

Ingemann Components

Lumieo® Frost

Sewon PMMA (acrylic)



Description:

Lumieo Frost is a LED diffuser sheet made from PMMA. The diffusion comes from a combination of very fine structures and special diffusing additives.

Application:

Lumieo Frost is an excellent choice for applications where lamp hiding, and transmission efficiency are required. The Lumieo Frost comes with different transmission and diffusion. The lowest transmission has the highest diffusion, i.e. the 53% transmission has a diffusion above 80, while the 93% has a diffusion slightly above 1.

Service information:

For samples, pricing and delivery please contact us at:
+45 4618 6644
Email:
sales@ingemanncomponents.com

Looking for a solution with this product, click [here](#).

Product data	
Standard Material	PMMA – acrylic
Available size:	Rectangle up to 1850 mm x 1250 mm
Thickness	Standard 2 mm ±0.1mm (3.0mm upon request)
Refractive Index	1.491
Transmittance	Varies from 53%-93%
Temperature Range	-40°C to +70°C

LUMIEO® FROST

High diffusing LED PMMA sheet that has a natural protection against UV yellowing.

53%-93% Transmission
2-3mm thickness
Max temp +70°C
Custom sizes available

Ingemann Components
Tingbjergvej 6
4632 Bjæverskov
Denmark
www.ingemanncomponents.com

**ingemann**
Components

Technical Specs - Lumieo® Frost

Properties	2 mm	Notes
Physical -		
Density	1.18 g/cm ³	
Rockwell Hardness	113	
Optical -		
Transmittance	53% – 93%	
Refractive index	1.491	
Reflection	N/A	
Mechanical -		
Tensile strength	69.6 MPa	
Thermal -		
Long term temp.	-40°C to +70°C	
Short term temp.	90°C	
Melting temp.	130°C	
Surface	Structured on one side and glossy on the other side	
UV stable	Yes	
Dirt depreciation	Anti-static treatment	
Chemical Resistance		See next page
Thermal expansion	7 K ⁻¹ x10 ⁻⁵	
Glow wire test IEC 60695-2-12	GWFI: 650/2 Results: Pass	650°C 2 mm thickness
Fire Rating	N/A	

Processing options at Ingemann Components

Processing	Yes/No	Notes
Milling	Yes	Recommended processing
CNC Knife	No	
Laser Cutting	Yes	
Saw	Yes	
Die Cut	No	
Thermo-forming	Yes	
Print	Yes	

Product	PMMA Diffuser Plate				
Thickness	Standard 2mm				
Total Transmittance	53%	60%	70%	80%	93%
Diffusion Coefficient	> 80	> 70	> 50	> 40	> 1

Ingemann Components
 Tingbjergvej 6
 4632 Bjæverskov
 Denmark
www.ingemanncomponents.com



Chemical Resistances

Chemical resistance at 20°C	
Acetone -	Ethyl acetate -
Ammonia +	Glycerin +
Amyl Alcohol -	Fuel oil o
Benzene, free from aromatics +	Hexane +
Benzole -	Isopropanol o
Boric Acid +	Coffee +
Butanol -	Caustic potash solution +
Chlorinated hydro-carbon -	Ketone -
Chloroform -	Methylene chloride -
Chlorinated water/air o	Lactic acid 10% +
Dibutyl phthalate -	Mineral oil +
Diocetyl phthalate -	Caustic soda +
Glacial acetic acid -	Nitrocellulose lacquer -
Acetic essence -	Oxalic acid +
Aqueous acetic acid +	Wax +
Ethanol o	Hydrogen peroxide o
Acidity of wine +	Hydrochloric acid conc. 35% +
Xylene -	Sodium carbonate +
Paraffin +	Salad vinegar +
Petroleum ether +	Stearic Acid +
Phosphoric acid 10% +	Tea +
Sulphuric acid 10% +	Turpentine +
Nitric acid 10% +	Toluene -
Hydrochloric acid 10% +	Diluting agent -

- + Resistant
- o Limited resistance
- Not Resistant
- na Not available

LUMIEO® FROST

At 20°C PMMA is resistant to hydrocarbons, aromatic free carburetor fuel, mineral oils, vegetable- and animal fats and oils, water, aqueous salt solutions, diluted acids and alkalis. Aromatic hydrocarbons and hydrogen chlorides, ester, ether and ketones attack and degrade PMMA.

Ingemann Components
 Tingbjergvej 6
 4632 Bjæverskov
 Denmark
www.ingemanncomponents.com