



Fraunhofer

TESTED[®] DEVICE

SG Armaturen AS
tempered glass

Report No. SG 2303-1398

DUPLICATE

Statement of
Qualification

Single product
Biological Resistance

Customer

SG Produktion A/S
Egestubben 16-26
5270 Odense N
Denmark

Component tested

Category:

Materials

Subcategory:

Ceramics/Glass

Product name:

Tempered glass
(manufacturing date: 3/2023; color: transparent; article number:
0000267105)

Biological resistance test

Standards/Guidelines:

ISO 846
The norms stated generally refer to the version valid at the time of the tests.

Test environment parameters:

Microbiological laboratory:.....S2

Test procedure parameters:

- Procedure A (resistance to fungi) using spore suspension of spores containing the following test strains:

– *Aspergillus niger* ASM 1957

– *Chaetomium globosum* ASM 1962

– *Paecilomyces variotii* ASM 1961

– *Penicillium pinophilum* ASM 1944

– *Trichoderma virens* ASM 1963
- Procedure C (resistance to bacteria) using bacteria suspension containing the following test strain: *Pseudomonas aeruginosa* DSM 1253
- Incubation at 29±1 °C with a relative humidity of ≥95 %; visually inspection after four (4) weeks

Test result / Classification

The biological resistance of tempered glass regarding to growth intensity was investigated in accordance with ISO 846 and classified with the following result:

Biological resistance	Growth intensity	Classification
Procedure A (resistance to fungi)	0	excellent
Procedure C (resistance to bacteria)	0	excellent
Overall result	excellent	

The classification is based on a worst-case consideration of the Procedures A and C. In the process, growth intensity was assessed according to the classification system used in ISO 846:

Classification: Procedure A (resistance to fungi)
0 = excellent 2, 3 = weak
1a, 1b, 1c = good 4, 5 = none

Classification: Procedure C (resistance to bacteria)

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.

Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

Department of Ultraclean Technology and Micromanufacturing

Nobelstrasse 12
70569 Stuttgart
Germany

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on behalf of

Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA

Stuttgart, November 16, 2023

Place, date of first document issued

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