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AVERY DENNISON

# UL-Recognized Components Guide



# Getting Started

## Choosing components for your UL-recognized label has never been easier.

Before starting you'll need to know three things:

1



### End Use:

- Function of Label
- Permanent, Removable or Repositionable
- Substrate
- Environmental Conditions
- Label Application

2



### Processing:

- Press Technology
- Electronic Printing Method
- Converting

3



### Compliance:

- Environmental
- Agency
- End User Spec

## Then follow these 5 steps:

- Step 1** Determine product candidates that meet your application's requirements.
- Step 2** Cross reference with application's surface and UL/c-UL environmental conditions.
- Step 3** Select printing ink system.
- Step 4** Select thermal transfer ribbon.
- Step 5** Submit label adoption request with Avery Dennison file number to UL.

# Step 1: Determine product candidates that meet your application's general requirements

Spec #	Face	Adhesive	Liner	Min. Appl. Temp	Low Service Temp	High Service Temp	Chem. Resist*	Convertibility	Comments
<b>Overlamine:</b>									
77844	1 Mil Clear Print Treated PET	S8020	40#BG	25°F	-40°F	300°F	7	9	Provides resistance to chemicals, weathering and abrasion.
<b>Base Material:</b>									
78401	3 Mil Synthetic Paper	S8001	50#SCK	50°F	-40°F	176°F	8	7	Matte white polypropylene; cost effective alternative to PET for indoor applications.
78403	2.3 Mil White BOPP TC	S8001	50#SCK	50°F	-40°F	176°F	7	7	Glossy white polypropylene; cost effective alternative to PET for indoor applications.
78385	2 Mil White PET TC	S8001	50#SCK	50°F	-40°F	300°F	8	7	High strength film suitable for demanding indoor and outdoor applications.
78387	2 Mil Matte Chrome PET TC	S8001	50#SCK	50°F	-40°F	300°F	8	7	
77920	2 Mil White PET TC	S8025	50#SCK	50°F	-40°F	300°F	10	9	High strength film suitable for demanding indoor and outdoor applications. S8025 offers improved chemical resistance and convertibility.
77922	2 Mil Matte Chrome PET TC	S8025	50#SCK	50°F	-40°F	300°F	10	9	

**Notes:**

10 Excellent → 1 Poor

All products are offered Fasson EXACT™

All base material products are suitable for bonding to all surface energy substrates.

Additional UL-recognized product constructions are available. Contact your sales representative for further information.

# Step 2: Cross reference with application's surface and UL/c-UL cond

## Polyester - UL Conditions

Surfaces	77920: 2 Mil White PET TC/S8025 77922: 2 Mil Matte Chrome PET TC/S8025					78385: 2 Mil White PET TC/S8001 78387: 2 Mil Matte Chrome PET TC/S8001				
	Max Temp C	Min Temp C	Indoor Use	Outdoor Use	Add'l Cond.	Max Temp C	Min Temp C	Indoor Use	Outdoor Use	Add'l Cond.
Acrylic	60	-40	X	X	-	-	-	-	-	-
Acrylic Paint	150	-40	X	X	0	150	-40	X	X	0,G
Acrylic Powder Paint						150	-40	X	X	-
Acrylonitrile Butadiene Styrene	80	-40	X	X	0,G	80	-40	X	X	0,G
Alkyd Paint	150	-40	X	X	0	150	-40	X	X	0,G
Alkyd Painted Plastic	80	-40	X	X	-	-	-	-	-	-
Aluminum	150	-40	X	X	0,G	150	-40	X	X	0,G
Anodized Aluminum	150	-40	X	X	0,G	150	-40	X	X	0,G
Chromate Treated Metal	150	-40	X	X	-	-	-	-	-	-
Epoxy	80	-40	X	X	-	-	-	-	-	-
Epoxy Paint	150	-40	X	X	-	150	-40	X	X	-
Epoxy Powder Paint	150	-40	X	X	0	150	-40	X	X	-
Galvanized Steel	150	-40	X	X	-	150	-40	X	X	0,G
Melamine	100	-40	X	X	-	100	-40	X	X	0,G
Nylon	100	-40	X	X	0,G	100	-40	X	X	0,G
Phenolic	100	-40	X	X	-	100	-40	X	X	-
Polybutylene Terephthalate	80	-40	X	X	0	80	-40	X	X	0
Polycarbonate	100	-40	X	X	-	100	-40	X	X	-
Polyester Paint	150	-40	X	X	0	150	-40	X	X	0
Polyester Powder Paint	150	-40	X	X	-	150	-40	X	X	-
Polyethylene	80	-	X	-	-	80	-	X	-	0
Polyethylene - High Density	80	-40	X	X	-	-	-	-	-	-
Polyethylene Terephthalate	80	-40	X	X	-	-	-	-	-	-
Polyphenylene Oxide	80	-40	X	X	-	80	-40	X	X	-
Polyphenylene Sulfide	80	-40	X	X	-					
Polypropylene	80	-40	X	X	0	80	-40	X	X	0,G
Polystyrene	80	-40	X	X	0	80	-40	X	X	0
Polyurethane (Urethane) Powder Paint	150	-40	X	X	-	150	-40	X	X	-
Polyvinyl Chloride (PVC)	80	-40	X	X	-	80	-40	X	X	-
Porcelain	150	-40	X	X	-	150	-40	X	X	0,G
Stainless Steel	150	-40	X	X	0,G	150	-40	X	X	0,G
Unsaturated Thermoset Polyester	100	-40	X	X	0	100	-40	X	X	0,G
Electrostatic Coated Metal A, B, C, D	150	-	X	X	-	150	-	X	X	-
Metals	150	-	X	X	-	150	-	X	X	-
Plastic Group 1	100	-	X	X	-	100	-	X	X	-
Plastic Group II, III, IV, V, VI, VII, VIII	80	-	X	X	-	80	-	X	X	-

**Notes:**

- 0 - Occasional exposure to lubricating oil
- G - Occasional exposure to gasoline splashing



C3TD11PHNBIC  
CELL ORIGIN CHINA

# Polypropylene - UL Conditions

		78403: 2.3 Mil White BOPP TC/S8001				78401: 3 Mil Synthetic Paper/S8001			
Surfaces		Max Temp C	Min Temp C	Indoor Use	Outdoor Use w/ Overlam*	Max Temp C	Min Temp C	Indoor Use	Outdoor Use w/ Overlam*
UL-Recognition	Acrylic Paint	100	-40	X	X	80	-40	X	-
	Acrylic Plastic	60	-40	X	X	60	-40	X	-
	Acrylic Powder Paint	100	-40	X	X	80	-40	X	-
	Acrylonitrile Butadiene Styrene	80	-40	X	-	80	-40	X	-
	Alkyd Enamel Paint	100	-40	X	X	80	-40	X	-
	Aluminum	100	-40	X	X	80	-40	X	-
	A-dized Aluminum	100	-40	X	X	80	-40	X	-
	Ethylene Vinyl Acetate	60	-40	X	X	80	-40	X	-
	Epoxy Paint	100	-40	X	X	80	-40	X	-
	Epoxy Powder Paint	100	-40	X	X	80	-40	X	-
	Galvanized Steel	100	-40	X	X	80	-40	X	-
	Glass	100	-40	X	X	80	-40	X	-
	Melamine	80	-40	X	X	80	-40	X	-
	Nylon	100	-40	X	X	80	-40	X	-
	Phe-lic	100	-40	X	X	80	-40	X	-
	Polybutylene Terephthalate	80	-40	X	X	80	-40	X	-
	Polycarbonate	100	-40	X	X	80	-40	X	-
	Polyester Paint	100	-40	X	X	80	-40	X	-
	Polyester Powder Paint	100	-40	X	X	80	-40	X	-
	Polyethylene Terephthalate	80	-40	X	X	80	-40	X	-
	Polyphenylene Oxide	80	-40	X	X	80	-40	X	-
	Polypropylene	80	-40	X	X	80	-40	X	-
	Polystyrene	80	-40	X	X	80	-40	X	-
	Polyurethane Paint	100	-40	X	X	80	-40	X	-
	Polyurethane (Urethane) Powder Paint	100	-40	X	X	80	-40	X	-
	Polyvinyl Chloride	80	-40	X	X	80	-40	X	-
Porcelain	100	-40	X	X	80	-40	X	-	
Southern Yellow Pine	100	-40	X	-	-	-	-	-	
Stainless Steel	100	-40	X	X	80	-40	X	-	
Tedlar (Polyvinyl Fluoride)	100	-40	X	X	80	-40	X	-	
Unsaturated Thermoset Polyester	100	-40	X	X	80	-40	X	-	
Urethane Powder Paint	100	-40	X	X	80	-40	X	-	
c-UL	Metals	100	-	X	X	-	-	-	-
	Electrostatic Coated Metal A, B, C, D	100	-	X	X	-	-	-	-
	Plastic Group 1	100	-	X	X	-	-	-	-
	Plastic Group II, III, IV, V, VI, VII, VIII	80	-	X	X	-	-	-	-

\*Tested with Overlam Spec # 77844: 1 Mil Clear PRT PET/S8020/40#BG

# Step 3: Select ink system

## With Overlamine

		78401: 3 Mil Synthetic Paper S8001 /50# SCK		78403: 2.3 Mil White BOPP TC/S8001 /50# SCK		77920: 2 Mil White PET TC/S8025		78387: 2 Mil Matte Chrome PET TC/S8001		77922: 2 Mil Matte Chrome PET TC/S8025	
		Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
UL-Recognition	Manufacturer	Inks									
	EFI Jetrion	4000 Series UV Ink Jet									
	Environmental Inks & Coatings	DR III FR									
	Environmental Inks & Coatings	UltraFlex III SFR									
	Environmental Inks & Coatings	Aqua Films III									
	Flint	HydroFilm ACE									
	Flint	Flexocure Sigma									
	ACTEGA WIT	VersiFilm Plus ULF									
c-UL Recognition	Manufacturer	Inks									
	EFI Jetrion	4000 Series UV Ink Jet									
	Environmental Inks & Coatings	DR III FR									
	Environmental Inks & Coatings	UltraFlex III SFR									
	Environmental Inks & Coatings	Aqua Films III									
	Flint	HydroFilm ACE									
	Flint	Flexocure Sigma									
	ACTEGA WIT	VersiFilm Plus ULF									
ACTEGA WIT	Pharmaflex UV										

- (dash) = not tested

BK: Black, BL: Blue, RD: Red, YL: Yellow

## Without Overlamine

		78401: 3 Mil Synthetic Paper/S8001		78403: 2.3 Mil White BOPP TC/S8001		77920: 2 Mil White PET TC/S8025		78387: 2 Mil Matte Chrome PET TC/S8001		77922: 2 Mil Matte Chrome PET TC/S8025	
		Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
UL-Recognition	Manufacturer	Inks									
	EFI Jetrion	4000 Series UV Ink Jet									
	Environmental Inks & Coatings	DR III FR									
	Environmental Inks & Coatings	UltraFlex III SFR									
	Environmental Inks & Coatings	Aqua Films III									
	Flint	HydroFilm ACE									
	Flint	Flexocure Sigma									
	ACTEGA WIT	VersiFilm Plus ULF									
c-UL Recognition	Manufacturer	Inks									
	EFI Jetrion	4000 Series UV Ink Jet									
	Environmental Inks & Coatings	DR III FR									
	Environmental Inks & Coatings	UltraFlex III SFR									
	Environmental Inks & Coatings	Aqua Films III									
	Flint	HydroFilm ACE									
	Flint	Flexocure Sigma									
	ACTEGA WIT	VersiFilm Plus ULF									
ACTEGA WIT	Pharmaflex UV										

- (dash) = not tested

BK: Black, BL: Blue, RD: Red, YL: Yellow



## Step 4: Select thermal transfer ribbon

Thermal transfer ribbons were tested on Polyesters and Polypropylenes without an overlaminates.

	77920: 2 Mil White PET TC/S8025 77922: 2 Mil Matte Chrome PET TC/S8025 78385: 2 Mil White PET TC/S8001 78387: 2 Mil Matte Chrome PET TC/S8001	78401: 3 Mil Synthetic Paper/ S8001 78403: 2.3 Mil White BOPP TC/ S8001	77844: 1 Mil Clear Print-Treated PET/S8020	
	Manufacturer	Ribbons	Ribbons	Ribbons
UL Recognition	Armor	AXR8, AXR600, AXR7+	AXR-7+	AXR8, AXR600, AXR7+
	Astro-Med	RF, RY, RAF Blue, R-5		RY, R5
	Coding Products	5940, 5640 Blue, 5440 Red		5940
	DNP	R-300, R-510, R-510 Green, R-510 Red (indoor only), R-510 Blue, TR-4070, TR-6075, TR-6070, R-510HF, Signature Series Resin	R510	R-300
	Datamax	SDR-A, SDR-D, SDR-5, SDR-6, SDR, SDR Millenium		SDR-A, SDR-D, SDR-6, SDR, SDR-4, PGR, SDR-7, SDR Millenium
	limak	SP-330, SP-410, Primemark	SP-330	SP-330, SP-410, Primemark
	Intermec	TMX 3200, TMX 1500		
	ITW	B324	B324	B324
	Kurz	K-300, K-500, K-501		K-500
	NCR	Promark 3, Pacesetter, Ultra V, Matrix Resin, Perma Max, K3		Promark 3, Pacesetter, Ultra V, Matrix Resin
	Peak	Ultra Premium, Ultra Extreme		Ultra Premium
	Ricoh	B110C, B110CR, B120EC, B110CX	B110C	B110, B110C
	Sato	Premier 1		Premier 1
	Zebra	5095, 5100, 5463, Z-1400, Z-3100, Z-4100, 5555		5095, 5175, 5100, Z-4100, 5555
c-UL Recognition	Armor	AXR8, AXR600, AXR-7+	AXR-7+	AXR8, AXR600, AXR-7+
	Astro-Med	RY, RAF Blue		RY
	Coding Products	5640 Blue, 5440 Red		5940
	DNP	R-300, R-510, R-510 Green, R-510 Red (indoor only), R-510 Blue, TR-4070, TR-6075, TR-6070, Signature Series Resin	R-510	R-300
	Datamax	SDR-A, SDR-D, SDR-5, SDR-6, SDR, SDR Millenium		SDR-A, SDR-D, SDR-5, SDR-6, SDR, SDR-7, SDR Millenium
	limak		SP330	SP330
	ITW		B324	
	NCR	Promark 3, Pacesetter, Ultra V, Matrix Resin, Perma Max, K3		Promark 3
	Peak	Ultra Premium, Ultra Extreme		Ultra Premium
	Ricoh	B110C, B110CR, B1230EC, B110CX	B110C	B110C
	Sato	Premier 1		Premier 1
	Zebra	5095, 5100, 5463, Z-1400, Z-3100, Z-4100, 5555		Z-4100, 5095

## Step 5: Submit label adoption request with Avery Dennison file number to UL

Converters should gather the following information before submitting label adoption request to UL:

- Avery Dennison category PGJI / File Number MH 17205
- Converter category PGJI / File Number X
- Avery Dennison Label Stock designation
- Press inks
- Avery Dennison Overlamination designation (e.g. 1Mil Clear Print Treated PET/S8020)
- Thermal transfer ribbons
- Label converter designation for each label construction being adopted using previously evaluated and recognized Avery Dennison materials

\*\*Press inks and thermal transfer ribbons indicated were previously evaluated by Avery Dennison on the substrates listed and under the conditions listed.

### For additional questions regarding UL, please contact:

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