

Dongguan Hongdian Technology Co.,Ltd

Self-adhesive smart film

Introduction

Our Smart Film is composed of two transparent films and Liquid crystal polymer mixture. The smart film is opaque without AC power. The liquid crystal molecules are in order when turning on the AC power, and the film changes from OFF to ON. The smart film can be switched rapidly between the condition of ON and OFF.



Product Working Principle

Our smart film is composed of two PET-ITO conductive films and a liquid crystal film in the middle. For the liquid crystal film, it contains liquid crystal molecules and high polymer. The liquid crystal molecules are without order when turning off the AC power. When the parallel light passes through the polymer to the liquid crystal material, the light on the surface of the liquid crystal droplets is diffused and scattered, changing the film to opaque, counting on the refractive index of the liquid crystal droplets is lower than that of other outer polymers. When energized, the two PET-ITO conductive films act as planar electrodes, so that the liquid crystal droplets are arranged orderly and perpendicular to the film surface. Thus, the parallel light is not reflected or refracted when passing the liquid crystal material layer, so that the light can pass through the entire film, making it transparent.

Product Parameters

Item		Mode	Spec
Optical	Visible light transmittance	ON	>80%
		OFF	>55%
	Parallel light transmittance	ON	>68
		OFF	<1%
	Haze	ON	<7%
		OFF	>95%
	Visual Angle	ON	150°
UV Blocking Rate	ON /OFF	≥98%	
Electrical	Operating Voltage	ON	40V/48V/65V AC
	Saturation Voltage	ON	<32V
	Response Time	OFF-ON	<200ms
		ON-OFF	<10ms
	Power dissipation	ON	<5W/M ²
Working Condition	Working Temperature		0°C~55°C
	Storing Temperature		-40°C~ 90°C
Life Span		ON	>10 years
Switching Life			>200m times

SPEC&WEIGHT for Self-adhesive smart film

Thickness:0.4MM

Wide: 1M/1.2M/1.4M/1.5M/1.7M/1.8M

Length: 50M or customized

Net Weight: 0.8KG/square meter

Product Feature

1. Privacy Protection

The biggest function of Our smart film is privacy protection,which can control the glass between transparent and opaque.

2. Projection function

Our smart film can be used as a good projection screen. if choose high lumen projector, the image of projection effect is very clear

3. Safety Protection

When the window are broken, the film can avoid the glass flying around and hurting others.

4. Environmental Protection

Our smart film can resist over 99% UV and infrared ray. Shielding UV can protect indoor furnishings being not fade, aging, etc, and can also protect people against the disease by ultraviolet radiation.

5. sound insulation

Our smart film is soundproof after attaching on the glass.

Product Application

1. The smart films can be used for partition in office, giving you more manageable space.



2. The smart films can be used in business places, and it can improve corporate image, security and confidentiality, creating elegant business atmosphere.



3. The smart films can be used in residence and villas, Creating elegant and romantic atmosphere. You can adjust the light at your will, making “light moves with me”.



4. The smart films can be used in bathrooms. It adds life mood and fun between light and shade with convenient operation.



5. The smart films can be replaced projection screen. It looks fashion and space saving. It shows color consistency, and is without Mosaic phenomenon and visual Angle limit, providing images with high bright and high-resolution.



Quality Control

Guarantee period: 2 years for packed smart films, and it should under following storing condition:

The packages should be placed in a ventilated, dry environment and keep away from heat.

The packages should be placed in the temperature of 20°C~30°C, the relative humidity of 60-70%RH, and keep away from acid gas and liquid, organic gas and liquid.

