

Fraunhofer

TESTED® DEVICE

DENSO WAVE Inc. Fluorine (09813A)

Report No. DE 1409-725

Statement of Qualification

Biological Resistance





Statement of Qualification

Customer DENSO WAVE Inc.

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Component tested

Materials Category:

Subcategory: **Plastics**

Fluorine (09813A) Product name: (manufacturing date: 7/2014; color: brown)

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:
- Aspergillus niger
- Gliocladium virens
- Penicillium funiculosum
- Chaetomium globosum
- Paecilomyces variotii
- Bacteria test (Procedure C) using bacteria suspension containing Pseudomonas aeruginosa
- Incubation at 24°C (Procedure A) respectively 29°C (Procedure C) and 95 % relative humidity. Visual analysis after four (4) weeks

Test result / Classification

Biological resistance	ISO growth intensity	Classification
Fungi (Procedure A)	2	good
Bacteria (Procedure C)	0	excellent
Overall result	2	good

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 = excellent	3 = poor
1 = very good	4 = very poor
2 = good	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.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

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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

