

LINERS FOR PLASTIC CLOSURES**LINER DEFINITIONS**

Primary Backing Liners*

| <u>LINER</u> | <u>NAME</u> | <u>DESCRIPTION</u> |
|--|---|---|
| <u>LDPE/FOAM/LDPE</u> | F-217 F-217-3 | Coextrusion of low-density polyethylene/foamed Polyethylene/ low-density polyethylene. F-217-3 is a higher density than F-217. |
| <u>PW</u> | Pulp Waxed | Clay coated pulpboard with .001" to .002" was coating on one side |
| <u>P/SF</u> | Pulp & Saran Film | 75-gauge saran film laminated to white paper & bonded to pulpboard |
| <u>P/PE</u> | Pulp & Polyethylene Coated Paper | .0015" polyethylene coated white paper laminated to pulpboard |
| <u>P/VAF</u> | Pulp & Vinyl Coated Aluminum Foil | White pigmented vinyl coating on .0035" aluminum foil laminated to pulpboard |
| <u>P/RVTLF</u> | Pulp & Polyvinyl w/ Lubricant finish | Vinyl coating applied to high-density polyethylene coated white paper laminated to pulpboard, w/ lubricant finish (LF) over vinyl coating |
| <u>P/SAF</u> | Pulp & Saran Coated Aluminum Foil | White pigmented saran coating applied to .00035" aluminum foil w/ white paper backing, laminated to pulpboard |
| <u>Tech-Seal .035 P/TS IIIA</u> | Pulp & Saran coated LDPE | Saran coating applied to a white opaque low density Polyethylene coated bleached Kraft paper laminated to .035" pulpboard |
| <u>P/.0015 AF</u> | Pulp & Aluminum Foil | Aluminum foil (.0015") laminated to paper & then laminated to pulpboard |
| <u>P/.0015 TF</u> | Pulp & Tin Foil | Tin foil (.0015") laminated to paper then laminated to pulpboard |
| <u>PY</u> | Solid Polyethylene | Solid extruded polyethylene |
| <u>Foam .020", .030", .035", & .040"</u> | P.S. Foam | Polystyrene Foam |
| <u>P/MY</u> | Pulp & Mylar | Mylar (polyester) film applied to a white paper, laminated to pulpboard |
| <u>P/AF PET</u> P/SA-66, P/MF-514 P/ESTERFOIL 50 & P/TS VII | Pulp & Polyester Aluminum Foil | Polyester film applied to white pigment polyethylene coated aluminum foil, bonded to Kraft paper & laminated to pulpboard |
| <u>P/PVDC PET</u> P/LASAN POLYETSERII, P/W-77 & P/TS VI | Pulp & Polyester PVDC | White paper-backed, polyester film, reverse side PVDC coated, laminated to pulpboard |
| <u>HDPE?Foam/HDPE</u> | F-422 | Coextrusion of high-density Polyethylene/foamed low-density Polyethylene/high-density polyethylene |
| <u>TFE</u> | Solid Teflon | Solid unpigmented .030" polyetraflouroethylene |

*See pages 12 & 13 for pricing

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Induction Heat Seals .035" WLP Backing*

LINER NAME**DESCRIPTION****Foil-Seal M-I**

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene bottles, provides a weld seal.

Foil-Seal 1-7

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat seal layer. For polyethylene bottles; provides a weld seal.

Foil-Seal 3-19

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PET & PVC bottles.

Foil-Seal M-IV

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil with a polyester Film & a heat seal layer. For polypropylene bottles; provides a weld seal.

Foil-Seal 4-6

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil with a heat seal Layer. For polypropylene bottles; provides a weld seal.

Foil-Seal 1-15

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil with a polyester Film & a heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal.

Safe-Gard 75M

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil with a polyester Film & a heat seal layer. For polyethylene bottles, provides a weld seal.

Safe-Gard 90

White line pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PET & PVC bottles.

Safe-gard 100

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ heat a seal layer. For polyethylene bottles; provides a weld seal.

Safe-Gard 101

White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ heat a seal layer. For polyethylene bottles; provides a weld seal.

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Induction Heat Seals .035" WLP Backing*

| <u>LINER NAME</u> | <u>DESCRIPTION</u> |
|--------------------------|--|
| <u>HS-130</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene bottles; provides a weld seal. |
| <u>HS-123</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat seal layer. For polyethylene bottles; provides a weld seal. |
| <u>HS-165</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PET & PVC bottles. |
| <u>HSL-1</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene bottles; provides a weld seal. |
| <u>HSL-1.0</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat seal layer. For polyethylene bottles; provides a weld seal. |
| <u>HSL-3</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PET & PVC bottles. |
| <u>HSL-4</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polypropylene bottles; provides a weld seal. |
| <u>HSL-4.0</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a heat seal layer. For polypropylene bottles; provides a weld seal. |
| <u>HSL-2</u> | White lined pulpboard wax bonded to innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal. |
| <u>HS-053</u> | White lined pulpboard wax bonded to innerseal consisting of .00035" aluminum foil bonded to white paper w/ a .0023" heat seal coating on paper. |
| <u>HS-035</u> | White lined pulpboard wax bonded to innerseal consisting of paperbacked .00035" aluminum foil w/ .0023" heat seal coating foil. |

*See pages 14-17 for pricing.

LINERS FOR PLASTIC CLOSURES**LINER DEFINITIONS**

Single Element Induction Heat Seals*

| <u>LINER NAME</u> | <u>DESCRIPTION</u> |
|-----------------------------|---|
| <u>S105/FS 1-15</u> | Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film w/ a heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal. |
| <u>S55/S 1-15</u> | Foam (.005") backed innerseal consisting of .001" aluminum foil w/ a polyester film & heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal. |
| <u>S105/FS 3-19</u> | Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PVC & PET bottles. |
| <u>S55/FS 3-19</u> | Foam (.005") backed innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PVC & PET bottles. |
| <u>S105/FS M-1</u> | Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene bottles; provides a weld seal. |
| <u>S105/FS M-IV</u> | Foam (.010") backed innerseal consisting of .001 aluminum foil w/ a polyester film & a heat seal layer. For polypropylene bottles; provides a weld seal. |
| <u>ISPE/PP-U10</u> | Foam (.010") backed innerseal consisting of .001 aluminum foil w/ a polyester film & a heat seal layer. For polyethylene & polypropylene bottles. Provides a peelable seal. |
| <u>ISPE/PP-U5</u> | Foam (.005") backed innerseal consisting of .001" aluminum foil w/ a polyester film & heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal. |
| <u>ISPVC/PET-U10</u> | Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PVC & PET bottles. |
| <u>ISPVC/PET-U5</u> | Foam (.005") backed innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PVC & PET bottles. |
| <u>ISPE-U10</u> | Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene bottles; provides a weld seal. |
| <u>ISPP-U10</u> | Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polypropylene bottles; provides a weld seal. |

*See pages 18 & 19 for pricing.

LINERS FOR PLASTIC CLOSURES**LINER DEFINITIONS**

Single Element Induction Heat Seals*

LINER NAME**DESCRIPTION****HSF-1/10**

Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene bottles; provides weld seal.

HSF-2/10

Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal.

HSF-2/5

Foam (.005") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seal layer. For polyethylene & polypropylene bottles; provides a peelable seal.

HSF-3/10

Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PVC & PET bottles.

HSF-3/5

Foam (.005") backed innerseal consisting of .001" aluminum foil w/ a heat sealable polyester film. For PVC & PET bottles.

HSF-4/10

Foam (.010") backed innerseal consisting of .001" aluminum foil w/ a polyester film & a heat seallayer.

HS-035/Foam

Polystyrene foam adhesive bonded to paper-backed .00035" aluminum foil w/ .0023" heat seal coating.

*See pages 18 & 19 for pricing.

LINERS FOR PLASTIC CLOSURES**LINER DEFINITIONS****Pressure Sensitive & Adhesive Mount Innerseals****LINER NAME****DESCRIPTION****PS-22**

Pressure sensitive innerseal: pressure sensitive adhesive coated on polystyrene foam.

57# Glassine

Adhesive Mount Innerseal: Two 25# Glassine bonded together w/ 7# of wax based adhesive.

Induction Heat Seals Pulp/PVDC/PET Backing**Foil-Seal E/M-I**

Pulp (.020") w/ PVDC/PET wax bonded to innerseal consisting of .005" paper adhesive bonded to .001" aluminum foil w/ a polyester film & Heat seal layer. For polyethylene bottles; provides a weld seal.

Foil-Seal E/1-7

Pulp (.020") w/ PVDC/PET wax bonded to innerseal consisting of .005" paper adhesive bonded to .001" aluminum foil w/ heat seal layer. For polyethylene bottles; provides a weld seal.

Foil-Seal E/3-19

Pulp (.020") w/ PVDC/PET wax bonded to innerseal consisting of .005" paper adhesive bonded to .001" aluminum foil w/ heat sealable polyester film. For PET & PVC bottles.

Foil-Seal E/M-IV

Pulp (.020") w/ PVDC/PET wax bonded to innerseal consisting of .005" paper adhesive bonded to .001" aluminum foil w/ a polyester film & a heat seal layer. For polypropylene bottles; provides a weld seal.

Heatseal Cross-Reference Chart

| Manufacturer | Induction Heatseals .035" WLP Backing | | | | |
|----------------------------|--|---------------|---------------|---------------|--------------|
| Tekni-Plex | HS-130 | HS-123 | HS-165 | | |
| Selig | Foilseal M-I | Foilseal 1-7 | Foilseal 3-19 | Foilseal M-IV | Foilseal 4-6 |
| Unipac | Safe-Gard 75M | Safe-Gard 100 | Safe-Gard 90 | | SafeGard101 |
| Tech-Seal | HSL-1 | HSL-1.0 | HSL 3 | HSL-4 | HSL-4.0 |
| <u>Bottle Resin</u> | | | | | |
| PE | X | X | | | |
| PVC/PET | | | X | | |
| PP | | | | X | X |

| Manufacturer | Single Elements Induction Heatseals | | | |
|----------------------------|--|---------------------|---------------|---------------|
| Selig | S105/FSM-I | S105/FS1-15 | S105/3-19 | S105/M-IV |
| Unipac | ISPE-U10 | ISPE/PP-U10 | ISPVC/PET-U10 | ISPP-U10 |
| Tech-Seal | HSF-1/10 | HSF-2/10 | HSF-3?10 | HSF-4/10 |
| <u>Bottle Resin</u> | | | | |
| PE | X (weld seal) | X (peelable) | | |
| PVC/PET | | | X (peelable) | |
| PP | | <u>X (peelable)</u> | | X (weld seal) |