

MCPet-RB

T: (+44) 01903 235784
F: +44 (0)1903 230855
E: sales@candwseals.co.uk
W: www.candwseals.co.uk

Ref: 1206065C
Sales to Lighting and New applications
MC Products Division,
Furukawa Electric Co., Ltd

Furukawa - Microcellular Reflective Sheet

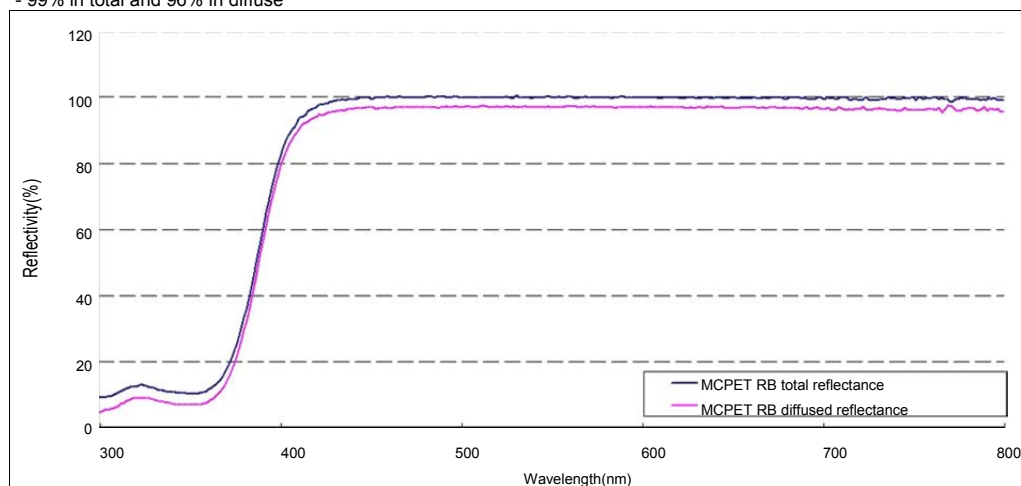
MCPET-RB

***Thickness**

- about 1.00mm

***Reflective Performance at 550nm**

- 99% in total and 96% in diffuse



***Processing method**

Cutting - Die cut and Laser Cut are available
Molding - Matched molding with male/female tooling is recommended.

Overview	Thickness		mm	0.94
	"Reflectivity	Total Reflectivity	%	99
		Diffuse Reflectivity	%	96
	Surface	specific resistivity	Ω	10^{12}
	Processing	Cutting		fine
Molding		marginal(under special condition)		

Note1) Reflectivity is relative against barium sulfate at 550nm.

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Base material			Polyethylene terephthalate			
Thickness			mm	0.94(±0.08)		
Properties	Test item	Direction	Unit	Value	Test standard	
	Density	-	kg/m ³	330	JIS K 6767	
	Optical properties	Total	-	%	99	Relative value against BaS04 at 550nm
		Diffuse	-	%	96	
	Mechanical properties	Tensile strength	MD	Mpa	20	JIS K 6767
			TD		18	
		Elongation	MD	%	123	JIS K 6767
			TD		68	
		Tear strength	MD	Mpa	76	JIS K 6767
			TD		99	
		Flexural Strength	MD	Mpa	19	JIS K 7171
	TD		14			
	Flexural Modulus	MD	Mpa	1156	JIS K 7171	
TD		882				
Electrical properties	Surface specific resistivity		Ω	10 ¹²	JIS K 6911	
Thermal properties	Ave. linear expansion (30-70°C)	MD	°C ⁻¹	4.2X10 ⁻⁵	JIS K 7197 (30-70°C)	
		TD		4.3X10 ⁻⁵		
	Thermal deformation	MD	00°C, 24hrs	-1.1	JIS K 6767	
	TD	-0.8				
UL94- HBF certificated (File No.E99693)						
GWFI		°C	825	IEC 60695-2-10		
Reliability	Test item	Condition	Time	Item	Value	
	Default value	-	-	Total reflectance	99	
				L	99	
				a*	-0.1	
				b*	0.6	
	High Temperature	80°C	1000hrs	Total reflectance	99	
				¹⁾ ΔE	0.3	
	Low Temperature	-20°C	1000hrs	Total reflectance	100	
				¹⁾ ΔE	0.3	
	High humidity - temperature	50°CX95%RH	1000hrs	Total reflectance	99	
¹⁾ ΔE				0.2		
Heat cycle test	-30°C⇄80°C	500cycle	Total reflectance	99		
			¹⁾ ΔE	0.3		
Environmental suitability	RoHS complianced					
	Halogen free					
	Recyclable					
Sheet size	600X1000, 600X1200, 600X1500, 600X20,000					

*All the data on this page is not guaranteed, just for the reference.

*1)ΔE shows color changes and be calculated by means of the following formula.

$$dE = \sqrt{(L_1 - L_0)^2 + (a_1 - a_0)^2 + (b_1 - b_0)^2}$$

L0, a0, b0 =default value, L1, a1, b1=after test

Packing description

Product size(mm)	Quantity per box	Packing size(mm)	Net weight(kg)
600X1000	50	670X1060X70	10
600X1200	50	670X1260X70	12
600X1500	50	670X1560X70	15
600X1000	500	710X1300X720	120
600X1200	500	710X1300X720	140
600X1500	500	710X1600X720	172
600X20,000	1	300X300X630	6

MCPet-M4 0.5mm

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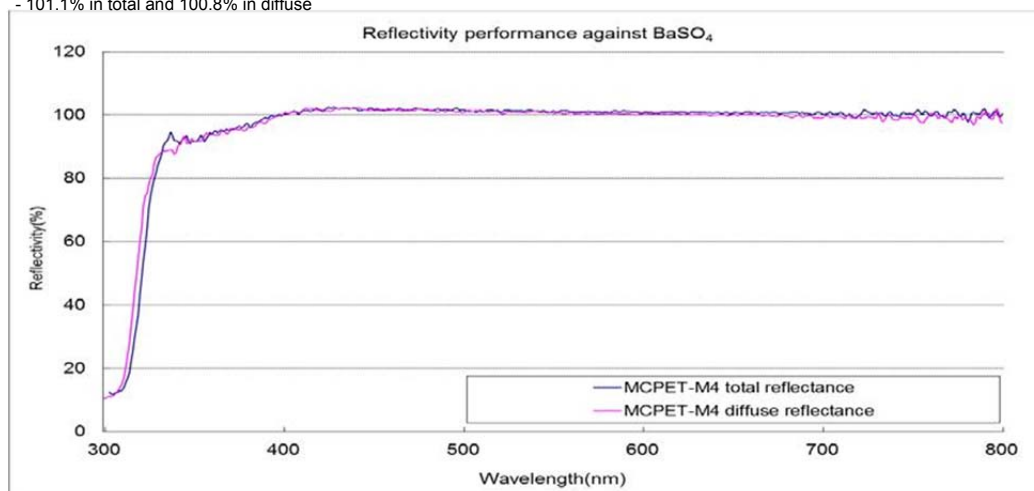
MCPET-M4 0.5mm

SALES ENGINEERING GROUP
BUSINESS DEVELOPMENT DEPARTMENT
MC PRODUCTS DEPARTMENT
FUNCTIONAL PLASTICS DIVISION
FURUKAWA ELECTRIC CO., LTD



*Thickness
- 0.5mm

*Reflective performance at 550nm
- 101.1% in total and 100.8% in diffuse



*Processing method
Cutting - Die cut and Laser Cut are available

Overview	Thickness		mm	0.5
	¹⁾ Reflectivity	Total Reflectivity	%	101.1
	Diffuse Reflectivity	%	100.8	
	²⁾ Surface specific resistivity	Ω	10 ¹⁴	
Processing	Cutting		fine	
	Molding		impractical	

Note1) Reflectivity is relative against barium sulfate at 550nm.
Note2) This product has no anti-UV protection. Do not expose this product to UV rays.

MCPet-M4 0.5mm

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MCPET-M4 0.5mmt

Base material			Polyethylene terephthalate			
Properties	Thickness		mm	0.5		
	Test item	Direction	Unit	Value	Test standard	
Properties	Density		kg/m ³	390	JIS K 6767	
	Optical properties	Total	-	%	101.1	Relative value against BaS04
		Diffuse	-	%	100.8	
	Mechanical properties	Tensile strength	MD	Mpa	21	JIS K 6767
			TD		18	
		Elongation	MD	%	70	JIS K 6767
			TD		70	
		Tear strength	MD	N/cm	616	JIS K 6767
			TD		643	
		Flexural Strength	MD	Mpa	8	JIS K 7221-2
	TD		7			
	Flexural Modulus	MD	Mpa	775	JIS K 7171	
		TD		373		
	Electrical properties	Surface specific resistivity		Ω	10 ¹⁴	
	Thermal properties	Ave. linear expansion (30-70°C)	MD	°C ⁻¹	4.0X10-5	JIS K 7197 (30-70°C)
TD			5.1X10-5			
Thermal deformation (100°C × 12.5hrs)		MD	%	-0.41		
	TD	-0.22				
	GWFI		°C	850	IEC60695-2-11	
Environmental suitability	RoHS complanced					
	Halogen free					
	Recyclable					
Sheet size	600X1200, 600X1500					

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MCPet-M4 1mm

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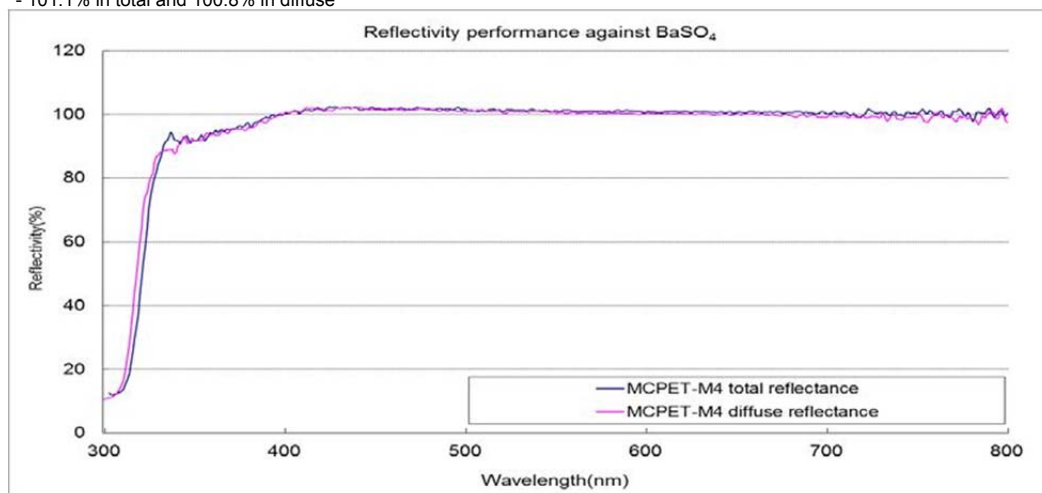
Furukawa - Microcellular Reflective Sheet

MCPET-M4 1mm



*Thickness
- 1.00mm

*Reflective performance at 550nm
- 101.1% in total and 100.8% in diffuse



*Processing method

Cutting - Die cut or laser Cut are available
Molding - Matched molding with male/female tooling is recommended.

Overview	Thickness		mm	1
	Reflectivity	Total Reflectivity	%	101.1
Diffuse Reflectivity		%	100.8	
Surface	specific resistivity	Ω	10 ¹⁴	
Processing	Cutting		fine	
	Molding		marginal (under special condition)	

Note1) Reflectivity is relative against barium sulfate at 550nm.

Note2) This product has no anti-UV protection. Do not expose this product to UV rays.

MCPet-M4 1mm

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MCPET-M4 1mm†

Base material			Polyethylene terephthalate		
Thickness			mm	1	
Properties	Test item	Direction	Unit	Value	Test standard
	Optical properties	Density	-	kg/m ³	265
Total		-	%	101.1	Relative value
Mechanical properties	Diffuse	-	%	100.8	against BaS04
	Tensile strength	MD	Mpa	17	JIS K 6767
		TD	15		
	Elongation	MD	%	70	JIS K 6767
		TD	70		
	Tear strength	MD	N/cm	613	JIS K 6767
		TD	719		
	Flexural Strength	MD	Mpa	10	JIS K 7221-2
		TD	9		
	Flexural Modulus	MD	Mpa	332	JIS K 7171
TD		264			
Electrical properties	Surface specific resistivity		Ω	10 ¹⁴	
Thermal properties	Ave. linear expansion (30-70°C)	MD	°C ⁻¹	3.5X10-5	JIS K 7197 (30-70°C)
		TD	4.6X10-5		
	Thermal deformation (100°C × 12.5hrs)	MD	%	-0.51	
		TD	-0.42		
	GWFI		°C	750	IEC80695-2-11
Environmental suitability	RoHS complianced				
	Halogen free				
	Recyclable				
Sheet size	600X1200, 600X1500				

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MCPet-E3



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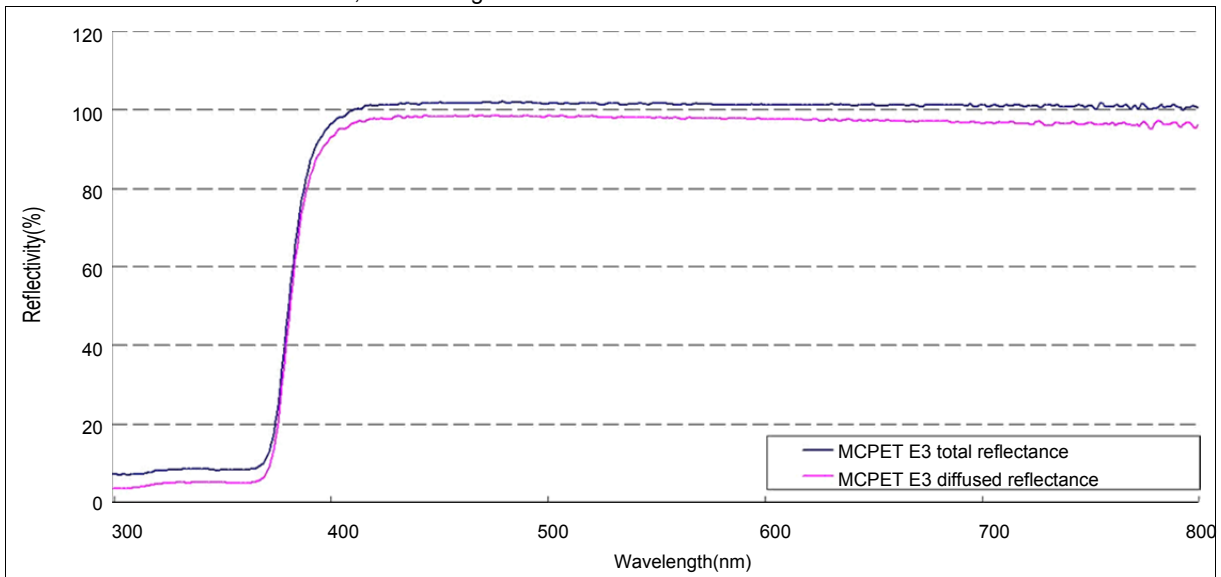
MCPET-E3

***Thickness**

- 0.88mm, thinner than MCPET-RB keeping stiffness which is a unique feature of MCPET

***Reflective Performance at 550nm**

- 101% in total and 97% in diffuse, which is higher than MCPET-RB



***Processing method**

Cutting - Die cut and Laser Cut are available

Overview	Thickness		mm	0.88
	¹⁾ Reflectivity	Total Reflectivity	%	101
		Diffuse Reflectivity	%	97
	²⁾ Surface specific resistivity		Ω	10 ¹⁶
	Processing	Cutting		fine
		Molding		impractical

Note1) Reflectivity is relative against barium sulfate at 550nm.

Note2) No use by open space due to low antistatic performance.

Note3) This material has anti-UV protection on one-side. (Non-protection side has back stamps.)



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MCPET-E3

Base material			Polyethylene terephthalate		
Thickness			mm	0.88(±0.08)	
Properties	Test item	Direction	Unit	Value	Test standard
		Density	-	kg/m ³	380
Optical properties	Total	-	%	101	Relative value against BaS04 at 550nm
	Diffuse	-	%	97	
Mechanical properties	Tensile strength	MD	Mpa	22	JIS K 6767
		TD		20	
	Elongation	MD	%	88	JIS K 6767
		TD		83	
	Tear strength	MD	Mpa	98	JIS K 6767
		TD		103	
Flexural Strength	MD	Mpa	15	JIS K 7171	
	TD		13		
Flexural Modulus	MD	Mpa	922	JIS K 7171	
	TD		792		
Electrical properties	Surface specific resistivity		Ω	10 ¹⁶	JIS K 6911
Thermal properties	Ave. linear expansion (30-70°C)	MD	°C ⁻¹	4.0X10-5	JIS K 7197 (30-70°C)
		TD		5.3X10-5	
	Thermal deformation	MD	00°C, 24hrs	-1.3	JIS K 6767
	TD	-0.9			
	GWF1		°C	850	IEC 60695-2-10
Reliability	Test item	Condition	Time	Item	Value
	Default value	-	-	Total reflectance	101
				L	99
				a*	-0.1
				b*	0.7
	High Temperature	80°C	1000hrs	Total reflectance	100
				¹⁾ ΔE	0.6
	Low Temperature	-20°C	1000hrs	Total reflectance	101
				¹⁾ ΔE	0.1
	High humidity - temperature	60°CX95%RH	1000hrs	Total reflectance	100
				¹⁾ ΔE	0.6
	Heat cycle test	-30°C⇔80°C	500cycle	Total reflectance	100
				¹⁾ ΔE	0.5
Environmental suitability	RoHS complianced				
	Halogen free				
	Recyclable				
Sheet size	600X1200, 600X1500				

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*1)ΔE shows color changes and be calculated by means of the following formula.

$$dE = \sqrt{(L_1 - L_0)^2 + (a_1 - a_0)^2 + (b_1 - b_0)^2}$$

L0, a0, b0 =default value, L1, a1, b1=after test

Packing description

Product size(mm)	Quantity per box	Packing size(mm)	Net weight(kg)
600X1200	50	670X1260X70	
600X1500	50	670X1560X70	
600X1200	500	710X1300X720	125
600X1500	500	710X1600X720	153