

Flex G2

PMMA



FLEX G2

High transparent efficient diffuser sheet with extreme transmittance and low weight while still being durable and flexible.

73% Transmission
0.25 mm thickness
Max temp +70°C
Custom sizes available

Description:

The Flexilume Generation 2.0 or Flex G2 is the latest in overlay films. Compared to Flexilume the Flex G2 is thinner, weighs less, improved shear cutting properties, increased transmittance, enhanced surface diffusion through a satin and a matte surface, and while the flexilume is warm in transmittance and cool in reflection the Flex G2 has neutral colour diffusion.

Application:

This sheet is used as a very efficient diffuser used in the sandwich combination of a LGP and a reflector.

Product data	
Standard Material	Impact Acrylic
Available size:	Standard 1270x1270 mm Rectangle up to 1524x1270 mm Customized
Thickness	0.25 mm $\pm$ 0.127mm
Refractive Index	1.491
Transmittance	73% (acrylic clear)
Temperature Range	-40°C to +70°C

Technical Specs – Flex G2

Properties	0.25 mm	Notes
Physical –		
Density	1.15 g/cm ³	
Rockwell Hardness	113	
Optical –		
Transmittance	73%	
Refractive index	1.491	
Reflection	N/A	
Mechanical –		
Tensile strength	69.9 MPa	
Thermal –		
Long term temp.	–40°C to +70°C	
Short term temp.	90°C	
Melting temp.	130°C	
Surface	Prism structure on one side, glossy on the other.	
UV stable	Yes	
Dirt depreciation	Anti-static treatment	
Chemical Resistance		See next page
Thermal expansion	$7 K^{-1} \times 10^{-5}$	
Glow wire test IEC 60695-2-12	N/A	
Fire Rating	UL 94: HB	

Processing options

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

Chemical Resistances

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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

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.