POLICROM

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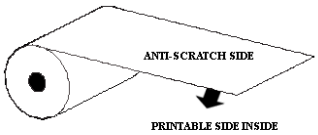
elecrom
FILMS FOR ELECTRONICS

ELECROM PRINT TEX AM

technical data sheet

DESCRIPTION	APPLICATION	FEATURES
Textured matt film with anti-scratch and antimicrobic finishing on the top side: printable with UV inkjet or screen-printing on the bottom side	Developed as an overlay for the production of flexible switches and membrane keyboards	• Good dimensional stability • Optimal flatness • Antimicrobial properties • Matt finish, scratch resistant • Resistance to the most common detergents • Embossable
	***Suggested varnishes***: Pröll UV curing lacquer NoriCure UV-L3 (screen mesh 120-130), Marabu UVP 904 ***Suggested inks***: *Marabu MSW 171, MSW 180, MSW, MSW 932, MSW 980, MSW 981, UVSW 170, UVSW 180, UVSW 932, UVSW 980*	

PHYSICAL AND MECHANICAL PROPERTIES

Property		Test method	Unit	Nominal values	
Base film thickness		ASTM D 374	micron	125	175
Coated film thickness		ASTM D 374	micron	145 (±10)	195 (±10)
Tensile strength	*Machine Direction*	ASTM D 882	daN/mm^2	20	18
Elongation at break	*Machine Direction*	ASTM D 882	%	145	150
Numbers of cicles		(a)	Cicles	> 3*10^6	
Film hardness by pencil test		ASTM D3363-05	-	3H	
Taber abrader		QCTM 149**	Δ	< -4	
Adhesion tape test		ASTM D3359	-	> 4B	

CHEMICAL RESISTANCE (SPOT TEST)

Chemical Groups	Example used	Effect (1 h)	Effect (24 h)
Acids (dilute mineral)	10% HCl Acid	Pass	Pass
Acids (dilute organic)	Acetic Acid (Vinegar)	Pass	Pass
Alcohols	Methanol/ Ethanol/ IPA	Pass	Pass
Aliphatic Hydrocarbons	n-Heptane	Pass	Pass
Alkalis (dilute)	2% NaOH	Pass	Slight Stain
Aromatic Hydrocarbons	Toluene	Pass	Pass
Chlorinated Hydrocarbons	1-1-1 Trichloroethane	Pass	Pass
Esters	Ethyl Acetate	Pass	Pass
Aliphatic Ketone	Acetone	Pass	Pass
Aromatic Ketone	Cyclohexanone	Pass	Pass

BACTERIA RESISTANCE

Treatment	Bacteria / Mould	Test result	Test method
None	E-Coli	Biocidal pass	JIS Z 2801:2000
None	PS. Aeruginosa	Biocidal pass	JIS Z 2801:2000
None	Sal. Entertidis	Biocidal pass	JIS Z 2801:2000
None	Kl. Pheumoniae	Biocidal pass	JIS Z 2801:2000
None	B. Cereus	Biocidal pass	JIS Z 2801:2000
None	MRSA	Biocidal pass	JIS Z 2801:2000
None	AS. Niger	Biocidal pass	JIS Z 2801:2000
None	Pe. Funiculosum	Biocidal pass	JIS Z 2801:2000
None	Str. Mutans	Biocidal pass	JIS Z 2801:2000
Soaked in IPA for 24 hrs	E-Coli	Biocidal pass	JIS Z 2801:2000
Soaked in IPA for 24 hrs	MRSA	Biocidal pass	JIS Z 2801:2000
Soaked in chlorine bleach for 24 hrs	E-Coli	Biocidal pass	JIS Z 2801:2000
Soaked in chlorine bleach for 24 hrs	MRSA	Biocidal pass	JIS Z 2801:2000
Soaked in ethanol for 24 hrs	E-Coli	Biocidal pass	JIS Z 2801:2000
Soaked in ethanol for 24 hrs	MRSA	Biocidal pass	JIS Z 2801:2000
Soaked in quartenary ammonium for 24 hrs	E-Coli	Biocidal pass	JIS Z 2801:2000
Soaked in quartenary ammonium for 24 hrs	MRSA	Biocidal pass	JIS Z 2801:2000
Soaked in phenol base disinfectant for 24 hrs	E-Coli	Biocidal pass	JIS Z 2801:2000
Soaked in phenol base disinfectant for 24 hrs	MRSA	Biocidal pass	JIS Z 2801:2000

THERMAL PROPERTIES

Property		Test method	Unit	Nominal values
Process temperature	*Minimum*		°C	-40
	Maximum			150 (80 if embossed)
Shrinkage at 150°/30'	*Machine Direction*	ASTM 1204-08	%	< 0.50
	Cross Direction			< 0.10
Classification of flammability		UL Flame Class*	-	VTM-2

ELECTRICAL PROPERTIES (TEXTURED SIDE)

Property		Test method	Unit	Nominal values
Volume resistivity		ASTM D257*	Ω/m	10^{15}
Surface resistivity	20°C / 50% H.R.	Internal method 05	Ω/cm	≥ 10^{13}
Dielectric breakdown voltage		ASTM D149*	kV/mm	125

OPTICAL PROPERTIES

Property		Test method	Unit	Nominal values	
Luminous transmittance		ASTM D1003	%	> 88	
Gardner Haze		QCTM 137**	%	66-76	
Glossness	Angle test 60°	Internal method 08	GU	15	
Yellowness index		ASTM E313-05	YI	1.5	1.7

** Figures from PET base film* ** Figures derived from Internal Test Methods

NOTES:(a) *Switch Life: A standard rubber finger (45° Shore hardness) is used to flex an embossed dome switch continuously at a rate of 2 flexes/second. Pressure applied must be sufficient to force the apex of the dome to make contact with the support table. The switch should be examined at regular intervals to check for flaking off or cracking in the hardcoat and graphic ink layer.)*

(b) *Pencil Test: Increasingly hard grades of pencil lead are scored across the surface of the coated PET. The point of the pencil is moved along the surface of the film with increasing force until the pencil breaks or until the surface of the coated film is scratched. The tests are continued until the pencil scratches the surface. The value given is the highest hardness value which does not scratch the coated film.)*