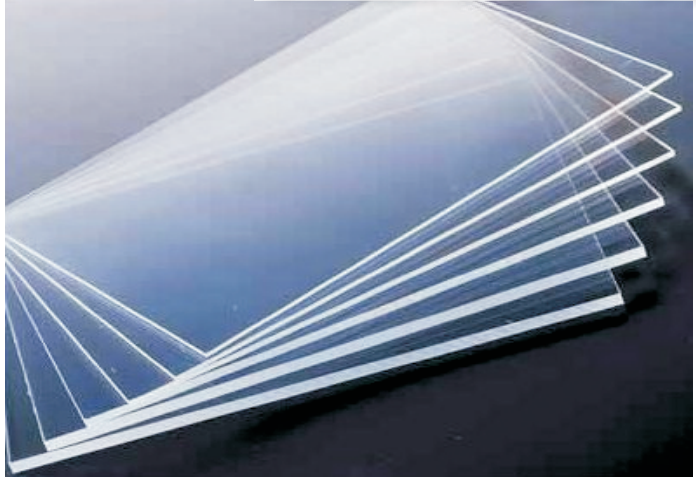


- Ideal for LED and standard lighting fixtures
- Excellent light diffusion and haze properties
- High transmission (78-92%)
- Engineered nano structured surfaces and nano-sol gels
- Low cost solution
- GPPS, PMMA & PC materials



Product Overview

nanoDiff™ light shaping diffusers are a versatile range of high-quality diffusers with superior properties designed specifically for the LED lighting industry. These properties allow brighter images and avoid undesired hot spots or fluctuations in luminance, even in ultraslim illuminated signs.

nanoDiff™ light shaping diffusers turns light into a unique experience. Soft, pleasant lighting devoid of harsh shadows makes for agreeable conditions. Different light sources complement each other harmoniously enabling single or multi-coloured lighting fixtures perfectly even.

Whether direct or edge lit the, nanoDiff™ Acrylic, Polystyrene and Polycarbonate materials are equally suitable for luminaires, signage, linear strips, small spotlights and most other lighting fixture types.

Compared with other plastic materials, the surface of nanoDiff™ light shaping diffusers can be insensitive to abrasion and highly non-marring. Certain materials can be bonded, laser cut and edge-polished, in thicknesses of 1.5, 1.8 and 3mm as standard.

Acrylic (PMMA)

- Excellent transparency
- Heat resistance
- Chemical resistance
- Resistant to outside weather
- High rigidity

Polycarbonate (PC)

- Ultra durable
- Heat resistance
- Fire resistance

Polystyrene (GPPS)

- Excellent transparency
- Heat resistance
- Alkaline resistance
- Water resistance
- Excellent mould processing

Applications

- Downlighters
- Tile lights
- MR16s
- Spot lights
- Advertisement

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Material properties

Property	Material									
	Polyblend (PS+PMMA)		Acrylic (PMMA)			Polycarbonate (PC)		Polystyrene (GPPA)		
	PX1	PM1	PM2	PM3	PC1	PS1	PS2	PS3	PS4	
Optical										
Transmission (d65) (±2%)	76%	78%	87%	92%	81%	87%	76%	57%	88%	
Haze	99%	91%	90%	tbc	91%	90%	92%	90%	90%	
UV Transmission	No	No	No	No	No	No	No	No	No	
Mechanical										
Standard thickness	2.0 mm	1.8 mm	1.8 mm	3 mm	1.8 mm	1.8 mm	1.8 mm	1.8 mm	1.8 mm	
Surface finish	Matt/Matt	Matt/Polished	Matt/Polished	Matt/Matt	Matt/Polished	Prismatic/Polished	Prismatic/Polished	Matt/Polished	Matt/Polished	
Density (ρ)	1.15 g/cm ³	1.19 g/cm ³	1.19 g/cm ³	1.19 g/cm ³	1.20 g/cm ³	1.06 g/cm ³	1.06 g/cm ³	1.06 g/cm ³	1.06 g/cm ³	
Tensile strength (σM) at 23°C	48.4 Mpa	68.4 MPa	68.4 MPa	80 MPa	60 Mpa	47.6 MPa	47.6 MPa	47.6 MPa	47.6 MPa	
Elongation at yield (εB)	2%	4%	4%	5.50%	6%	3%	3%	3%	3%	
Flexural strength (σbB)	97.6 MPa	127 MPa	127 MPa	115 MPa	96 Mpa	92.8 MPa	92.8 MPa	92.8 MPa	92.8 MPa	

Stock components

Part number	Shape	Dimensions	Thickness	Material	Surface type	Ideal for
-O-DIF-057-03-PM3TTX-V1.01	Circular	∅ 57 m m	3 m m	PM 3	Matt/Matt	Downlighters
-O-DIF-123-03-PM3TTX-V1.01	Circular	∅ 123 m m	3 m m	PM 3	Matt/Matt	Downlighters
-O-DIF-159-03-PM3TTX-V1.01	Circular	∅ 159 m m	3 m m	PM 3	Matt/Matt	Downlighters
-O-DIF-195-03-PM3TTX-V1.01	Circular	∅ 195 m m	3 m m	PM 3	Matt/Matt	Downlighters
-O-DIF-227-03-PM3TTX-V1.01	Circular	∅ 227 m m	3 m m	PM 3	Matt/Matt	Downlighters
-O-DIF-559x559-02-PM1TSX-V1.01	Square	559x559 m m	1.8 m m	PM 1	Matt/Polished	Light tiles
-O-DIF-559x559-02-PM2TSX-V1.01	Square	559x559 m m	1.8 m m	PM 2	Matt/Polished	Light tiles
-O-DIF-559x559-02-PC1TSX-V1.01	Square	559x559 m m	1.8 m m	PC 1	Matt/Polished	Light tiles
-O-DIF-559x559-02-PS1PSX-V1.01	Square	559x559 m m	1.8 m m	PS 1	Prismatic/Polished	Light tiles
-O-DIF-559x559-02-PS2PSX-V1.01	Square	559x559 m m	1.8 m m	PS 2	Prismatic/Polished	Light tiles
-O-DIF-559x559-02-PS3TSX-V1.01	Square	559x559 m m	1.8 m m	PS 3	Matt/Polished	Light tiles
-O-DIF-559x559-02-PS4TSX-V1.01	Square	559x559 m m	1.8 m m	PS 4	Matt/Polished	Light tiles
-O-DIF-559x559-02-PX1TTX-V1.01	Square	559x559 m m	2.0 m m	PX 1	Matt/Matt	Light tiles

Specific customer requirements can be catered to. Please contact sales@serenitylighting.co.uk for more details.

