Measurement of Functional Film for Window

INTRODUCTION

UV cut film is introduced here as one of the functional films for windows. The UV cut film is applied to windows for the purpose of controlling the transmittance of ultraviolet radiation which causes sunburn and skin cancer to human bodies.
The transmittance for this film was measured by U-4100 Spectrophotometer and ultraviolet transmittance was calculated referring to JIS A5759 (2008) and the visible and solar transmitances were calculated referring to JIS R3106 (1998).
As a result, the visible transmittance was a high of 86.5% while the ultraviolet transmittance was greatly reduced to 0.4%. These calculations can be easily performed by using an option package program.

SAMPLE

Sample name : UV cut film

INSTRUMENT CONDITIONS

Instrument : U-4100 Spectrophotometer (solid sample measurement system)

[UV-VIS]		[NIR]	
Measurement wavelength	: 300 - 2100 nm		
Scan speed	: 300 nm/min	Scan speed	: 750 nm/min
Slit	: 8 nm	Slit	: automatic control
Sampling interval	: 1 nm	PbS Sensitivity	: 2

ACCESSORY

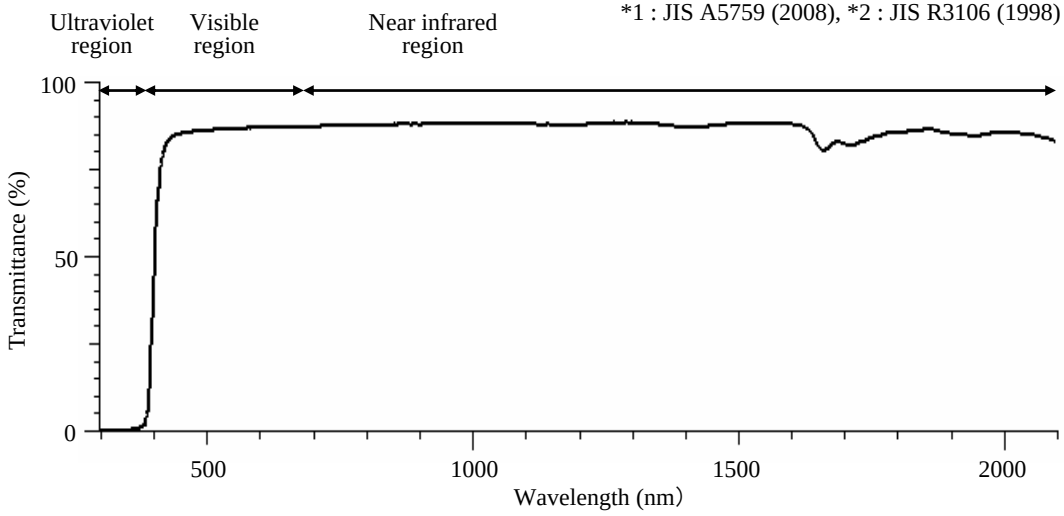
Transmission holder (sealed)
(P/N : 1J0-0202)

Option package program
(P/N : 2J1-0311)

Transmittance of UV Cut Film

Ultraviolet transmittance*1	0.4 %
Visible transmittance*2	86.5 %
Solar transmittance*2	83.8 %

*1 : JIS A5759 (2008), *2 : JIS R3106 (1998)



Transmittance Spectrum of UV Cut Film

KEY WORDS
Material・Processing Material Related, Polymer Material, Composite Material・Membrane Crystal, Functional Film, Ultraviolet Transmittance, Visible Transmittance, Solar Transmittance, Spectrophotometer, UV, U-4100

Spectrophotometer (UV)

Sheet No. UV090004-01

Measurement of Functional Film for Window

INTRODUCTION

Smoke film is introduced here as one of the functional films for windows. The smoke film is a low transmission filter and applied to windows for the purpose of protecting privacy by making the inside difficult to see from the outside.
The transmittance for this film was measured by U-4100 Spectrophotometer and ultraviolet transmittance was calculated referring to JIS A5759 (2008) and the visible and solar transmittances were calculated referring to JIS R 3106 (1998).
As a result, the visible transmittance was found to be 37.8% indicating it controls the transmittance in the visible region. In addition, the ultraviolet transmittance and solar transmittance were 0.2% and 45.2%, respectively indicating that it also controls the ultraviolet radiation and solar radiation. These calculations can be easily performed by using an option package program.

SAMPLE

Sample name : Smoke film

INSTRUMENT CONDITIONS

Instrument : U-4100 Spectrophotometer (solid sample measurement system)

[UV-VIS]		[NIR]	
Measurement wavelength : 300 - 2100 nm			
Scan speed	: 300 nm/min	Scan speed	: 750 nm/min
Slit	: 8 nm	Slit	: automatic control
Sampling interval	: 1 nm	PbS sensitivity	: 2

ACCESSORY

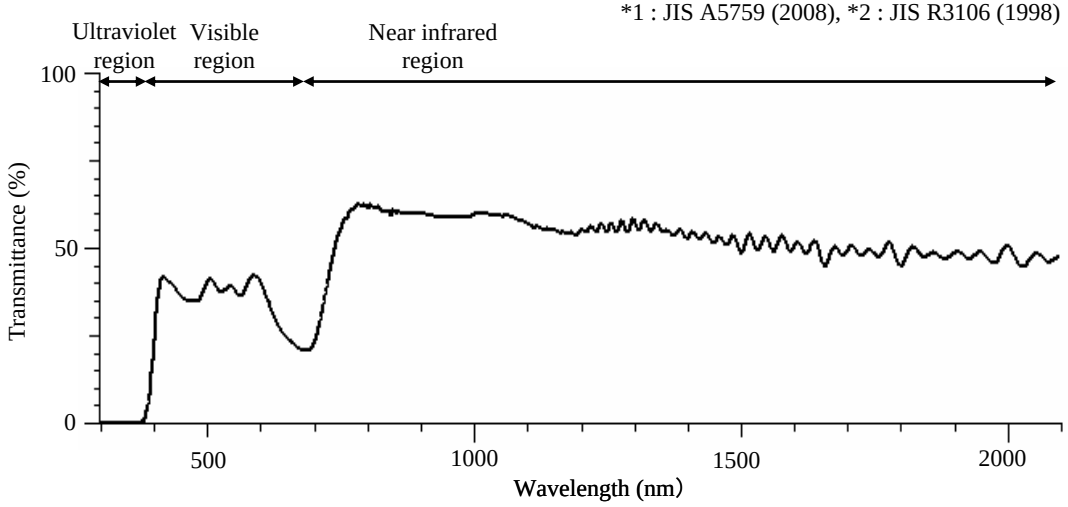
Transmission holder (sealed)
(P/N : 1J0-0201)

Option package program
(P/N : 2J1-0301)

Transmittance of Smoke Film

Ultraviolet transmittance*1	0.2 %
Visible transmittance*2	37.8 %
Solar transmittance*2	45.2 %

*1 : JIS A5759 (2008), *2 : JIS R3106 (1998)



Transmittance Spectrum of Smoke Film

KEY WORDS
Material・Processing Material Related, Polymer Material, Composite Material ・ Membrane Crystal, Functional Film, Ultraviolet Transmittance, Visible Transmittance, Solar Transmittance, Spectrophotometer, UV, U-4100

Spectrophotometer (UV)

Sheet No. UV090004-02

Measurement of Functional Film for Window

INTRODUCTION

Solar control film is introduced here as one of the functional films for windows. The solar control film is applied to windows for the purpose of controlling the amount of solar radiation entering through windows, etc.

The transmittance for this film was measured by U-4100 Spectrophotometer and ultraviolet transmittance was calculated referring to JIS A5759 (2008) and the visible and solar transmittances were calculated referring to JIS R3106 (1998).

As a result, the visible transmittance was found to be a high of 69.2.% while the solar transmittance was 39.1% indicating it controls the amount of solar radiation. These calculations can be easily performed by using an option package program.

SAMPLE

Sample : Solar control film

INSTRUMENT CONDITIONS

Instrument : U-4100 spectrophotometer (solid sample measurement system)

[UV-VIS]		[NIR]	
Measurement wavelength :	300 - 2100 nm		
Scan speed	: 300 nm/min	Scan speed	: 750 nm/min
Slit	: 8 nm	Slit	: automatic control
Sampling interval	: 1 nm	PbS sensitivity	: 2

ACCESSORY

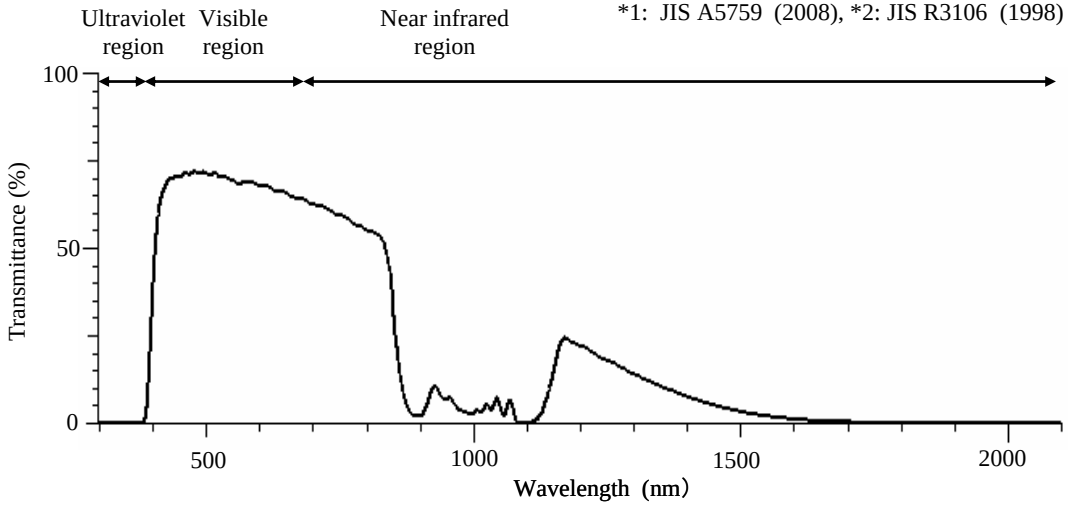
Transmission holder (sealed)
(P/N : 1J0-0201)

Option package program
(P/N : 2J1-0301)

Transmittance of Solar Control Film

Ultraviolet transmittance*1	0.1 %
Visible transmittance*2	69.2 %
Solar transmittance*2	39.1 %

*1: JIS A5759 (2008), *2: JIS R3106 (1998)



Transmittance Spectrum of Solar Control Film

KEY WORDS
Material・Processing Material Related, Polymer Material, Composite Material・Membrane Crystal, Functional Film, Ultraviolet Transmittance, Visible Transmittance, Solar Transmittance, Spectrophotometer, UV, U-4100

Spectrophotometer (UV)

Sheet No. UV090004-03