



Material and Engineering Laboratory-Kaohsiung

Test Report



Report No. : K9-24-00082

Page No. : 1 OF 6

Issuance Date : Oct. 22, 2024

<u>Applicant</u>	ONYX COATING GMBH
<u>Address</u>	Hardenbergstraße 12 10623 Berlin
<u>Product Name</u>	Sputtering Ceramic Windoe Film
<u>Product Type</u>	Automotive Window Film
<u>Product Color</u>	Black
<u>Manufacturer</u>	ONYX COATING GMBH
<u>Supplier</u>	ONYX COATING USA INC.
<u>Product Submitted By</u>	ONYX COATING GMBH
<u>Date of Sample Received</u>	Sep. 10, 2024
<u>Date of Testing</u>	Sep. 10, 2024~Oct. 22, 2024
<u>Remark</u>	The information mentioned in the above section and the following report content marks # are provided by Client.(Exclude Test Witnessed By, Test Method, Number of test, Date of Sample Received and Date of Testing)

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The laboratory tests according to the test requests and samples provided by client, and the results are as follows:

Test Request : 1.Visible light transmittance

2.Ultraviolet cut off

3.Infrared cut off

4. Haze Value

Test Method : Please see attached pages

Test Result : Please see attached pages

----- 1 -----

The required specification(s) offered in this test report is/are for reference only.
The conformity judgment is at the Applicant's final verdict.

Signed for and on behalf of
SGS Taiwan Ltd.

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Test Report



Report No. : K9-24-00082
Page No. : 2 OF 6
Issuance Date : Oct. 22,2024

1.Visible light transmittance

Test Equipment :

Name	Brand	Model
UV-Vis-NIR Spectrometer	SHIMADZU	Solidspec-3700

Lab. Environmental Conditions :

Ambient temperature: (23±2)°C
Relative humidity : (50±5)%RH

Test Method :

Refer to ASTM E903-20 Standard Test Method for Solar Absorptance, Reflectance and Transmittance of Materials Using Integrating Spheres.

Test Specification :

Detector Unit : Integral Sphere
Scan Speed : Fast
Wavelength Interval : 5nm
Wavelength Range : 380nm ~ 780nm
Measurement Mode : Transmittance

Test Results :

Test Item	Test Result	
	sticky side	smooth side
Visible light transmittance (%)	11.3	11.2

----- 2 -----

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Test Report



Report No. : K9-24-00082

Page No. : 3 OF 6

Issuance Date : Oct. 22,2024

2.Ultraviolet cut off

Test Equipment :

Name	Brand	Model
UV-Vis-NIR Spectrometer	SHIMADZU	Solidspec-3700

Lab. Environmental Conditions :

Ambient temperature: (23±2)°C

Relative humidity : (50±5)%RH

Test Method :

Refer to ISO 9050 : 2003 Glass in building—Determination of light transmittance, solar direct transmittance, total solar energy transmittance, ultraviolet transmittance and related glazing factors.

Test Specification :

Detector Unit : Integral Sphere
 Scan Speed : Fast
 Wavelength Interval : 5nm
 Wavelength Range : 300nm ~ 380nm
 Measurement Mode : Transmittance

Test Results :

Test Item	Test Result	
	sticky side	smooth side
Ultraviolet cut off (%)	100.0	100.0

----- 3 -----

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Test Report



Report No. : K9-24-00082
Page No. : 4 OF 6
Issuance Date : Oct. 22, 2024

3. Infrared cut off

Test Equipment :

Name	Brand	Model
UV-Vis-NIR Spectrometer	SHIMADZU	Solidspec-3700

Lab. Environmental Conditions :

Ambient temperature: (23±2)°C

Relative humidity : (50±5)%RH

Test Method :

Refer to ASTM E903-20 Standard Test Method for Solar Absorptance, Reflectance and Transmittance of Materials Using Integrating Spheres

Test Specification :

Detector Unit : Integral Sphere
Scan Speed : Fast
Wavelength Interval : 5nm
Wavelength Range : 780nm ~ 2500nm
Measurement Mode : Transmittance

Test Results :

Test Item	Test Result	
	sticky side	smooth side
Infrared cut off (%)	93.9	93.9

----- 4 -----

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Test Report



Report No. : K9-24-00082
Page No. : 5 OF 6
Issuance Date : Oct. 22,2024

4.Haze value

Test Equipment :

Name	Brand	Model
UltraScan VIS Spectrophotometer	Hunter-Lab	US/VIS

Lab. Environmental Conditions :

Ambient temperature: (23±2)°C

Relative humidity : (50±5)%RH

Test Method :

ASTM D1003-11^{e1} Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics

Test Condition :

Illuminant : CIE illuminant C

Standard Observer : CIE 1964 standard colorimetric observer (2° observer)

Wavelength Range : (360 ~780) nm

Test Results :

Style/ No.	Check Item	Haze Value (%)
Sticky side		1.38
Smooth side		1.24

Note : 1.Item Description : Film.

2.The testing site is the same as the laboratory address.

----- 5 -----

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Test Report



Report No. : K9-24-00082
Page No. : 6 OF 6
Issuance Date : Oct. 22, 2024

Sample Photo :



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