

Display

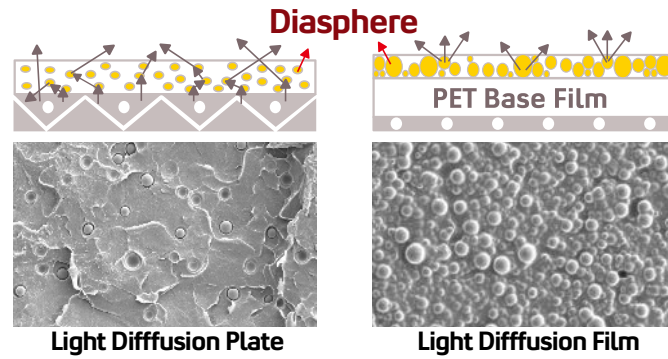
Diffusion Film
Diffusion Plate for LCD Backlight Module



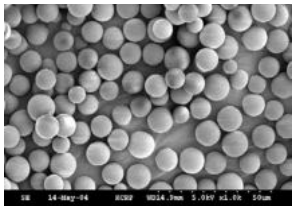
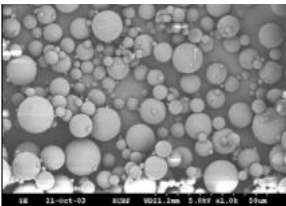
Characteristic of Diasphere[®] for Display

LCD Light diffusion film and plate

- Narrow Particle Size Distribution Gives High Luminance
- Excellent diffusion effect with higher transmittance
- Almost Parallel Light [Important for LCD Backlight Unit]
- Easy Dispersion in Solvents and Waterborne and Excellent Solvent & Weather Resistance



Feature of MH-Series

	ASP Diasphere [®] MH-10FD	Competitor "S"
Average Particle Size	10 μ m	10 μ m
Distribution(C.V.%)	13.5%	40.2%
Thermal stability (wt% Loss at 300 °C)	1.05%	1.40%
Water Contents	0.4%	0.8%
Residual Monomer	0ppm	0ppm
Distinction	Narrow size distribution Excellent diffusion effect	Broad size distribution
SEM Image		

• C.V.% : (Standard Deviation/ Average particle size) x 100

Luminance of Diffusion Film

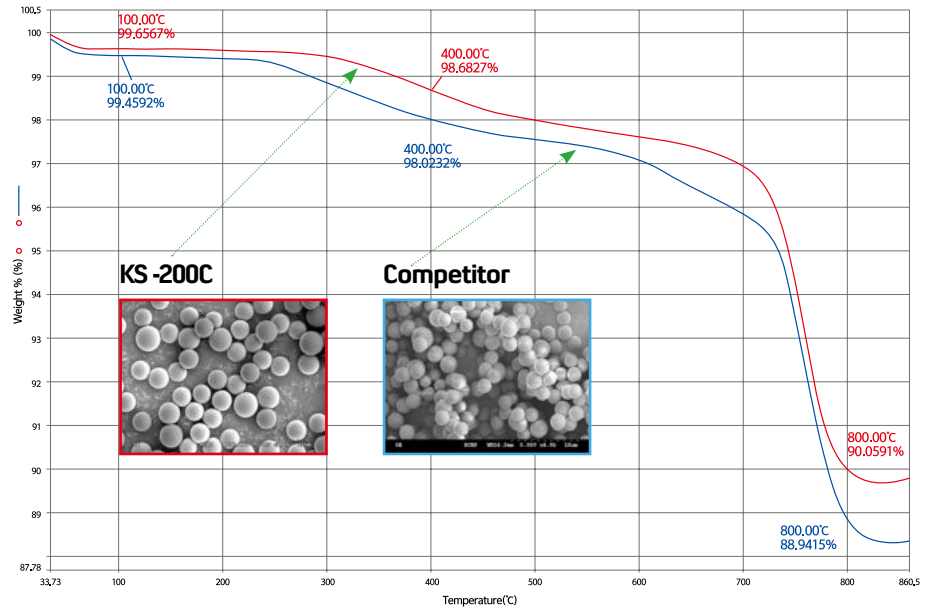
- Show almost same luminance compared with monodispersed PMMA

	Luminance (cd/m ²)							
	1 sheet	(%)	2 sheet	(%)	3 sheet	(%)	1 sheet + BEF	(%)
ASP MH-10FD	1619	0	1889	0	1962	0	2656	0
Competitor "S" Polydispersed	1440	-11.0	1615	-14.5	1738	-11.4	2567	-3.4
Competitor "S" monodispersed	1618	-0.1	1886	-0.2	1954	-0.4	2658	+0.1

Characteristic of Diasphere[®] for Display

Features of KS-Series(Silicone Bead)

- KS-200C has more excellent heat stability than competitor
- Suitable for high temperature process system such as polycarbonate



Universal V4 3A TA Instrument
N2 condition, 10°C increase @1min

Luminance of Diffusion Plate

Total Loading (%)	KS-200C	Competitor	KS-200C	Competitor	KS-200C	Competitor
	0.3		0.5		0.7	
Haze	98.05	98.03	98.17	98.09	98.65	98.66
TT	83.88	84.04	76.48	75.32	70.74	71.46
DF	82.25	82.39	75.08	73.88	69.79	70.5
PT	1.64	1.66	1.4	1.44	0.95	0.96
Luminance	4591.5	4563.5	4617.9	4631	4528.8	4534.8
△ Luminance	0.61%	-	-0.28%	-	-0.13%	-
Coordinate x	0.2437	0.2440	0.2448	0.2450	0.2448	0.2448
(△x)	-0.0003	-	-0.0002	-	0.0000	-
Coordinate y	0.2264	0.2259	0.2283	0.2287	0.2288	0.2285
(△y)	0.0005	-	-0.0004	-	0.0003	-

- Dispersed silicone bead in PS matrix resin.
- One layer plate with 1.5T thickness using Single Extruder.
- Measure Luminance using BM7 and Optical properties using NDH2000.