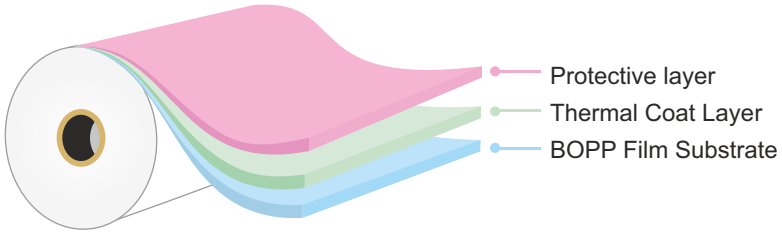
COSMO FILMS
Engineered to Enhance

Technical Data Sheet

Direct Thermal Printable Film
Top Coated

C1049 (DTP) TC

Structure



Description

It is BOPP based, Top coated direct thermal printable (DTP) film with high image preservation.

Features

- Excellent performance with high speed printing
- Suitable to print with UV & water base flexo.
- Excellent rub resistance
- Excellent resistance to oil , solvent and water
- Dark image quality
- Good resistance to sun light exposure

Applications

- Airline baggage tags.
- Ready made food labels.
- Industrial bar code applications.
- Retail price marking.
- Logistics labels
- Fruits & Meat label
- Pharmaceutical labels & wrist bands

Certificates / Regulations / Directives

• Indirect FDA • BPA Free • RoHS

Typical Values

Properties	Units	Test Method	C1049 (DTP) TC		
Physical Data					
Average Thickness	micron	D-374-C	58	70	96
	gauge		232	280	384
	mils		2.3	2.8	3.8
Thickness Variation	% (±)		5		
Unit Weight	g/m^2		41.6	51.5	68.2
Yield	m^2/kg	ASTM D-4321	24.0	19.4	14.6
	in^2/lb		16873	13646	10264
Whiteness Index	%	E-313	83 - 86		
Initial Activation Temperature (O.D. = 0.2)	°C/°F	CTM	90 / 194		
Effective Activation Temperature (O.D. = 0.8)	°C/°F	CTM	96 / 204.8		
Maximum Density (O.D.=2.0)	°C/°F	CTM	120 / 248		
Image Colour			Black		
Mechanical Data					
Tensile Strength	MD	kg/cm^2	D - 822	650 - 850	
	TD			1400 - 1700	
Elongation	MD	%	D - 822	140 - 200	
	TD			30 - 70	

Sensitivity

Property	Specification	Test Method
Image Density	1.9 - 2.0	Printer Atlantek 400 at energy density of 16 mj/mm^2 and Optical Density measurement done with X-Rite 500 Spectrodensitometer
Background Density	0.15 min	

Updated as on Jan - 2025

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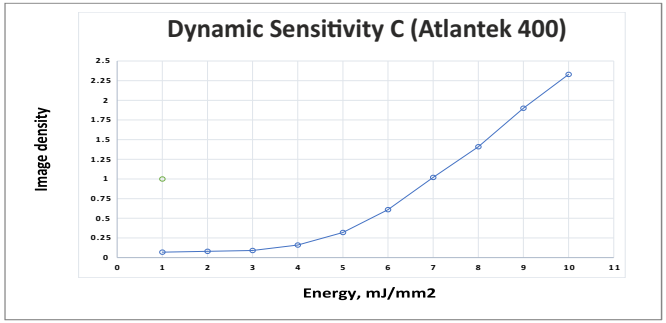
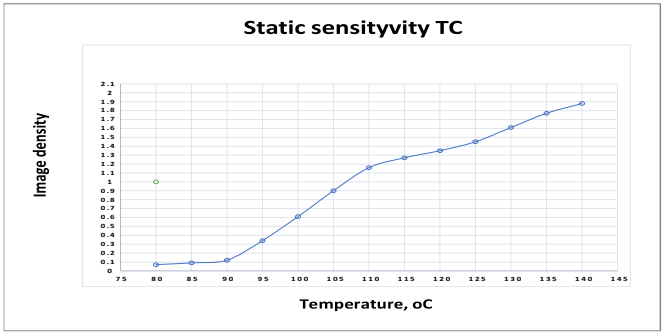
Stability Data			
Density at 90% RH (40 °C / 104 °F, 24 hrs)	Image Density	CTM	1.7
	Background Density		0.15
Temp Resistance (60 °C / 140 °F, 24 hrs.)	Image Density	CTM	1.7
	Background Density		0.15
Cryogenic (-33 °C/-27.4°F, 24 hrs.)	Image Density	CTM	1.7
	Background Density		0.15
Water Dip Test - Image (20 °C/60°F, 48 hrs.)	Image Density	CTM	1.4
Hot Water Resistance (78 °C/172.4°F, 20 Sec.)	Image Density	CTM	1.4
	Background Density		
Wet Rub Test (water)	Rubbing with cloth 100 times on printed surface	CTM	Pass
Oil Rub Test			Pass
Plasticizer Resistance	Put PVC film on the printed face with pressure of 1.3 kg/m^2 at 25 °C for 24 hours		Image Density1.7





Recommendation: For best results of image density with 200 DPI printers , printing recommended at 50% darkness levels for 2D (two dimensional) barcodes and 65% darkness levels for 1D (one dimensional) bar codes. Results would be more favorable while printing with (300 DPI printers and above) resulting in higher resolution and printing at lower darkness %.

Precautions

Storage

Avoid exposure to sunlight, high temperature & high humidity in storage.
Ideal storage conditions 25°C & <50% RH.
Avoid storing in presence of solvents & plasticizers.
Avoid high pressure in storage location.

Processing:

Water based adhesive is recommended. In case of solvent based adhesive, please check the suitability.
Appropriate tests are requested for right selection of inks before printing process.
Take a pre-test to be sure that enough optical density is obtained by your printer.

Others:

Don't scratch or press the image side as it may cause potential color problem

Note: This product has standard thermal sensitivity making it suitable for print speed up to 254 mm/s (10 IPS) at energy density of 16 mj/mm^2 depending on printer settings.

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