

SEWON

PMMA D/Plate Specification

PMMA Diffuser Plate

1. Material : PMMA (Polymeta-methylacrylate)

2. Product Name : PMMA Diffuser Plate (PMMA D/Plate)

3. Mechanical Properties

Item	Unit	Method	Result
Specific Gravity	-	ASTM D792	1.19
Tensile Strength	MPa	ASTM D638	69.6
Elongation	%	ASTM D638	3.6
Flexural Strength	MPa	ASTM D790	111
Flexural Modulus	GPa	ASTM D790	3.53
Izod Impact Strength	J/m	ASTM D256	23
Rockwell Hardness	-	ASTM D785	113
Heat Distortion Temperature	℃	ASTM D648	88
Vicat Softening Temperature	℃	ASTM D1525	102

* REMARKS : The listed values should be used for referential purposed only

PMMA Diffuser Plate

4. PMMA Diffuser Plate Line-up Information

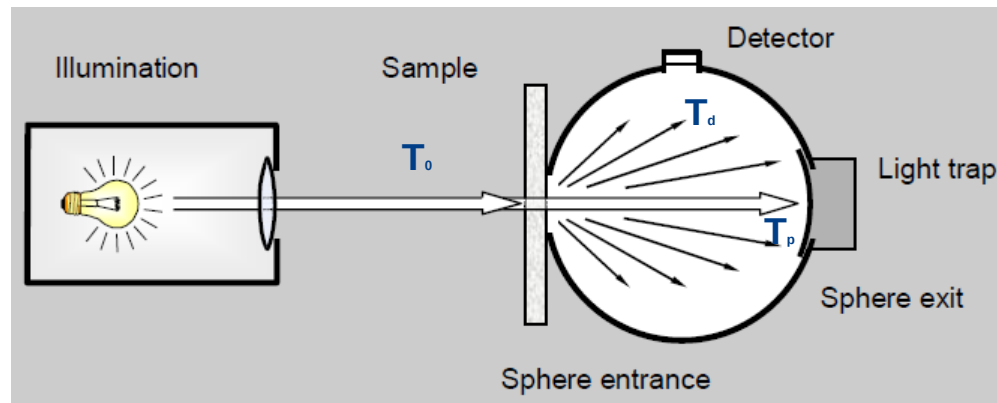
Div.	Total Transmittance (%)			
Thickness (mm)	65%	70%	75%	85%
1.9	MP			
2.0		MP	MP	MP

* MP : Mass Production

PMMA Diffuser Plate

5. Optical Properties – Total Transmittance, Haze

Item	PMMA Diffuser Plate			
Thickness	2.0 (65% 1.9)mm			
Total Transmittance	65%	70%	75%	85%
Haze	97% ↑			



$$\text{Total Transmittance} = \frac{(T_d + T_p)}{T_0} \times 100\%$$

$$\text{Haze} = \frac{T_d}{(T_d + T_p)} \times 100\%$$

PMMA Diffuser Plate

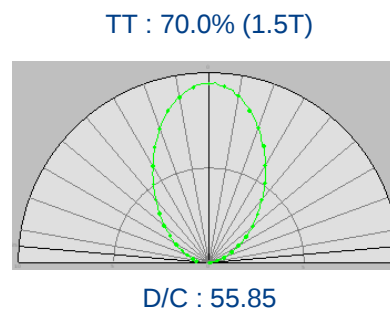
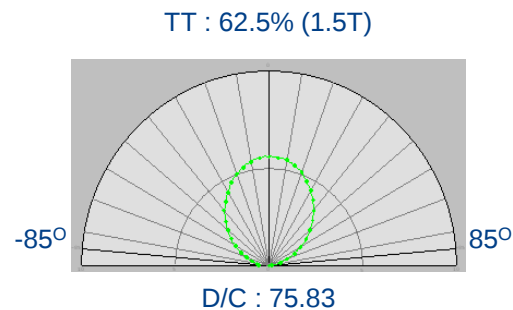
6. Optical Properties – Diffusion Coefficient

Item	PMMA Diffuser Plate			
Thickness	2.0 (65% 1.9)mm			
Total Transmittance	65%	70%	75%	85%
Diffusion Coefficient	>65	>50	>40	>20

DIFFUSION COEFFICIENT =

$$\frac{(20^\circ \text{measurement} / \cos(20) + 70^\circ \text{measurement} / \cos(70))}{5^\circ \text{measurement} / \cos(5)}$$

For Example



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7. Optical Properties – Luminance

Item	PMMA Diffuser Plate			
Thickness	2.0 (65% 1.9)mm			
Total Transmittance	65%	70%	75%	85%
Luminance (17Point Average)	6,807	7,093	7,254	7,618

◆ CONDITION

Light Source : LED (600x600mm, Direct)

- Output : 80W
- Dimming : Max
- Aging Time : 1hr

Equipment : CA-2000

- Lens Type : Wide
- Lens Position : 1m

Temperature : Room Temp.

Sample Aging Time : 20min

◆ Measurement Position

