

# DUDATE





# Fraunhofer TESTED® DEVICE DENSO WAVE Inc. Fluorine (P757) Report No. DE 1409-725

Statement of Qualification

**Biological Resistance** 

# **Statement of Qualification**

### Customer

Category:

Subcategory:

Product name:

**Component tested** 

DENSO WAVE Inc. 1, Yoshiike, Kusaki, Agui-cho, Chita-gun 470-2297 Aichi Japan

(manufacturing date: 1/2015; color: black)

Materials

Plastics

Fluorine (P757)

Test result/Classification



Biological resistance has been classified on the basis of a worst-case consideration of Procedures A and C. In the process, growth intensity was assessed according to the classification system used in ISO 846:

0 = exc1 = ver2 = goo

## **Biological resistance test**

Standards/Guidelines:

Test environment parameters:

Test procedure parameters:

ISO 846; VDI 2083-18 The norms stated refer to the relevant editions applicable at the time of the tests.
Microbiological laboratory:
• Fungus test (Procedure A) using spore suspension containing:
<ul> <li>Aspergillus niger</li> <li>Penicillium funiculosum</li> <li>Paecilomyces variotii</li> <li>Gliocladium virens</li> <li>Gliocladium virens</li> <li>Chaetomium globosum</li> </ul>
• Bacteria test (Procedure C) using bacteria suspension containing <i>Pseudomonas aeruginosa</i>
<ul> <li>Incubation at 24°C (Procedure A) respectively 29°C (Procedure C) and 95% relative humidity. Visual analysis after four (4) weeks</li> </ul>

**Fraunhofer IPA** 



Manufacturing Engineering and Automation IPA

Department of Ultraclean Technology and Micromanufacturing

Nobelstrasse 12 70569 Stuttgart Germany

Fraunhofer Institute for

Place, current date

ogical resistance	ISO growth intensity	Classification
i (Procedure A)	2	good
eria (Procedure C)	0	excellent
rall result	2	good

ce	llent	
y	good	
0	b	

3 = poor4 = very poor 5 = none

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.

For further information about the test environment and parameters, please refer to the Fraunhofer IPA test report.

Stuttgart, July 15, 2015

Place, date of first document issued

Ado Somme

Udo Gommel, Project Manager Fraunhof

This document only applies to the named product in an unchanged state and is valid from the date of issue for a period of 5 years. The document can be verified under www.tested-device.com