MITSUBISHI PLASTICS, INC.

Flame resistant polyester film

DIALAMY

DIALAMY is flame-retardant polyester film developed by MITSUBISHI PLASTICS INC. by using its unique flame resistant technology and state-of the-art processing technology. Compliant with the UL Standards 94-VTM-0 as polyester film, it has excellent flame resistance.

FEATURES

- Can be coated or laminated in the same manner as ordinary polyester films.
- Can be cut, bent, or punched as easily as ordinary polyester films.
- Almost similar heat resistance, physical properties, electrical characteristics, and chemical resistance to ordinary polyester films.

PRECAUTIONS FOR USING AND HANDLING DIALAMY

(1) Do not use for food.

(2) If combusted with a combustion assistant, a bromic gas will be produced. Do not inhale it.

(3) Do not wet it with water or allow dew condensation.

(4) Store it in a dark, cool place, avoiding the direct sunshine and high temperature and humidity.

(5) Dispose of scraps as an incombustible substance.

APPLICATIONS:

Application	Fabrication method	Appliances to be aimed
Electrical insulation materials, Electrical parts	Punching, folding, lamination with both side adhesive tape	Copying machines Televisions Facsimiles Computers Automobiles Transformers Motors Printers etc.
Membrane switches, Flat heating elements	Printing with electrically conductive ink	
Electric wires	Lamination	
F.P.C. F.P.C. reinforced plates	Lamination with copper, etching, punching, adhesion	
Electro-magnetic shielding materials	Lamination with aluminum, cooper or steel foil	

PROPERTIES

Test specimens: DIALAMY 100μm

Item			Unit	Value	Test method
Physical properties	Tensile strength	MD	Mpa (kgf/mm²)	157×10^3 (16)	JIS C2318
		TD		157×10^3 (16)	
	Elongation	MD	%	110	
		TD		100	
	Edge tear resistance	MD	N/20mm (kgf/mm)	500(51)	
		TD		568(58)	
	Folding endurance	MD	1000 times	37	JIS P8115
		TD		39	
	Water absorption		%	0.7	ASTMD570
Electrical properties	Breakdown voltage		KV	13.6	JIS C2318
	Dielectric constant	1KHz	-	3.8	
		1MHz		3.0	
	Dielectric loss factor	1KHz	-	4×10^{-2}	
		1MHz		3×10^{-2}	
	Volume resistively		Ω.cm	4×10^{15}	
Thermal properties	Heat shrinkage	MD	%	1.4	
		TD		-0.2	
	Coefficient of thermal expansion		cm/cm/	3×10^{-5}	ASTMD696
	Inflammability	-	-	Compliant with VTM-0	UL 94
		Oxygen index	-	28	JIS X7201
Optical properties	Light transmission		%	46	JIS K7105
	Haze		%	95	
Chemical properties	Weak acid, weak alkali…			Good	
	Organic solvents, alcohol, hydrocarton			Good	
	Ketone, ester, chlorimated compounds			Good	
	Concentrated acid, concentrated alkali			Weak	
	Grease, fats			Good	
	Phenol			Good	

Note: The figures listed above are measured values, but not guaranteed ones.

STANDARD SIZE

Thickness (μm)	Roll Type		Cut Sheet		
	Width (mm)	Length(m)	Nom. Cut Size		Q'ty
			Width(mm)	Length(m)	
40	500	500			
	1000	500			
50	500	500			
	1000	500			
70	500	500			
	1000	300			
100	500	200	1000	500	250shs.
	1000	200			
130	500	200	1000	500	200shs.
	1000	200			
200	500	100	1000	500	100shs.
	1000	100			
270	500	100	1000	500	100shs.
	1000	100			
340			1000	500	50shs.
400			1000	500	50shs.
500			1000	500	50shs.

Note: (1) Colored sheets are available on request.

(2) As regards laminated sheet with aluminum or with copper please consult with us.

Performance comparison between DIALAMY and other films

	Retardation	Heat Property	Mechanical property	Electrical property	Solvent resistance
DIALAMY (lamination)	(VTM-0)				
PET (single)	X (Out Standard)				
Flame-retardant PET-1 (coated w/ retarder)	(HB-VTM-2)				
Flame-retardant PET-2 (Retarder incorporated)	(VTM-2)				
PVC (Single)	(V-0)				
PEI (Single)	(VTM-0)				

Note:

PET: Polyethylene terephthalate (polyester)

PVC: Poly vinyl chloride

V-0/VTM-1/VTM-2/HB: UL standard

PEI: Polyetherimide

Rating: Excellent   Good   Passable   X   No good