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Technical Data Sheet: No. 0001-LK

Effective Date: Jan. 24th, 2022

Thermal Transfer Printable Polyester Film Tape (LK standard)

PRODUCT SPECIFICATIONS:

Description:

Print Technology	Thermal Transfer
Material	Polyethylene terephthalate
Adhesive	Acrylic
Colors	White, Yellow, Blue, Red, Green, Transparent, etc.
Finish	Glossy, Matte
Print operating Range*1	From 5 to 35 degrees C and from 30 to 80 %RH
Service Temperature	From -55 to 125 degrees C
Storage Condition	From -10 to 40 degrees C and from 30 to 80%RH

*1: Print on a tape under this condition.

Applied SKU

Type	Finish	SKU
Fluorescent	Glossy	LK-*DBF, LK-*GBF, LK-*YBF
Matte	Matte	LK-*SBE
Metallic	Glossy	LK-*KBM, LK-*SBM
Pastel	Glossy	LK-*GBP, LK-*LBP, LK-*RBP, LK-*YBP
Pearl	Glossy	LK-*GBL, LK-*LBL, LK-RBL
Standard	Glossy	LK-*BBY, LK-*BKP, LK-*CAY, LK-*CBY, LK-*DBY, LK-*EAY, LK-*EBY, LK-*FAY, LK-*FBY, LK-*GAS, LK-*GBY, LK-*HBY, LK-*JBY, LK-*KBY, LK-*LBY, LK-*LAS, LK-*LWY, LK-*MBY, LK-*NBY, LK-*PAS, LK-*PBY, LK-*QBY, LK-*UAS, LK-*WBN, LK-*WLN, LK-*WRN, BR-PT**WB-*, BR-PT**YB-*
Transparent	Glossy	LK-*TBN, LK-*TKN, LK-*TLN, LK-*TRN, LK-*TWN
Vivid	Glossy	LK-*BWV, LK-*GWV, LK-*LWV, LK-*RWV

Note: Some number might be added instead of "*".

Thickness (mm)

	Fluorescent	Matte	Pastel	Standard	Transparent	Vivid
Substrate	0.038	0.038	0.038	0.038	0.038	0.038
Colored layer **	0.020	0.013	0.013	0.014	-	0.012
Adhesive	0.018	0.018	0.018	0.018	0.018	0.018
Liner	0.073	0.073	0.073	0.073	0.073	0.073
Total	0.149	0.142	0.142	0.143	0.129	0.141

**: This value is the average value of all colors.

APPLICATIONS

General identification for indoor/outdoor usage, barcode label, caution or warning label.

REGULATORY/AGENCY APPROVALS

UL/ cUL: Epson Polyester Film tapes (Black on White label and Transparent label) are compliant to UL969 for Indoor/ outdoor use. You may refer to details on www.ul.com under file MH49716.

Listed SKUs on MH49716:

SKU	Ink color / Tape color
LK-9WBN(50mm), BR-PT**WB-*	Black / White
LK-*TBN	Black / Transparent
LK-*TKN	Gold / Transparent
LK-*TLN	Blue / Transparent
LK-*TRN	Red / Transparent
LK-*TWN	White / Transparent
BR-PT**YB-*	Black / Yellow

Note: Some number might be added instead of “*”.

RoHS: Epson Polyester Film label is compliant to RoHS Standards to Directive (2011/65/ EU) and (Annex II (EU) 2015/863) established on June 8, 2011.

PROPERTIES

Properties		**Test method**	**Average result**
	Adhesion time	Compliance to JIS (Japanese Industrial Standards) Z 0237(2000), pressure-sensitive adhesive tapes and sheets testing. Peeling angle 180 degrees / peeling speed 300mm/min	
Stainless Steel	20 min.		9.4N/25mm
	96 hours		14.1N/25mm
Polypropylene	20 min.		2.8N/25mm
	96 hours		2.8N/25mm
Glass	20 min.		9.2N/25mm
	96 hours		18.7N/25mm
Vinyl chloride	20 min.		15.4N/25mm
	96 hours		20.0N/25mm
Acrylic	20 min.		11.7N/25mm
	96 hours		13.0N/25mm
Shear / Displacement		Putting on glass plate (adhesion area is 12 x 20 mm), then load 1kg to the label for 1 hour	0.3mm

Tack	Probe tack test with dia. 5mm probe	8.58N
UV Light resistance	Putting on stainless plate, then irradiance 40W/m^2, B.P.T 63 degrees C and 50% RH, for 390 hours in Super Xenon Weather Meter (Suga SX75)	No visible effect, such as peeling / cracking / discoloration / printed text removing.
Weatherability	Repeat below 1 to 4 for 55 hours / 110 hours. 1. Irradiation for 10 hours 1.24kW/m^2 irradiance, B.P.T 63 degrees C and 50% RH 2. Spray plain water for 1 minute 3. Dark and condensation for 1 hour 4. Spray plain water for 1 minute 55 hours / 110 hours acceleration test equals to 1 year / 2 years of environment of Japan in metaling weather meter machine (SUGA M6T).	
Short Term High service temperature	Putting on aluminum plate for 2 hours	
	200/225/250 degrees C	Slight discoloration on tape. But printed text is legible, no peeling, no cracking.
	150 degrees C	No visible effect, such as peeling / cracking / discoloration / printed text removing.
High Service Temperature	Putting on aluminum plate at 50/100 degrees C for 240 hours.	
Low Service Temperature	Putting on aluminum plate	
	-70/-30 degrees C for 72 hours	
	0 degrees C for 240 hours	
Short Term Low Service Temperature	Putting on stainless plate at -196 degrees C for 2 hours.	
Abrasion Resistance	50 cycles on 500gf pressure by Japanese 10 Yen copper coin	Slight removal of text, but still legible. And no peeling, no cracking, no discoloration.
	50 cycles on 2kgf pressure by plastic eraser.	No visible effect, such as peeling / cracking / discoloration / printed text removing.

CHEMICAL/ SOLVENT RESISTANCE

Chemical reagents	Test method	Results
Toluene	Putting on aluminum plate, then sink for 24 hours (in case of Yellow, Red and Blue)	Slight fading on tape color but no print removal and no tape removal

Isopropyl Alcohol	Putting on glass plate, then sink for 1 hour (in case of Yellow and Green)	No visible effect, no print removal and no tape removal

Chemical reagents	Test method	Results
Toluene	Attach to glass plate, then sink in each chemical / solvent for 2 hours	No visible effect, such as peeling / cracking / discoloration / printed text removing.
Hexane		
Ethanol		
Acetone		
Mineral sprit		
0.1N Hydrochloric acid		
0.1 N Sodium hydroxide		
Engine oil		
Ethyl acetate		Removing printed texts, but no peeling, no cracking, no discoloration.

Chemical reagents	Test method	Results
Hexane	Attach to glass plate, then rub with 500 gf pressure up to 50 times by cotton swab with chemical / solvent.	No visible effect, such as peeling / cracking / discoloration / printed text removing.
Ethanol		
Mineral sprit		
0.1N Hydrochloric acid		
0.1 N Sodium hydroxide		
Engine oil		
Toluene		Removing printed texts, but no peeling, no cracking, no discoloration.
Acetone		
Ethyl acetate		

Note:

Product availability may vary by country. Please refer to your local Epson office for full details.

Note that the information about the characteristics, such as numeric values, described in this document are the evaluation results for information only, not for guarantees.