TENOPEX
The Plastic Films Specialist

Tenopex® TX-HL(B)-T Polyester Technical Data Sheet

Description and Applications

Tenopex® TX-HL(B)-T is a high performance hardcoat polyester film with a directional brush grain surface. Engineered to deliver a metallic appearance and subtle tactile feel. The textured pattern conceals fingerprints and handling marks, while Its 2-3H hardness surface provides excellent abrasion and chemical resistance. It is optimized for solvent based and UV cured screen printing inks, delivering sharp print definition and strong adhesion. It offers reliable embossability and durability making it ideal for membrane switches, fascias and decorative overlays. Available in 0.15mm, 0.2mm and 0.28mm thickness. Variant for digital printing is also available upon request.

Grade options :
"W" for enhanced weatherability and UV stability is typically used for exterior facing graphics such as petrol station panels and outdoor membrane switches / display overlays .
"AB" for antibacterial coating to help suppress bacterial loading on the touch surface, enhancing hygiene for high human machine contact interfaces (overlays & keypads)

Typical Property Values

Property	Test Method	Units	Value
Physical			
Density	ASTM D792	g/cm3	1.4
Optical			
Light Transmission	ASTM D1003-61	%	90.1 – 92.6
Haze	ASTM D1003-61	%	59.5 – 62.5
Hardness	-	Pencil Hardness	2H – 3H
Mechanical			
Tensile Strength at Break	ASTM D882	Kg/mm^2	18
Tensile Elongation at Break	ASTM D882	%	70
Friction Coefficient	ASTM D1894	Static	0.5
Thermal			
Standard Temperature Resistance	ASTM D1525-76	°C	> 105
Shrinkage at 130°C/30min	ASTM D1204	% (min)	0.3 – 1.5
Electrical			
Dielectric Strength	JIS C2151	KV/mm	3000
Dielectric Constant	JIS C2151	1KHz / 1MHz	3.3 / 3.2
Dissipation Factor	JIS K6911	1KHz	0.2%
Surface Resistivity	JIS K6911	Ω/sqm	10^{17}
Volume Resistivity	JIS C2151	Ω.cm	10^{17}
Conductivity			
Surface Resistivity	ASTM D991	Ω/sqm	80/100/200/400/500
ITO layer Adhesive Strength	ASTM D3359	%	95 - 100

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Anti-Bacteria Properties	Results
Test Organism	Escherichia Coli ATCC 8739
Concentration of bacteria (cfu/mL)	1.0×10^6
Volume of test inoculum (mL)	0.2
U_0	4.09
U_t	4.54
A_t	-0.2
R	4.7
Comment	Pass
These results are only used for reference information of the coating agent	

Notes :

1. The controlled sample is plastic film without antimicrobial activity, provided to 3rd party SGS test lab.
2. U_0 : the average of the common logarithm of the number of viable bacteria (CFU/cm^2) that recovered from controlled sample at 0h contact time.
3. U_t : the average of the common logarithm of the number of viable bacteria (CFU/cm^2) that recovered from controlled sample at 24h contact time.
4. A_t : the average of the common logarithm of the number of viable bacteria (CFU/cm^2) that recovered from sample at 24h contact time
5. R : the value of antimicrobial activity $R = U_t - A_t$
6. The requirement of JIS 2801-2010 : the value of antimicrobial activity > 2.0
7. Test after tearing off the protective film

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