments being used:**

- Pump dispenser
- UV light, wave length = 366 nm

**Test parameters of the test execution:**

- Test solution: 0.2 g riboflavin, 1000 ml ultra-pure water, 5 g hydroxyethyl cellulose
- Cleaning performed manually using cleanroom cloths soaked in ultra-pure water
- The areas to be cleaned were wiped several times
- Cleanability is only assessed qualitatively. It is not possible to make a quantitative assessment.

**Test results / Classification:** All areas of the MegaLine D1-20 S/U superflex 4P 11Y can be cleaned effectively using a simple wiping process and ultra-pure water.

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](http://www.tested-device.com).

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Stuttgart, February 14, 2013

Place, Date

*[Signature]*  
i. A. Project manager