

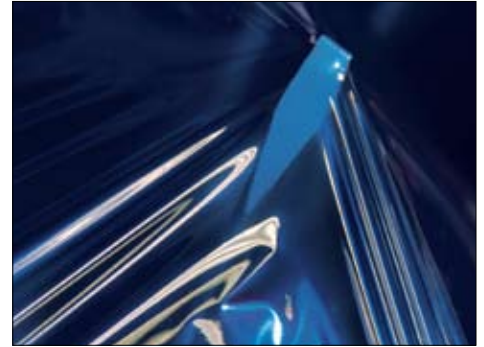
# Film & Extrusion Coating Products

MARFLEX® PE • MARLEX® PP • K-RESIN® SBC  
BLOWN FILM • CAST FILM  
EXTRUSION COATING & LAMINATION



# Film & Extrusion Coating Products

Chevron Phillips Chemical Company LP (Chevron Phillips Chemical) offers a full range of innovative Film & Extrusion Coating products designed to meet the most challenging customer needs. With multiple manufacturing platforms, you can count on our leading-edge technologies and application development expertise when selecting the right material for your application. Whether you're in need of MarFlex® polyethylene, Marlex® polypropylene, K-Resin® styrene-butadiene copolymer, or all three, we have the product for you.



## MarFlex® Polyethylene

Chevron Phillips Chemical produces a variety of polyethylene products. These products are designed to meet the needs of a wide range of flexible packaging applications, such as blown and cast films, extrusion coating, laminations and more.

ATTRIBUTES	APPLICATIONS
<b>METALLOCENE POLYETHYLENE</b> Superior Toughness Improved Optics	High Clarity Coextrusion
<b>LOW DENSITY LINEAR POLYETHYLENE</b> Processibility Toughness	Heavy Duty Films Shrink Films
<b>HIGH DENSITY POLYETHYLENE</b> Low Moisture and Gas Permeability Higher Softening Temperature Chemically Resistant	Liner Films - Cereal, Crackers Grocery Bags Extrusion Coating
<b>LOW DENSITY POLYETHYLENE</b> Processibility Clarity Low Temperature Sealing Good Shrink Properties	Bakery Overwrap Coex Films (seal layer) Extrusion Coating
<b>LINEAR LOW DENSITY POLYETHYLENE</b> Improved Toughness Higher Tensile Strength	Trash Bags Industrial Liners
<b>MEDIUM DENSITY POLYETHYLENE</b> Processibility Stiffness	Heavy Bags Industrial Films

## Marlex® Polypropylene

Phillips Sumika offers homopolymer and copolymer polypropylene resins designed for specialty film applications in both blown and cast films as well as extrusion coating. Polypropylene is used for food and drink packaging primarily for its heat resistance and stiffness properties. With a very high melting point, polypropylene films are heat resistant in the microwave or during the retort process and are an excellent choice for industrial hot filling processes. Polypropylene films and coatings also offer excellent resistance to chemicals, grease, and oil in addition to puncture resistance, good clarity, and gloss.

ATTRIBUTES	APPLICATIONS
Heat Resistance Clarity Tensile Strength Chemical - Grease Resistance	Microwavable Lid Stock & Trays Snack Food Packaging Bags for Fertilizers & Chemicals Hot Fill Applications Extrusion Coating

## K-Resin® SBC

K-Resin® SBC, is a high clarity, durable styrene butadiene copolymer that offers a balance of performance and economics that bridge the gap between expensive, clear engineering polymers and more translucent commodity resins. K-Resin® SBC can be produced into a stiff, high gloss, clear film that offers more application flexibility than traditional cellophane films. K-Resin® SBC films offer higher oxygen, carbon dioxide and water vapor permeability than most commodity polymers, but also offer good puncture resistance and excellent crease retention characteristics. K-Resin® SBC is also suitable for co-extrusion with a variety of other film resins, such as LDPE, LLDPE, EVA and others without the addition of a tie-layer. These co-extruded films will be clearer, stiffer and higher gloss than film made of 100% LDPE or LLDPE especially if K-Resin® SBC is on the outside layers.

ATTRIBUTES	APPLICATIONS
Easy to Process Higher Yield than PET or PVC Inherently Stiff High Thermal Shrinkage Exceptional Gloss and Clarity Crease Retention Gas Permeability	Shrink Label Film Tamper Evident Shrink Seals Shrink Bundling Film Tinted Decorative Film and Gift Wrap Produce Bags Candy Twist Wraps



## Blown Film

The blown film process is the most diverse conversion system used for polyethylene. ASTM defines films as less than 0.254 mm (10 mils) in thickness. Monolayer and multilayer coextrusion technologies lay the groundwork for finding the right products for the application. The blown film process allows some control of properties such as clarity, toughness, and strength via process conditions and resin type. Our highly experienced technical support team can help customers define the blown film processing conditions needed to optimize performance, while our world-class sales and marketing team can assist customers with resin selection and provide other valuable customer services. The products below are our solutions to your blown film application needs.

### METALLOCENE - BLOWN FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
D139	1.0	0.918	0	0	Yes	Blown Film
D139DK	1.0	0.918	0	5000	Yes	Blown Film
D139FK	1.0	0.918	1000	5000	Yes	Blown Film
D143	1.4	0.916	0	0	Yes	Blown Film
D143FK	1.4	0.916	1000	5000	Yes	Blown Film
D163	0.9	0.914	0	0	Yes	Blown Film
D350	0.9	0.933	0	0	Yes	Blown Film

### LDPE - BLOWN FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
TR-257	0.2	0.923	0	0	No	Industrial Packaging & Blends
TR-258	0.2	0.923	0	0	No	Industrial Packaging & Blends

### HDPE - BLOWN FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
9656	0.75	0.956	0	0	No	General Purpose Packaging
9659	1.0	0.962	0	0	No	Food & Retail Packaging (WVTR)

### LDPE - BLOWN FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
1122	2.1	0.920	0	0	No	Industrial Packaging
1125	2.1	0.921	0	4000	No	Industrial Packaging
5335	2.0	0.926	750	2750	No	Food & Retail Packaging
5561	1.3	0.925	0	3000	No	Food & Retail Packaging
5563	1.3	0.925	850	3500	No	Food & Retail Packaging
5613	0.5	0.923	0	6000	No	Industrial Packaging
5619	0.4	0.922	400	1500	No	Industrial Packaging
5628	0.4	0.922	0	1500	No	Industrial Packaging
5754	0.8	0.925	625	2500	No	Food & Retail Packaging
5755	0.8	0.925	0	3000	No	Food & Retail Packaging

### LLDPE - BLOWN FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
7105D	0.5	0.918	0	0	Yes	Industrial Packaging
7109	0.9	0.918	0	0	No	Blown Film Applications
7109DJ	0.9	0.918	0	2500	Yes	Blown Film Applications
7109DL	0.9	0.918	0	7500	Yes	Blown Film Applications
7109M	0.9	0.918	1600	6500	No	Blown Film Applications
7114	1.4	0.918	0	0	No	Food & Retail Packaging
7120X	2.0	0.919	0	0	No	Food & Retail Packaging
7120B	2.0	0.919	1000	0	No	Food & Retail Packaging
7308DK	0.8	0.925	0	3000	Yes	Industrial Packaging
7308DL	0.8	0.925	0	6500	Yes	Industrial Packaging
7308FK	0.8	0.925	1200	3500	Yes	Industrial Packaging

### MDPE - BLOWN FILM

PRODUCT	MI	DENSITY	CLAR.	NUCL.	PPA	APPLICATIONS
TR-130	0.3	0.937	No	No	No	Food & Retail Packaging

Notes: MI = g/10 min, Density = g/cc, Slip/Antiblock = ppm

### POLYPROPYLENE - BLOWN FILM

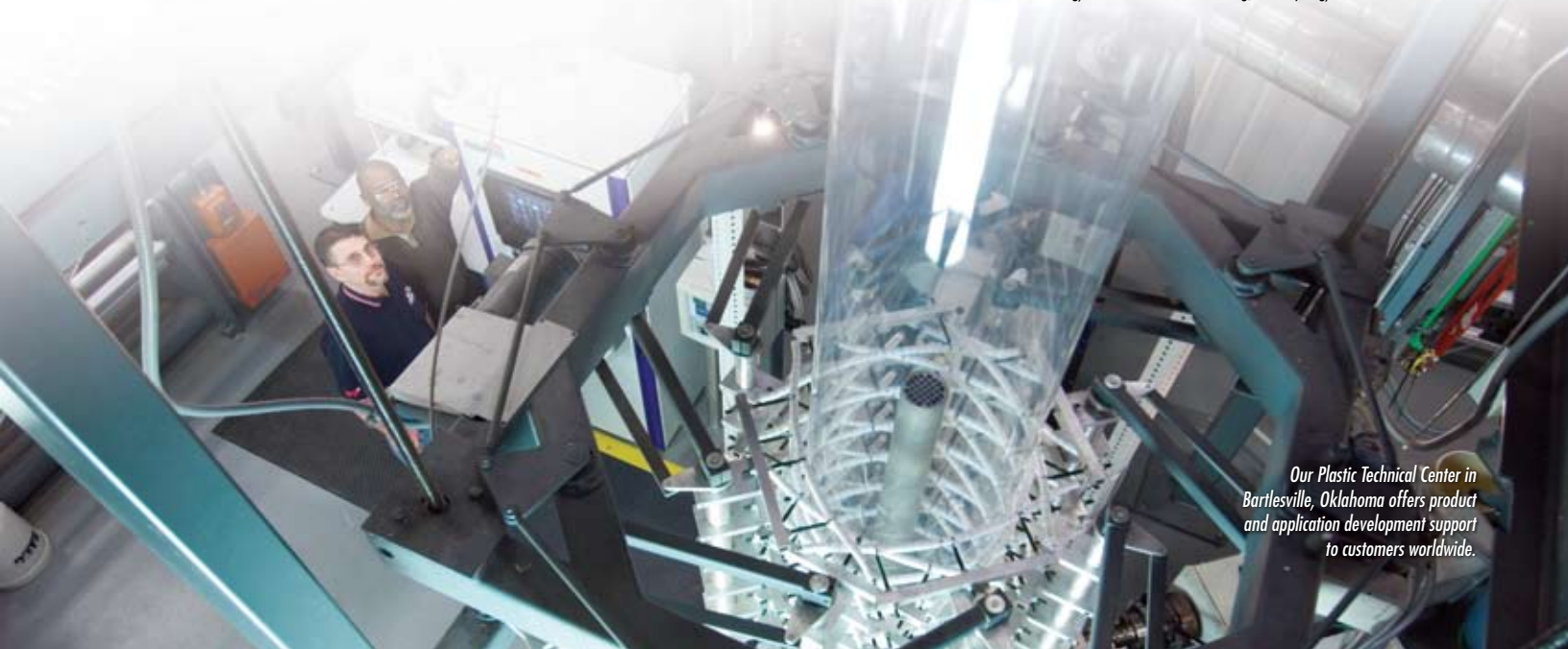
PRODUCT	TYPE	MFR	DENSITY	CLAR.	NUCL.	APPLICATIONS
RGC-020-04	Random Copolymer	2.2	0.901	Yes	No	Food & Retail Packaging
RGX-020	Random Copolymer	2.2	0.901	No	No	Food & Retail Packaging

Notes: Polypropylene MFR (Melt Flow Rate) = g/10 min @ 230°C; Density = g/cc

### K-RESIN® SBC - BLOWN FILM

PRODUCT	MFR	DENSITY	APPLICATIONS
DK11	7.5	1.01	Multilayer Film Applications
KR52	9.0	1.01	Printed/Decorative Films
KR53	10.0	1.01	Good Printing, Clear Tough Packaging
SKR17	Slip/Antiblock Concentrate (Normal addition 2%)		

Notes: K-Resin® SBC MFR (Melt Flow Rate) = g/10 min @ 200°C - 5.0 kg; Density = g/cc



Our Plastic Technical Center in Bartlesville, Oklahoma offers product and application development support to customers worldwide.

## Cast Film

The cast film process differs dramatically from the blown film process primarily due to the fast quench cooling of the chill roll. This fast quench is responsible for the unidirectional orientation characteristics of cast film. These characteristics allow a cast film line to operate at higher production rates, while producing amazing optics. Applications in food and retail packaging take advantage of these strengths. The products below are our solutions to your cast film application needs.

### HDPE - CAST FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
9607	6.5	0.962	0	0	No	Food & Retail Packaging
9608XD	8.0	0.962	0	0	Yes	Food & Retail Packaging

### LDPE - CAST FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
1122	2.1	0.920	0	0	No	General Purpose Packaging
1125	2.1	0.921	0	4000	No	General Purpose Packaging
2121	1.3	0.925	0	2150	No	General Purpose Packaging
4553	4.1	0.924	650	0	No	Embossed Liner
4571	4.1	0.924	0	0	No	Embossed Liner
5428	2.2	0.930	1000	10000	No	Converter Film, Bakery Bag
5429	2.2	0.930	600	10000	No	Converter Film, Bakery Bag
5430	2.2	0.925	0	0	No	Overwrap & Converter Film
5440	2.2	0.925	1000	0	No	Overwrap & Converter Film

### LLDPE - CAST FILM

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
7114	1.4	0.918	0	0	No	Overwrap, Stretch
7120X	2.0	0.919	0	0	No	Food & Retail Packaging
7120B	2.0	0.919	1000	0	No	Food & Retail Packaging
7235	3.5	0.923	0	0	No	Food Packaging
7235B	3.5	0.923	1000	0	No	Converter Film, Bakery Bag

Notes: MI = g/10 min, Density = g/cc, Slip/Antiblock = ppm

### POLYPROPYLENE - CAST FILM

PRODUCT	TYPE	MFR	DENSITY	CLAR.	NUCL.	APPLICATIONS
JM97A	Random Copolymer	5.5	0.903	No	No	Food & Retail Packaging

Notes: Polypropylene MFR (Melt Flow Rate) = g/10 min @ 230°C; Density = g/cc

### K-RESIN® SBC - CAST FILM

PRODUCT	MFR	DENSITY	SLIP	ANTIBLOCK	APPLICATIONS
DK11	7.5	1.01	0	0	Clear, High Modulus Films
KR52	9.0	1.01	0	0	Shrink Labels
KR53	10.0	1.01	0	0	Clear, Ductile Packaging

Notes: K-Resin® SBC MFR (Melt Flow Rate) = g/10 min @ 200°C - 5.0kg; Density = g/cc, Slip/Antiblock = ppm

## Extrusion Coating & Lamination

With more than 40 years experience in the extrusion coating and lamination industry, Chevron Phillips Chemical is one of the leading North American suppliers of extrusion coating polyolefin products. Marlex® PP & MarFlex® PE extrusion coating products are designed to meet the challenging processing demands of extrusion coating and are optimized to provide minimal neck-in with maximum draw properties and excellent adhesion to a wide variety of substrates. The products below are our solutions to your extrusion coating application needs.

### LDPE - EXTRUSION COATING & LAMINATION

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
1013	13.0	0.917	0	0	No	Medium Drawdown Designed for Med Ct. Wt.
1017	7.0	0.917	0	0	No	Minimal Neck-in Extrusion & Lamination Grade
1018	8.0	0.917	0	0	No	Minimal Neck-in Extrusion & Lamination Grade
1019	16.0	0.917	0	0	No	Maximum Drawdown Designed for Low Ct. Wt.
1023*	13.0	0.917	1500	0	No	General Purpose Ext. Ct. Grade with Slip Additive
4517	5.1	0.923	0	0	No	General Purpose & Board Coating

\*modified with slip agents

### HDPE - EXTRUSION COATING & LAMINATION

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
9608XD	8.0	0.962	0	0	Yes	Board Coating & Flexible - HDPE Blend Component
9608	8.0	0.962	0	0	No	Board Coating & Flexible - HDPE Blend Component

### LLDPE - EXTRUSION COATING & LAMINATION

PRODUCT	MI	DENSITY	SLIP	ANTIBLOCK	PPA	APPLICATIONS
7235	3.5	0.923	0	0	No	Board Coating & Flexible - LLDPE Blend Component
7235B	3.5	0.923	1000	0	No	Board Coating & Flexible - LLDPE Blend Component

Notes: MI = g/10 min, Density = g/cc, Slip/Antiblock = ppm

### POLYPROPYLENE - EXTRUSION COATING & LAMINATION

PRODUCT	TYPE	MFR	DENSITY	CLAR.	NUCL.	APPLICATIONS
HMX-340	Modified Homopolymer	34.0	0.906	No	No	Flexible Packaging & Lamination - Release Coatings

Notes: Polypropylene MFR (Melt Flow Rate) = g/10 min @ 230°C; Density = g/cc



For more information about these and other products, call 800-231-1212

MSDS and Technical Data Sheets available online at [www.cpchem.com](http://www.cpchem.com)