PERFORMANCE GUIDE

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FCD6914
2 mil White PET / MP690 / 3.2 mil SCK

Revised: 08/2014 KSH

Description		Applications and End Uses
Product	FCD6914 - 2 mil gloss top-coated, white polyester with a durable and aggressive permanent acrylic adhesive and a 3.2 SCK liner. *Recognized for UL969 component labels. This product is UL Recognized for indoor and outdoor applications. For specific recognition, consult UL file No. PGGU2.MH12627 Marking and Labeling Systems Materials and PGJI2.MH26726 Printing Materials.* *CUL recognized under UL file No. PGGU8.MH12627 Marking and Labeling System Materials Certified for Canada and PGJI8.MH26726 Printing Materials.* *BS 5609 Compliant. This product conforms to BS 5609: 1986 Section 2 – 'Marine and Laboratory Performance of Label Base Materials'.*	Designed for use in nameplate, durable equipment and drum label applications. Excellent flexo and thermal transfer printability with most resin and wax/resin ribbons. Used for warning and instructional labeling that contains critical information about safety and handling. These labels serve various functions including logos, warning labels, and serial numbers. These labels are designed to last the life of the product, adhere to difficult substrates such as plastics and metals, and may require higher heat resistance.

Face

2 mil white polyester, topcoated for superior printability via flexo and thermal transfer. Features high strength, tear resistance, dimensional stability and temperature resistance.

Physical Properties without Adhesive

Caliper, inches	0.002 (2 mils)	ASTM D-2103
Tensile, lbs./in.	40 MD 60 CD	TAPPI-494

Adhesive

MP690 is a high performance, high tack, durable, permanent acrylic emulsion with excellent ultimate adhesion and mandrel hold. It is extremely chemical and solvent resistant and has very good adhesion to various high and low energy substrates.

Physical Properties of Adhesive

Thickness, inches	0.001 +/- 10%	
180° Peel Adhesion, lbs./in.	3.8	CTM-8 (30 min. applied) Reference: PSTC-101A
Temperature Ranges		
Minimum Application	+50°F (10°C)	CTM #45 Curwood Polyester Film Dry Surface
Service Ranges	-40°F to +302°F (-40°C to +150°C)	
Loop Tack – Stainless Steel, lbs./in.	3.8	PSTC11

Liner

A semi-bleached, super-calendared kraft liner. Excellent for die cutting and stripping. The liner is coated with a release system designed for label dispensing. Primarily for roll–to-roll applications where a more demanding liner is needed.

Caliper, inches	0.0032+/- 10%	TAPPI T-411
Basis Weight, lbs. (24" x 36"/500 sheets)	50 +/- 10%	TAPPI T-410

Shelf Life

Product retains its performance and properties for two years from date of manufacture when stored at 72° F and 50% relative humidity.

Compliance Recognition: cUL (CSA C22.2 No. 0.15)

Underwriters Laboratories, Inc.

Substrates	Maximum Temperature ° F	° C	(I=Indoor Only I/O= Indoor & Outdoor)	Additional Conditions
1. Metals	302	150	I/O	C,G,K,O
2. Electrostatic coated metal A	302	150	I/O	C,G,K,O
3. Electrostatic coated metal B	257	125	I/O	C,G,K,O
4. Electrostatic coated metal C	257	125	I/O	C,G,K,O
5. Electrostatic coated metal D	302	150	I/O	C,G,K,O
6. Plastic Group I	212	100	I/O	-
7. Plastic Group II	176	80	I/O	-
8. Plastic Group III	176	80	I/O	-
9. Plastic Group IV	176	80	I/O	-
10. Plastic Group V	176	80	I/O	-
11. Plastic Group VI	176	80	I/O	-
12. Plastic Group VII	176	80	I/O	-
13. Plastic Group VIII	176	80	I/O	-
14. Porcelain (PRCLN)	302	150	I/O	C,G,K,O

Compliance Recognition, Inks: UL PGJI2 / cUL PGJI8

UL Recognized Thermal Transfer Ribbon
DNP (Previously Sony Chemicals) TR6075 Resin Ribbon, DNP R300 Resin Ribbon, DNP R510 Resin Ribbon, DNP TR6070 Resin Ribbon, ITW B324 Resin Ribbon, Zebra 5100 Resin Ribbon, Zebra 5095 Resin Ribbon, Iimak SP330 Resin Ribbon, Fuji Copian FTX 308 Resin Ribbon, Datamax SDR Resin Ribbon, Datamax PGR Wax-Resin Ribbon, Datamax SDR-D Resin Ribbon, Datamax SDR-5 Resin Ribbon, Datamax IQMID+ Wax-Resin Ribbon and Datamax IQRES+ Resin Ribbon

UL Recognized Flexo Inks
ACTega WIT Versifilm Plus Series (Water based), ACTega WIT Optafilm Series (Water based) and ACTega WIT Pharmaflex UV ULF (UV Ink System), Environmental Inks Film III Series, Flint Group Narrow Web Flexocure FORCE (UV Ink System) and Flint Group Hydrofilm ACE (Water based) Series

UL Recognized Digital Inks
EFI “Jetrion Series” UV Ink Set (All Colors)
INX Digital International NWUV UV Inkjet Series

Compliance Recognition, Inks: BS 5609: 1986 Section 3 – Printed Labels

ITW Thermal Films C5440 Red Resin Ribbon
ITW Thermal Films B325 Flexible Extreme Resin Ribbon
ITW Thermal Films B324 Durable Extreme Resin Ribbon

Compliance Recognition: UL

Underwriters Laboratories, Inc.

Substrates	Minimum Temperature ° F	Minimum Temperature ° C	Maximum Temperature ° F	Maximum Temperature ° C	(I=Indoor Only I/O= Indoor & Outdoor)	Additional Conditions
1. Acrylic Paint	-40	-40	302	150	I/O	C,F1,G,K,O
2. Alkyd Paint	-40	-40	302	150	I/O	C,F1,G,K,O
3. Aluminum	-40	-40	302	150	I/O	C,F1,G,K,O
4. Epoxy Paint	-40	-40	302	150	I/O	C,F1,G,K,O
5. Galvanized Steel	-40	-40	302	150	I/O	C,F1,G,K,O
6. Polyester Paint	-9.4	-23	302	150	I/O	C,F1,G,K,O
7. Polyester Powder Paint	-9.4	-23	302	150	I/O	C,F1,G,K,O
8. Polyurethane Powder Paint	-9.4	-23	302	150	I/O	C,F1,G,K,O
9. Porcelain	-40	-40	302	150	I/O	C,F1,G,K,O
10. Stainless Steel	-40	-40	302	150	I/O	C,F1,G,K,O
11. Acrylic Powder Paint	-40	-40	257	125	I/O	C,F1,G,K,O
12. Epoxy Powder Paint	-40	-40	257	125	I/O	C,F1,G,K,O
13. Melamine	-40	-40	212	100	I/O	C,F1,G,K,O
14. Nylon	-40	-40	212	100	I/O	C,F1,G,K,O
15. Phenolic	-40	-40	212	100	I/O	C,F1,G,K,O
16. Polycarbonate	-40	-40	212	100	I/O	C,F1,G,K,O
17. Unsat Thermoset Polyester	-40	-40	212	100	I/O	C,F1,G,K,O
18. ABS Plastic	-40	-40	176	80	I/O	C,F1,G,K,O
19. Epoxy	-40	-40	176	80	I/O	C,F1,G,K,O
20. Polyphenylene Oxide	-40	-40	176	80	I/O	C,F1,G,K,O
21. Polypropylene	-9.4	-23	176	80	I/O	C,F1,G,K,O
22. Polystyrene	-40	-40	176	80	I/O	C,F1,G,K,O
23. Polyvinyl Chloride	-40	-40	176	80	I/O	C,F1,G,K,O
24. Acrylic	-40	-40	140	60	I/O	C,F1,G,K,O
25. Polyethylene	-9.4	-23	140	60	I/O	C,F1,G,K,O

Note: MACtac tested all 25 surface categories at UL with occasional exposure to Cooking Oil (room temp), Fuel Oil No. 1, Gasoline splashing, Kerosene and Lubricating Oil.

C – Occasional exposure to Cooking Oil (room temp).

F1 – Occasional exposure to Fuel Oil No. 1.

G – Occasional exposure to Gasoline splashing.

K – Occasional exposure to Kerosene.

O – Occasional exposure to Lubricating Oil.

Performance Data

Typical peel value of 2 mil PET face applied to tested surface in lbs./in.

Surface	Initial	72 hours @ Room Temp.	72 hours @ 120º F.	24 hours @ 90º F. / 90% RH
Stainless Steel	3.0	5.9	6.8	1.5
Aluminum	3.2	5.8	6.3	3.7
Polypropylene	1.9	3.0	5.5	4.1
HDPE	2.5	5.7	4.1	4.1
LDPE	1.0	2.2	1.8	3.8
ABS	4.5	5.3	5.3	4.3
Polycarbonate	5.4	5.5	2.9	3.3

Chemical Resistance

Typical peel value of 2 mil PET face applied to stainless steel and immersed in test chemicals for four hours, in lbs./in.

Chemical	Adhesion
Isopropyl Alcohol	4.6
Oil	6.4
Oil @ 250° F.	6.4
Water	4.3
Acid – pH 4	5.4
Base – pH 11	5.0
409® Cleaner	5.4
Toluene	2.5
Acetone	2.8
Brake Fluid	6.4
Gasoline	2.8
Diesel Fuel	5.8
Mineral Spirits	5.3
Hydraulic Fluid	6.3
Tide® Detergent	5.7
Kerosene	5.3
Heptane	4.9

This product complies with CONEG regulations.
All MACtac Roll Label products meet the requirements of the Clean Air Act of 1990.

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