



中国认可  
国际互认  
检测  
TESTING  
CNAS L0167

## Test Report

GZF20-016969-02

Date: 25 Aug 2020

Client Name: DZS EUROPE s.r.l

Client Address: Kaixin Industrial Park, Yanhe Road, Sanhe Economy develop district, Huiyang, Huizhou City, Guangdong, China.

Sample Name: Nano bactericidal coating sheet  
 Manufacturer: /  
 Sample Batch No.: /  
 Production Date: /

Above information and sample(s) was/were submitted and certified by the client, SGS quoted the information with no responsibility as to the accuracy, adequacy and/or completeness.

SGS Reference No. : CP20-042588  
 Date of Sample Received : 17 Aug 2020  
 Testing Period : 17 Aug 2020 - 25 Aug 2020  
 Test Requested : Selected test(s) as requested by client.  
 Test Method : Please refer to next page(s).  
 Test Result(s) : Please refer to next page(s).

The current test report is the English version of report number GZF20-016969-01. In case of any discrepancy between Chinese version and English version, the Chinese version shall prevail.

Unless otherwise stated the results shown in this test report refer only to the items tested. This document cannot be used for publicity, without prior written approval of the SGS.



scan to see the report



GZF20-016969-02

SGS Authorized Signature

SGS-CSTC Standards Technical Services Co.,Ltd. Guangzhou Branch

Page 1 of 3



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd.  
 Guangzhou Branch Testing, Calibration and Food Laboratory

No.198 Kezhu Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 t 400-691-0488 f (86-20) 82075027 www.sgs.com.cn  
 中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t 400-691-0488 f (86-20) 82075027 e sgs.china@sgs.com

# Test Report

GZF20-016969-02

Date: 25 Aug 2020

Sample Description :

Specimen No.	SGS Sample ID	Description
1	GZF20-016969.001	Block sample

**Test Result(s) :**

Test Requested : Test of antimicrobial activity

Test Method : GB/T 31402-2015/ISO 22196:2007(IDT) Plastics-Measurement of antibacterial activity on plastic surfaces

**GZF20-016969.001**

Test organism	Escherichia coli ATCC 8739	Staphylococcus aureus ATCC 6538P
Concentration of bacteria (CFU/mL)	5.7x10 <sup>5</sup>	1.9x10 <sup>6</sup>
Volume of test inoculum (mL)	0.2	0.2
U <sub>0</sub>	3.85	4.35
U <sub>t</sub>	5.12	5.94
A <sub>t</sub>	-0.20	0.92
B (CFU/cm <sup>2</sup> )	1.3x10 <sup>5</sup>	8.7x10 <sup>5</sup>
C (CFU/cm <sup>2</sup> )	0.63	8.0
R	5.3	5.0
*Antibacterial activity (%)	>99.9	>99.9

**Notes :**

- 1.The untreated sample is plastic film without antimicrobial activity, provided by SGS laboratory.
- 2.U<sub>0</sub>: the average log value of bacteria number that recovered from the untreated sample immediately after inoculation (CFU/cm<sup>2</sup>).
- 3.U<sub>t</sub>: the average log value of bacteria number that recovered from the untreated sample after “24 h” inoculation (CFU/cm<sup>2</sup>).
- 4.A<sub>t</sub>: the average log value of bacteria number that recovered from the treated sample after “24 h” inoculation (CFU/cm<sup>2</sup>).
- 5.R: the value of antimicrobial activity, R=U<sub>t</sub>-A<sub>t</sub>.
6. \*The calculation formula of the antibacterial activity rate is **【(B-C)/B】 \*100%**;  
 B: arithmetic average of the numbers of bacteria obtained from untreated samples after 24 h incubation (CFU/cm<sup>2</sup>);  
 C: arithmetic average of the numbers of bacteria obtained from treated samples after 24 h incubation (CFU/cm<sup>2</sup>).
- 7.Pre-treatment: UV sterilization of both sides for 15min.

SGS-CSTC Standards Technical Services Co.,Ltd. Guangzhou Branch



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

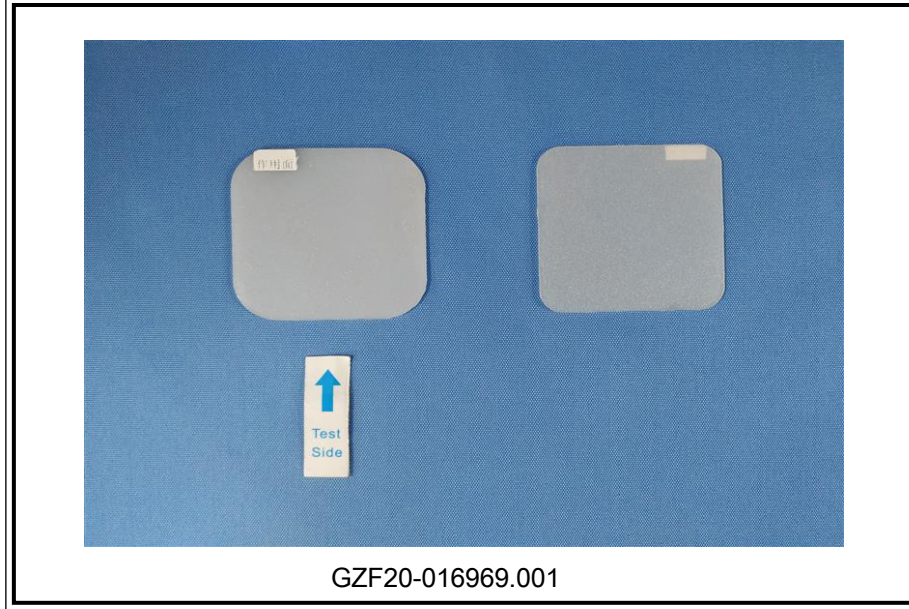


## Test Report

GZF20-016969-02

Date: 25 Aug 2020

Sample photo:



SGS authenticate the photo on original report only

\*\*\* End \*\*\*



SGS-CSTC Standards Technical Services Co.,Ltd. Guangzhou Branch

Page 3 of 3



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com