

FlexPak Product Matrix

2023



Flexible Packaging Overlaminates

48 Gauge Ultra Clear PET Spec# 78792

48 Gauge Gloss Selfwound PET Spec# 78918

Structure		
Description	48 Gauge Ultra Clear polyester film treated one side for ink adhesion. Specifically designed for print surface on laminations	48 Gauge clear polyester selfwound overlaminate with permanent acrylic adhesive. Not designed for printing.
Construction	Single Ply	Single Ply
Total Construction Caliper	.47 mils	.98 mils
Printability / Ink Recommendations (Contact your ink supplier for best recommendation)	Print Treated One Side - Flexo UV and Water Base	NONE
Exterior Layer Performance Properties		
Dimension Stability	Excellent	Excellent
Flex Crack Resistance	Excellent	Excellent
Stiffness/Flexibility	Good	Good
Tear Resistance (grams-force)	Not Tested	Not Tested
Barrier Layer Performance Properties		
Chemical Resistance	Limited	Limited
Light	N/A	N/A
Moisture Vapor Transmission Rate	3.7 grams/m ² / day	3.7 grams/m ² / day
Odor	Fair	Fair
Oxygen Transmission Rate	9.1 cc / 100 sq in / day	9.1 cc / 100 sq in / day
Sealant Layer Performance Properties		
Caulk & Flow	N/A	N/A
Hot Tack	N/A	N/A
Coefficient of Friction	0.35 (Kinetic)	<.30 (Kinetic)
Puncture Resistance	N/A	N/A
Seal Initiation Temperature	N/A	N/A
Seal Strength	N/A	N/A
Seal through Contamination	N/A	N/A
Mullen Burst Strength	N/A	N/A
Material Strengths	Can be reverse printed and laminated to flexible packaging structures to add dimensional stability or used as an ultra clear press applied overlam	Selfwound PET with adhesive designed to withstand packaging process. Press applied like standard selfwound overlam
Packaging Applications		
Compliance	21 CFR 177.1630	CFR 177.1630 for facestock. CFR 175.105 for adhesive
Dry Ingredients	Yes	Yes
Powdered Ingredients	Yes	Yes
Liquids	Yes	Yes
End-Use Applications	Film is specifically designed to be a top layer on a flexible packaging lamination. May be printed or used as true laminate. Must be wet-laminated on press.	Flexible Packaging overlaminate for protecting inks in applications such as food, cosmetics, nutraceutical and pet food

Flexible Packaging Overlaminates

Flexible Packaging Components

48g Matte Selfwound PET Spec #79861

White Single-Ply Snack Web 170 Spec# 78806

48g matte clear selfwound polyester with permanent acrylic adhesive. Not designed for printing

1.7 mil white opaque, coextruded, biaxially oriented polypropylene film. Sealable one side. Treated one side

Single Ply

Single layer

.92 mils

1.7 mils

NONE

Treated one side - requires corona treat prior to printing. Flexo - Water Base and Solvent.

Excellent

Excellent

Excellent

Excellent

Excellent

Good

Not Tested

Not Tested

Limited

Limited

N/A

Good

3.7 grams / 100 sq in / day

.27 grams/100 sq. in./day

Fair

Fair

9.1 cc / 100 sq in / day

100-120 cc./100 sq. in./day

N/A

N/A

N/A

Good

.16 Kinetic

.35 Kinetic/Print Side

N/A

Not Tested

N/A

200°F

N/A

Seal to Seal: 400 (g/in) @ 230°F/ 20 PSI/0.5 sec.

N/A

Poor

N/A

Not Tested

Matte Flexible packaging overlaminate for protecting inks in applications such as food, cosmetics, nutraceuticals and pet food/treats

Stand alone it is designed for horizontal filling machines. As a sealant film in lamination it can be vertically filled. Excellent opacity and low temperature sealing.

CFR 177.1630 for facestock. CFR 175.105 for adhesive

FDA regulation 21 CFR 177.1520

Yes

Yes

Yes

No

Yes

Not recommended

Flexible Packaging overlaminate for protecting inks in applications such as food, cosmetics, nutraceutical and pet food

Horizontal packaging of snacks, baked goods and ice cream novelties. Inner sealing web of laminations for vertical packaging.

Flexible Packaging Film/Film Laminations

White Multi-Ply Snack Web 260 SB
Spec# 79122White Multi-Ply Snack Web 260 HB
Spec# 79123

Structure		
Description	PET face laminated to white PE film	PET face laminated to white EVOH/m LLDPE film
Construction	48 ga. PET/adh/2 Mil White LLDPE	48 ga. PET/adh/2 Mil White EVOH/mLLDPE film
Total Construction Caliper	2.6 mils	2.6 mils
Printability / Ink Recommendations (Contact your ink supplier for best recommendation)	Flexible Packaging Film Inks - Contact Ink Supplier	Flexible Packaging Film Inks - Contact Ink Supplier
Exterior Layer Performance Properties		
Dimension Stability	Excellent	Excellent
Flex Crack Resistance	Good	Good
Stiffness/Flexibility	Average	Average
Tear Resistance (grams-force)	Not Tested	Not Tested
Barrier Layer Performance Properties		
Chemical Resistance	Average	Average
Light	Good	Good
Moisture Vapor Transmission Rate	0.45 grams/100 sq. in./day	0.31 grams/100 sq. in./day
Odor	Average	Average
Oxygen Transmission Rate	9.0 cc./100 sq. in./day	.05 cc./100 sq. in./day
Sealant Layer Performance Properties		
Caulk & Flow	Good	Good
Hot Tack	Good	Good
Coefficient of Friction	0.25 (Kinetic, seal to seal)	0.25 (Kinetic, seal to seal)
Puncture Resistance	Not Tested	Not Tested
Seal Initiation Temperature	300°F	300°F
Seal Strength	300°F/ 20 PSI/ 1.0 sec.	300°F/ 20 PSI/ 1.0 sec.
Seal through Contamination	Good	Good
Mullen Burst Strength	Not Tested	Not Tested
Material Strengths	Good Opacity and OTR barrier properties (without saran), good MVTR, and hermetic seals for extended shelf life.	Good Opacity with EVOH provides excellent OTR barrier properties, good MVTR and hermetic seals for extended shelf life
Packaging Applications		
Compliance	21 CFR 177.1520 and/or 21 CFR 177.1350, 21 CFR 177.1330	21 CFR 177.1520 and/or 21 CFR 177.1350, 21 CFR 177.1330
Dry Ingredients	Yes	Yes
Powdered Ingredients	Yes	Yes
Liquids	Not recommended	Yes
End-Use Applications	Opaque Packaging: Nuts and other oxygen sensitive salted snacks. Some liquids	Opaque Packaging: Spices, snacks and novelties requiring extra barrier. Hard to hold contents snacks and nuts

Flexible Packaging Film/Film Laminations

Clear Multi-Ply Snack Web 260 HB Spec# 79125	White & Silver/Metallized Multi-Ply Snack Web 260 HB Spec# 79355 - White Spec# 79354 - Silver
PET face laminated to clear EVOH/m LLDPE film	PET face laminated to Metallized PET film with extrusion seal
49 Ga. PET/2m Clear EVOH/mLLDPE	48 ga. PET/10#(W)LDPE/48 ga. Metallized PET/12#Metalocene
2.6 mils	2.6 mils
Flexible Packaging Film Inks - Contact Ink Supplier	Flexible Packaging Film Inks - Contact Ink Supplier
Excellent	Excellent
Good	Good
Average	Average
Not Tested	Not Tested
Average	Average
Poor	Poor
0.41 grams/100 sq. in./day	0.02 grams/100 sq. in./day
Average	Average
0.05 cc./100 sq. in./day	0.04 cc./100 sq. in./day
Good	Good
Good	Good
0.25 (Kinetic, seal to seal)	0.25 (Kinetic, seal to seal)
Not Tested	Not Tested
300°F	300°F
300°F/ 20 PSI/ 1.0 sec.	2500 (g/in) @ 350°F/ 20 PSI/ 0.5 sec.
Good	Good
Not Tested	Not Tested
Clarity, EVOH provides excellent OTR barrier properties, good MVTR and hermetic seals for extended shelf life	Topcoated face with good OTR barrier properties (without Saran®), good MVTR, and hermetic seals for extended shelf life. White outside/ silver inside
21 CFR 177.1520 and/or 21 CFR 177.1350, 21 CFR 177.1330	21 CFR 177.1520, 21 CFR 178.3860, 21 CFR 176.170
Yes	Yes
Yes	Yes
Yes	Not recommended
Spices, snacks and novelties requiring clear packaging and extra barrier. Hard to hold contents snacks and nuts	Dry snacks and powders

Flexible Packaging Film/Film Laminations

**Metallized Coffee Web 200 HB
Spec# 79426**

**Clear Multi-Ply SUP 360 SB
Spec # 79934**

Structure		
Description	Metallized PET face laminated to LLDPE film	Print treated PET laminated to Clear EVOH sealant
Construction	48 ga. metallized PET/Adh/1.5 Mil LLDPE film	48g Clear PET / 3M Clear EVOH/mLLDPE
Total Construction Caliper	2.0 mils	3.6 mils
Printability / Ink Recommendations (Contact your ink supplier for best recommendation)	Flexible Packaging Film Inks - Contact Ink Supplier	Print treated - Flexible Packaging Film Inks - Contact Ink Supplier
Exterior Layer Performance Properties		
Dimension Stability	Excellent	Excellent
Flex Crack Resistance	Good	Good
Stiffness/Flexibility	Average	Excellent
Tear Resistance (grams-force)	Not Tested	61 MD / 60 CD
Barrier Layer Performance Properties		
Chemical Resistance	Average	Average
Light	Poor	Poor
Moisture Vapor Transmission Rate	0.1 grams/100 sq. in./day	.35 grams/100 sq in / day
Odor	Average	Average
Oxygen Transmission Rate	0.1 cc/100 sq. in./day	.07 cc/ 100 sq in / day
Sealant Layer Performance Properties		
Caulk & Flow	Good	Good
Hot Tack	Good	Good
Coefficient of Friction	0.2 (Kinetic, seal to seal)	.215 Kinetic (seal to seal)
Puncture Resistance	Not Tested	Good
Seal Initiation Temperature	300°F	290 F
Seal Strength		Destruct
Seal through Contamination	Good	Good
Mullen Burst Strength	Not Tested	Not Tested
Material Strengths	Topcoated face provides excellent printability and excellent UV, OTR and MVTR barrier properties and hermetic seals for extended shelf life.	Clarity, EVOH provides excelent OTR barrier, good hermetic seals for extended shelf life, high barrier and heavier sealant for stand up pouch with added ability to add reclosable functionality.
Packaging Applications		
Compliance	21CFR 177.1520, 177.1350, 178.2010, 178.3297 and 178.3860.	
Dry Ingredients	Yes	Yes
Powdered Ingredients	Yes	Yes
Liquids	Not recommended	Yes
End-Use Applications	Coffee - single serve, ground coffee packages. Not suitable for coffee beans. Can be used for dry snacks like peanuts.	Food, Personal Care, Nutraceutical and Pet including snacks, pet foods, treats, personal care

Flexible Packaging Film/Film Laminations

White Multi-Ply SUP 360 SB Spec # 79935

Clear Recyclable SUP 400 SB Spec # B1900

Print treated PET laminated to Clear EVOH sealant

Corona treated Polyethylene laminated to Polyethylene

48g Clear PET / 3M White EVOH/mLLDPE

150G Polyethylene / 250G Polyethylene

3.6 mils

4.0 mils

Print treated - Flexible Packaging Film Inks -
Contact Ink Supplier

Corona treated - Flexible Packaging Film Inks, HP Digital and EBeam -
Contact Ink Supplier

Excellent

Excellent

Good

Excellent

Excellent

Excellent

78 MD / 58 CD

150 MD / 150 CD

Average

Average

Excellent

Poor

.35 grams/100 sq in / day

.08 grams / 100 sq in / day

Average

Average

.07 cc/ 100 sq in / day

.11 cc / 100 sq in / day

Good

Good

Good

Excellent

.239 Kinetic (seal to seal)

<.30 Kinetic (seal to seal)

Good

Good

290 F

290 F

Destruct

Destruct

Good

Good

Not Tested

Not Tested

Good Opacity, EVOH provides excellent OTR barrier, good hermetic seals for extended shelf life, high barrier and heavier sealant for stand up pouch with added ability to add reclosable functionality.

Good contact clarity suitable for pre-formed pouches and traditional FFS, good hermetic seals for extended shelf life and added ability to add reclosable functionality. Fully recyclable.

Yes

Yes

Yes

Yes


Yes

No

Food, Personal Care, Nutraceutical and Pet including snacks, pet foods, treats, personal care

Dry goods: snack foods, nuts, grains, sweeteners, cookies, crackers, spices, seasonings, pet food and treats

Flexible Packaging Paper Laminations

	25# PPFP 410 Spec# 79850	25# PPFP w/Surlyn® 385 Spec# B4986 	25# PPMOPP 250 Spec# 75746
Structure			
Description	Coated paper facestock with foil barrier and LDPE sealant	Coated paper facestock with foil barrier and Surlyn® sealant	Coated paper face with metallized OPP sealant
Construction	25# C1S/7.2# LDPE/Foil/13# LDPE	25# C1S/ 7.2# LDPE/Foil/ 22# Surlyn®	25# C1S/7# LDPE/Heat-Sealable MOPP
Total Construction Caliper	3.05 mils	3.8 mils	2.5 mils
Printability / Ink Recommendations (Contact your ink supplier for best recommendation)	Flexible Packaging paper inks.	Flexible Packaging paper inks.	Flexible Packaging paper inks.
Exterior Layer Performance Properties			
Dimension Stability	Excellent	Excellent	Excellent
Flex Crack Resistance	Average	Average	Good
Stiffness/Flexibility	Good	Good	Average
Tear Resistance (grams-force)	40 MD/58 CD	80 MD/80 CD	30 MD/33 CD
Barrier Layer Performance Properties			
Chemical Resistance	Average	Average	Average
Light	Excellent	Excellent	Excellent
Moisture Vapor Transmission Rate	0.000 grams/100 sq. in./day	0.001 grams/100 sq. in./day	0.008 grams/100 sq. in./day
Odor	Excellent	Excellent	Excellent
Oxygen Transmission Rate	.000 cc/100 sq. in./day	.000 cc/100 sq. in./day	1.0 cc/100 sq. in./day
Sealant Layer Performance Properties			
Caulk & Flow	Good	Excellent	Average
Hot Tack	Good	Excellent	Good
Coefficient of Friction	.567 Kinetic (Seal to Seal)	.486 Kinetic (Seal to Seal)	.4 Kinetic (Seal to Seal)
Puncture Resistance	3.7 (pounds-force)	3.9 (pounds-force)	9.8 (pounds-force)
Seal Initiation Temperature	250°F	240°F	230°F
Seal Strength	2400 (g/in) @ 300°F/ 20 PSI/ 0.5 sec.	300°F/ 202400 (g/in) @ 300°F/ 20 PSI/ 0.5 sec. PSI/ 1.0 sec.	1000 (g/in) @ 350°F/ 20 PSI/ 0.5 sec.
Seal through Contamination	Good	Excellent	Poor
Mullen Burst Strength	30 psi	26 psi	46 psi
Material Strengths	Better quality print surface than uncoated facestock. Runs well and widely accepted on a variety of packaging equipment. PPFP will tear open without initiation notch. Good Deadfold.	Surlyn® layer helps seal thru contamination when sealing. Runs well and widely accepted on a variety of packaging equipment.	Foil-less pouch stock contributes to better packaging durability. Test for packaging line machinability. Requires a notch to open.
Packaging Applications			
Compliance	21 CFR Sections 177.1520 and 177.1310, 21 CFR section 176.170 (c), Tables 1 and 2	21 CFR Sections 177.1520 and 177.1310, 21 CFR section 176.170 (c), Tables 1 and 2	FDA - CFR177.1520
Dry Ingredients	Yes	Yes	Yes
Powdered Ingredients	Yes	Yes	No
Liquids	Not recommended	Not recommended	Not recommended
End-Use Applications	Lightweight packages such as dry powders and other dry packaged foods.	Lightweight packages such as light, dry powders and mixes that are difficult to seal due to contamination. Good for towelettes and airborne powder.	Lightweight packages such as soup mix and other dry packaged goods.

Flexible Packaging Paper Laminations

35# C1S/ 14# LDPE 310 HB Spec# 79026	35# PPMOPP 315 Spec# 75742	35# PPFP 385 Spec# 79851
Heavyweight coated paper facestock with LDPE sealant	Heavyweight coated paper face with metallized OPP sealant	Heavyweight coated paper facestock with foil barrier and LDPE sealant
35# C1S / 14# LDPE	35# C1S/7# LDPE/Heat Sealable MOPP	35# C1S / 7.2# LDPE/ Foil/13# LDPE
3.2 mils	3.15 mils	3.6 mils
Flexible Packaging paper inks.	Flexible Packaging paper inks.	Flexible Packaging paper inks.
Good	Excellent	Excellent
Good	Good	Average
Average	Average	Good
32.9 MD/43.1 CD	37.3 MD/44.8 CD	60 MD/50 CD
Poor	Average	Average
Average	Excellent	Excellent
1.33 grams/100 sq. in./day	0.008 grams/100 sq. in./day	0.000 grams/100 sq. in./day
Average	Excellent	Excellent
195 cc./100 sq. in./day	1.0 cc./100 sq. in./day	.001 cc./100 sq. in./day
Good	Average	Good
Good	Good	Good
.4 Kinetic (Seal to Seal)	.4 Kinetic (Seal to Seal)	.507 Kinetic (Seal to Seal)
Not Tested	9.5 (pounds-force)	3.7 (pounds-force)
230°F	260°F	250°F
325°F/ 20 PSI/ 0.3 sec.	1000 (g/in) @ 350°F/ 20 PSI/ 0.5 sec.	2400 (g/in) @ 300°F/ 20 PSI/ 0.5 sec.
Poor	Poor	Good
Not Tested	36 psi	35 psi
Simple paper/poly lamination for dry goods with short shelf life and no exposure to moisture. Higher end to a sugar packet material.	Foil-less pouch stock contributes to better packaging durability and heavier weight paper provides packaging stiffness. Test for packaging line machinability. Material requires notch for opening.	Heavier weight paper provides packaging stiffness. Runs well and widely accepted on a variety of packaging equipment. Does not require a notch to open.
CFR title 21, Sections: 176.170 / 177.1520	21 CFR 177.1520(c)2.2	21 CFR Sections 177.1520 and 177.1310, 21 CFR section 176.170 (c), Tables 1 and 2
Yes	Yes	Yes
Some	Yes	Yes
Not recommended	Not recommended	Not recommended
Dry goods - short shelf life: candy, granular packets.	Applications requiring additional package stiffness and puncture resistance such as noodles or rice.	Applications requiring additional package stiffness, good deadfold and puncture resistance such as gravy and soup mixes.

Flexible Packaging StickPack Laminations

	White StickPak LDPE 290 HB Spec# 79340	White StickPak w/Metallocene 320 HB Spec# 78432
Structure		
Description	Printable polyester-faced laminated pouching material designed for tubular form fill and seal equipment	Printable polyester - faced laminated pouch film design for tubular form / fill machines
Construction	48 ga. PET Film/White PE/ Foil/21.6# LDPE	48 ga. PET/10# (W)LDPE/ Foil/7#LDPE/1.25 Mil Metallocene
Total Construction Caliper	2.9 mils	3.2 mils
Printability / Ink Recommendations (Contact your ink supplier for best recommendation)	Flexible Packaging Film Inks.	Flexible Packagig Film Inks NOTE: must corona treated prior to printing
Exterior Layer Performance Properties		
Dimension Stability	Excellent	Excellent
Flex Crack Resistance	Very Good	Good
Stiffness/Flexibility	Good	Good
Tear Resistance (grams-force)	29.8 MD/40.8 CD	84.0 MD/90.5 CD
Barrier Layer Performance Properties		
Chemical Resistance	Average	Excellent
Light	Excellent	Excellent
Moisture Vapor Transmission Rate	0.0004 grams/100 sq. in./day	0.0004 grams/100 sq. in./day
Odor	Excellent	Excellent
Oxygen Transmission Rate	.01 cc./100 sq. in./day	.01 cc./100 sq. in./day
Sealant Layer Performance Properties		
Caulk & Flow	Average	Excellent
Hot Tack	Average	Excellent
Coefficient of Friction	.015 (Kinetic, seal to seal)	0.23 (Kinetic, seal to steel)
Puncture Resistance	11 (pounds-force)	12.7 (pounds-force)
Seal Initiation Temperature	340°F	260°F
Seal Strength	7000 (g/in) @ 350°F/ 40 PSI/ 1.2 sec.	7000 (g/in) @ 350°F/ 20 PSI/ 0.5 sec.
Seal through Contamination	Good	Excellent
Mullen Burst Strength	55 psi	52.5 psi
Material Strengths	Good stickpak stock for general purpose. PET film offers high gloss and resists staining.	Excellent gloss. Good chemical resistance, printability and stiffness for packaging line machinability. COF allows this to run very well on multi-lane stickpack equipment
Packaging Applications		
Compliance	CFR title 21, Sections: 176.170 / 177.1520	21 CFR 176.170
Dry Ingredients	Yes	Yes
Powdered Ingredients	Yes	Yes
Liquids	Not recommended	Some - Must Test
End-Use Applications	Dry goods packaged in vertical stickpak machines	Designed for high speed, tubular formed, powdered drink mix packets.

Flexible Packaging StickPack Laminations

White or Silver StickPak w/Surlyn® 285 HB
Spec# 79343 - White
Spec# 79344 - Silver

White Cello StickPak Surlyn® Plus 320 HB
Spec# B3891 

Printable polyester-faced laminated pouching material design for tubular form/fill/seal equipment.

Easy Tear Cellulose faced laminated pouch material designed for tubular form/fill machines.

48 ga. PET/10# WLDPE/Foil/18# SURLYN®

75 ga film/10# WLD/Foil/18# Surlyn®

2.85 mils

3.2 mils

Flexible Packaging Film Inks.

Flexible Packaging Film Inks.

Excellent

Excellent

Good

Excellent

Good

Good

38.4 MD / 44.8 CD

44 MD / 47.6 CD

Excellent

Excellent

Excellent

Excellent

0.0004 grams / 100 sq in /day

0.0004 grams / 100 sq in /day

Excellent

Excellent

.01 cc./100 sq. in./day

.01 cc./100 sq. in./day

Average

Excellent

Average

Excellent

0.4 (Kinetic, seal to steel)

0.15 (Kinetic, seal to steel)

13.4 (pounds-force)

13.4 (pounds-force)

250°F

230°F

4000 grams @ 350°F/ 40 PSI .5 sec

4000 grams @ 350°F/ 20 PSI .5 sec

Excellent

Excellent

48.8 psi

57.2 psi

Excellent gloss. Good chemical resistance and printability. Best seal thru contamination product

Bio-Based film face with excellent gloss. Good chemical resistance, printability and stiffness for packaging line machinability. Note: No notch required to open

21 CFR 177.1330(a)

CFR title 21, Sections: 179.3910 / 177.1520

Yes

Yes

Yes

Yes

Some - Must Test

Some - Must Test

Applications requiring excellent seal through contamination properties such as high dust environments, and high oil or fat concentrations. Drink mixes, sugar sweeteners for retail and food service packaging, nutritional supplements.

Excellent seal through contamination properties such as high dust environments, and high oil or fat concentrations. Designed for high speed, tubular forms. Common usages: powdered drink mix packets sugar sweeteners for retail, food service packaging and nutritional supplements. Designed to tear easily with no notching required.

Flexible Packaging Film/Foil Laminations

	White Cosmetic Web 350 SB Spec# 75758	White or Silver Cosmetic Web 350 HB Spec# 79332 – White Spec# 79333 – Silver	White Sustainable Cosmetic Web 350 HB Spec #B1885 ⓘ
Structure			
Description	White PET faced laminated pouch film	White PET faced laminated pouch film	White print treated PCR PET laminated pouch film
Construction	48 ga. PET/10# WLDPE/Foil/10# HB/PE/1.5 Mil LLDPE Film	48 ga. PET/10# WLDPE/Foil/10# HB/PE/1.5 Mil Metallocene Film	48g PCR PET/ 10# WLDPE/Foil/1-# HB-PE/1.5M Bio-Based PE
Total Construction Caliper	3.5 mils	3.5 mils	3.5 mils
Printability / Ink Recommendations (Contact your ink supplier for best recommendation)	Flexible Packaging Film Inks – Contact Ink Supplier	Flexible Packaging Film Inks – Contact Ink Supplier	Flexible Packaging Film Inks – Contact Ink Supplier
Exterior Layer Performance Properties			
Dimension Stability	Excellent	Excellent	Excellent
Flex Crack Resistance	Good	Good	Good
Stiffness/Flexibility	Average	Average	Average
Tear Resistance (grams-force)	59 MD/72 CD	57 MD/67 CD	114.4 MD / 162.3 CD
Barrier Layer Performance Properties			
Chemical Resistance	Good	Good	Good
Light	Excellent	Excellent	Excellent
Moisture Vapor Transmission Rate	0.0004 grams/100 sq. in./day	0.0004 grams/100 sq. in./day	.0004 grams/100 sq in / day
Odor	Excellent	Excellent	Excellent
Oxygen Transmission Rate	.01 cc/100 sq. in./day	.01 cc/100 sq. in./day	.01 cc/ 100 sq in / day
Sealant Layer Performance Properties			
Caulk & Flow	Good	Good	Good
Hot Tack	Good	Good	Good
Coefficient of Friction	0.34	0.35	.15 Kinetic
Puncture Resistance	14.7 (pounds-force)	14.7 (pounds-force)	Not Tested
Seal Initiation Temperature	340°F	300°F	350°F
Seal Strength	7000 (g/in) @ 350°F/ 40 PSI/ 0.5 sec.	7000 (g/in) @ 350°F/ 40 PSI/ 0.5 sec.	>10 lbs
Seal through Contamination	Good	Excellent	Good
Mullen Burst Strength	58 psi	54.9 psi	Not Tested
Material Strengths	Excellent gloss. Good barrier for both liquid and dry goods.	Excellent gloss. Good barrier for both liquid and dry goods. Good seal thru contamination with added chemical resistance and a wide seal temperature range.	Excellent gloss. Good barrier for both liquid and dry goods. Can be tested for applications using virgin cosmetic web. Provides 12% virgina material reduction using both PCR and bio-based resins.
Packaging Applications			
Compliance	21 CFR 176.170	21 CFR 176.170 and 21 CFR 177.1350.	
Dry Ingredients	Yes	Yes	Yes
Powdered Ingredients	Yes	Yes	Yes
Liquids	Some	Some	Yes
End-Use Applications	General purpose wipes, lotions, shampoos, conditioners and other personal care items	General purpose wipes, lotions, shampoos, conditioners and other personal care items	Wet and dry goods in food, cosmetic, nutraceutical and per food/ treats.

Flexible Packaging Film/Foil Laminations

Flexible Packaging ChemControl Laminations

White or Silver Cosmetic Web Ultra 370 HB Spec# 77553 - White Spec# 78857 - Silver	White or Silver Cosmetic Ultra Plus 530 HB Spec# 79334 - White Spec# 79335 - Silver	ChemControl Ultra Spec# 54025	ChemControl Premium Ultra Spec# 79537
White PET faced laminated pouch film	White PET faced laminated pouch film	White PET faced laminated pouch film	White PET faced laminated pouch film
48 ga. PET/10# WLDPE/Foil/10# ACP/1.5 Mil LLDPE	48 ga. PET/12# WLDPE/Foil/12# ACP/3 Mil Metallocene F	48G PET/WLDPE/FOIL/ADH / 2M HB SEALANT	48G PET/WLDPE/FOIL/ADH/ BARRIER FILM/ADH/2M PE
3.7 mils	5.3 mils	3.6 mils	4.3 mils
Flexible Packaging Film Inks - Contact Ink Supplier	Flexible Packaging Film Inks - Contact Ink Supplier	Flexible Packaging Film Inks - Contact Ink Supplier	Flexible Packaging Film Inks - Contact Ink Supplier
Excellent	Excellent	Excellent	Excellent
Good	Good	Good	Good
Average	Good	Average	Average
50 MD/75 CD	96 MD/134 CD		124 CD/55MD
Excellent	Excellent	Excellent	Excellent
Excellent	Excellent	Excellent	Excellent
0.0004 grams/100 sq. in./day	0.0004 grams/100 sq. in./day	<0.02 grams/100 sq. in./day	0.002 grams/100 sq. in./day
Excellent	Excellent	Excellent	Excellent
.01 cc./100 sq. in./day	.01 cc./100 sq. in./day	<.02 cc./100 sq. in./day	.002 cc./100 sq. in./day
Good	Good	Good	Good
Good	Good	Good	Good
0.4	0.29	.35 Kinetic (seal to seal)	.4 Kinetic (seal to seal)
14.2 (pounds-force)	17.4 (pounds-force)	Not Tested	Not Tested
340°F	340°F	230°F	340°F
7000 (g/in) @ 350°F/ 40 PSI/ 0.5 sec.	7000 (g/in) @ 350°F/ 40 PSI/ 0.5 sec.	4535 (g/in) @ 350°F/ 40 PSI/ 0.5 sec.	7000 (g/in) @ 350°F/ 40 PSI/ 1.0 sec.
Good	Excellent	Excellent	Good
58 psi	60.2 psi		Not Tested
Excellent gloss. Excellent chemical resistance for wet and dry goods.	Excellent gloss. Excellent chemical resistance for wet and dry goods requiring superior seal and burst strength.	Treated facestock with high barrier sealant film for hard to hold ingredients. Excellent seal strength.	C1S facestock with excellent barrier and seal strength for ease of packaging and containing aggressive and volatile ingredients.
21 CFR 176.170 and 21 CFR 177.1350.	21 CFR 176.170 and 21 CFR 177.1350.	FDA - 175.105, 177.1520, 177.1630 AND 178.3910	FDA - 175.105, 176.170, 177.1520, 177.1630 AND 178.201
Yes	Yes	Yes	Yes
Yes	Yes	Yes	Yes
Some	Yes	Yes	Yes
Products requiring extra barrier due to aromatic or aggressive ingredients such as sun tan lotion.	Products requiring extra barrier due to aromatic or aggressive ingredients such as sun tan lotion. Superior seal and burst strength to withstand mail and transportation.	Designed for hard to hold ingredients requiring extra chemical resistance. Fit for Use Testing is recommended	Designed for volatile ingredients requiring highest chemical resistance. Fit for Use Testing is recommended

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