

## WELCOME TO THE ENGINEERED FILMS DIVISION OF RAVEN INDUSTRIES

Over the past 60 years, Raven Engineered Films has established a notable reputation for manufacturing and supplying high-quality flexible films and sheeting to major markets throughout the United States and abroad. Our manufacturing facilities include seven locations spanning across a 730,600 sq.ft. footprint and contain the latest state-of-the-art equipment, including blown and cast film and sheeting, lamination/coating, conversion capabilities, and a remarkable test and development facility. Raven also designs unique specialty cast composite materials, textured membranes, and lamination sheeting built to precise specifications. We are fully committed to creating sustainable product solutions, and internally house a full-scale polymer reclamation center to capture trim and start-up materials in-line with our green initiatives. Our extensive history in manufacturing and proven product expertise allows us to offer the most innovative and targeted product solutions in the industry today!

Our manufacturing expertise is what sets us apart from the competition by offering some of the most diversified capabilities in the industry, as well as our high standards for one-on-one customer service. We believe by thoroughly listening to our customers we can develop a solution that does precisely what they require. At Raven, we partner with our customers and work closely through a six-stage technical development process to develop value-added, competitive solutions. Our products are produced in a quality controlled environment under our stringent ISO 9001 certified management system to assure we achieve complete customer satisfaction and continuous improvement in all phases of our business.

We provide a broad range of proven products from ultra-thin precise films to heavy fiber reinforced sheeting. Whether you need engineered packaging film, barrier film and sheeting, high-strength construction films or a highly puncture-resistant geomembrane liner, we can engineer a product for your toughest demands. Our experience in designing quality film, laminated composites, and sheeting has enabled us to offer a variety of products; each formulated to meet our customer's individual requirements in addition to our standard product line.

Please review the following outline of our manufacturing capabilities and feel free to contact us with any questions or custom quote needs.

### Blown and Cast Extrusion Film Capabilities:

- Mono-Layer up to 7-Layer Blown and Cast Films
- Single Wound Sheeting up to 192" Wide
- Multi-Layer Film from 0.30 mil up to 80 mil Thick
- Capable of Processing a Wide Range of Resins
- Cast & Blown Barrier/Multi-Layer Film & Sheeting
- Cast Reinforced Films up to 80 mil
- Corona Treating & Printing
- Large Mill Rolls up to 50" Diameter
- Seamless Gusseted Widths up to 40' Wide
- Reinforced Composite Structures up to 146"

### Lamination/Coating Capabilities:

- Lamination and Coating Up to 146" Wide
- 3 mil to 80 mil Fiber Reinforced Film & Sheeting
- Up to 146" Wide by 50" Diameter Master Rolls
- Wide Range of Reinforcement Options
- Extrusion Lamination
- Textured Surfaces

### Converting Capabilities:

- Extrusion, Hot Air & Hot Wedge Welding
- High-speed Wide Width Re-Rolling
- 2-Color Print up to 120" Wide Web (100" Wide Print)
- Continuous Micro Perforation
- Custom Fabricated Step Panels
- Factory Welded Panels up to 8,000 lbs

### Raw Materials Processed:

- Low Density Polyethylene
- Linear Low Density Polyethylene
- Medium Density Polyethylene
- High Density Polyethylene
- Polypropylene
- Metallocene
- Ionomer
- Nylon
- EVOH
- EVA
- PBT
- TPO
- TPU
- Wide Range of Additives/Colors

PRODUCT DESCRIPTION	PART NUMBER	COLOR	NOM. MIL THICKNESS	COMMON APPLICATIONS	ADVANTAGES (BENEFITS)	ROLL WIDTH RANGE	PRODUCT TYPE	BASIC ADDITIVES	APPROX. EXPOSED LONGEVITY
ABSOLUTE BARRIER Y30BAC	Y30BAC	B	30	2,3,6,7,17,19,21,23,26,28,29,30	1,2,3,5,6,8,12	1	9	1,3	N/A <sup>3</sup>
ABSOLUTE BARRIER Y40BAC	Y40BAC	B	40	2,3,6,7,17,19,21,23,26,28,29,30	1,2,3,5,6,8,12	1	9	1,3	N/A <sup>3</sup>
ABSOLUTE BARRIER X40BAL	X40BAL	B	40	2,3,6,7,17,19,21,23,26,28,29,30	1,2,4,5,6,8,12	1	9	1,3	N/A <sup>3</sup>
ABSOLUTE BARRIER X60BAL	X60BAL	B	60	2,3,6,7,17,19,21,23,26,29,30	1,2,4,5,6,8,12	1	9	1,3	N/A <sup>3</sup>
ABSOLUTE BARRIER XB60BCL	XB60BCL	B	60	2,3,6,7,17,19,21,23,26,29,30	1,2,4,5,6,8,12	1	9	1,3	20 yr.
CONKURE	CONKURE80	W	17	27	1,2,4,6,7	6	12	1,5	3 mo. <sup>2</sup>
DURA-SKRIM 2	R5CC	C	6	9,10,13,20,24	1,2,5,6,7,8	4	4	1	4 mo.
DURA-SKRIM 2FR	R5CCF	N	6	9,10,13,20,22,24	1,2,5,6,7,8,9	4	4	2	3 mo.
DURA-SKRIM 6WW	R6WWK	W	6	1,2,8,9,10,13,15,18,22,24	1,2,4,5,6,7,8	5	4	1,5	1 yr.
DURA-SKRIM 6WB	R6WBK	W/B	6	1,2,4,8,10,12,13,15,16,18,20,22,24	1,2,4,5,6,7,8	5	4	1,3,5	1 yr.
DURA-SKRIM 6BB	R6BB	B	6	1,2,4,6,8,15,21	1,2,4,5,6,7,8	5	4	3	1 yr.
DURA-SKRIM 8WB	R8WBK	W/B	8	1,2,4,5,6,8,11,12,13,21,22	1,2,4,5,6,7,8	5	4	1,3,5	1 yr.
DURA-SKRIM 8BB	R8BBR	B	8	1,2,4,6,8,11,12,13,15,21	1,2,4,5,6,7,8	5	4	3	1 yr.
DURA-SKRIM 8BV	R8BV	B	8	1,2,4,6,8,11,12,13,15	1,2,4,5,6,7,8	5	4	1,3	5 yr.
DURA-SKRIM 10FR	R10CCF	N	10	8,9,20,21,22,24	1,2,5,6,7,8,9	3	4	2	6 mo.
DURA-SKRIM 10HUV	R10CCU	C	10	2,4,8,9,10,11,13,20,22,24	1,2,5,6,7,8	5	4	1	1 yr.
DURA-SKRIM 12WB	R12WBK	W/B	12	1,2,3,4,5,6,8,11,15,21	1,2,5,6,7,8	5	4	1,3,5	2 yr.
DURA-SKRIM 12BBR	R12BBR	B	12	1,2,3,4,5,6,8,11,15,21	1,2,5,6,7,8	5	4	3	1 yr.
DURA-SKRIM 12BV	R12BV	B	12	1,2,3,4,5,6,8	1,2,5,6,7,8	5	4	3	5 yr.
DURA-SKRIM 20WW	R20WWK	W	20	1,2,3,5,6,11,12,17,21	1,2,5,6,8	4,5	4	1,5	5 yr.
DURA-SKRIM 20BDV	R20BDV	B/D	20	1,2,3,5,6,8,11,12,17,21	1,2,5,6,8	4,5	4	1,3	5 yr.
DURA-SKRIM 24BV	R24BV	B	24	1,2,3,5,6,8,11,12,17,21	1,2,5,6,8	4,5	4	1	10 yr.
DURA-SKRIM RB20BBV	RB20BBV	B	20	1,2,5,6,8,9,17,21,23,26	1,2,5,6,8,12	4,5	4,9	1,3	5 yr.
DURA-SKRIM J-SERIES	J25DT1,J30DT1,J30B,J36B	B/D	25,30,36	1,2,3,4,5,6,7,17,29,31	1,2,5,6,8,13	4,5	4,14,15	1,3	5 yr.
DURA-SKRIM N-SERIES	N30B,N36B,N45B	B/	30,36,45	2,3,6,7,17,19,29,30,32	1,2,5,6,8	4,5	4,15	1,3	20 yr.
DURA-SKRIM NT-SERIES	N36BT1,N45BT1,N40BT2,N45BT2	B	36,40,45	2,3,4,6,7,17,19,25,29,30,31	1,2,5,6,8,13	4,5	14,15	1,3	20 yr.
DURA-SKRIM NQ-SERIES	NQ36B,NQ45B	B	36,45	2,3,6,7,17,19,29,30,32	1,2,5,6,8,11	4,5	13,15	1,3	20 yr.
FEEDFRESH	RB7WB	W/B	7	9,14,15	1,2,5,6,8	6	4,9	1,3,5	18 mo.
FEEDPRO-G	A5WB1	W/B	5	14,15	1,2,3,6,7,8	4	8	1,3,5	18 mo.
GRAINMAX	GMWBK	W/B	S	8,13,14	1,2,4,5,6,7,8	5	4	1,3,5	1 yr.
GRAINMAX PRO	GMPWBK	W/B	P	8,13,14	1,2,4,5,6,7,8	5	4	1,3,5	1 yr.
GRAINMAX ULTRA	GMUWBK	W/B	U	8,13,14	1,2,4,5,6,7,8	5	4	1,3,5	2 yr.
PROTECTOR™ W-SERIES	W12WB,W14WB,W16WB	W/B	12,14,16	1,2,4,5,6,8,11,12,14,15	1,2,4,5,7,8	4,5	5	1,3,5	2 yr.
HYDRAFLEX H20B	H20B	B	20	1,2,3,4,6,11	1,2,3,6,8	4,5	1	3	5 yr.
HYDRAFLEX H30B	H30B	B	30	1,2,3,4,19	1,2,3,6,8	4,5	1	3	5 yr.
HYDRAFLEX H40B	H40B	B	40	1,2,3,4,19	1,2,3,6,8	4,5	1	3	5 yr.
HYDRAFLEX ULTRA HU20B	HU20B	B	20	1,2,3,4,6,17,21,32	1,2,3,5,6,8	4,5	6	1,3	20 yr.
HYDRAFLEX ULTRA HU30B	HU30B	B	30	1,2,3,6,17,21,32	1,2,3,5,6,8	4,5	6	1,3	20 yr.
HYDRAFLEX ULTRA HU40B	HU40B	B	40	2,3,6,7,17,21,32	1,2,3,5,6,8	4,5	6	1,3	20 yr.
HYDRAFLEX PRO HP-SERIES	HP30B,HP40B,HP30BD,HP40BD	B, B/D	30,40	1,2,3,6,32	1,2,3,5,6,8	4,5	8	1,3,4	15 yr. <sup>4</sup>
HYDRAFLEX FPP	PP40	B	40	2,3,6,7,17	1,2,3,5,6,8,11	4,5	2	1,3	20 yr.
HYDRAFLEX HT-SERIES	HT30B,HT40B,HT30BG,HT40BG	B, B/D	30,40	1,2,3,6,17,25,29,31	1,3,6,8,13	4,5	8,16	1,3	15 yr.
HYDRAFLEX VF	V30B	B	30	2,3,6,7,17	1,2,3,5,6,8,11	4,5	8	1,3	20 yr.
RUFECO 300 WHITE	3W	W	3	9,12,13,21,22,23	1,4,5,6,7	2	3	1,5	9 mo.
RUFECO 610B	610B	B	6	1,3,4,8,11,15	1,2,3,6,8	4,5	1	3	18 mo.
RUFECO 1010B	1010B	B	10	1,2,3,4,8,11,15	1,2,3,6,8	4,5	1	3	2 yr.
SEALFRESH AB2C2	AB2C2	C	2	9,15	1,6,7,12	6	9	1	3 mo.
VAPORBLOCK 6, 10 & 15	VB6,VB10,VB15	BU	6,10,15	21,23	1,2,3,5,6,8	6	7	1	N/A <sup>1</sup>
VAPORBLOCK-G 15	VBGL15	GR	15	21,23	1,2,3,5,6,8	6	7	1	N/A <sup>1</sup>
VAPORBLOCK PLUS 20	VBP20	W/G	20	21,23,26	1,2,3,5,6,8,12	6	9	1,5	N/A <sup>1</sup>

Color Key: C=Colorless B=Black W=White N=Natural G=Gold BU=Blue D=Gray R=Green

### COMMON APPLICATIONS

- |                                |                               |                              |                                   |                             |
|--------------------------------|-------------------------------|------------------------------|-----------------------------------|-----------------------------|
| 1. Oil Field Pit Liners        | 8. Outdoor Covers             | 15. Hay/Silage Covers        | 21. Underslab Vapor Retarder      | 27. Concrete Curing Blanket |
| 2. Remediation Liners & Covers | 9. Fumigation Covers          | 16. Poultry House Ceilings   | 22. Ceiling & Wall Vapor Retarder | 28. Geo Foam Encapsulation  |
| 3. Pond Liners                 | 10. Lead & Asbestos Abatement | 17. Waste Disposal Liners    | 23. Radon Retarder                | 29. Heap Leach Liners       |
| 4. Erosion Control Covers      | 11. Stock Pile Covers         | 18. Hog Confinement Ceilings | 24. Divider Curtains              | 30. Mine Tailing            |
| 5. Daily Landfill Covers       | 12. Rail Car Covers/Liners    | 19. Floating Covers          | 25. Coal Ash Cap/Cover            | 31. Rig Site Cover          |
| 6. Interim Landfill Covers     | 13. Product Wrapping          | 20. Enclosure Film           | 26. VOC/Gas Barrier - Brownfields | 32. Tank Liner              |
| 7. Landfill Caps               | 14. Grain Covers              |                              |                                   |                             |

#### ADVANTAGES (BENEFITS):

- High Puncture Resistance
- High Tear Resistance
- High Elongation
- Low Elongation
- Low Moisture Permeability
- Pin Hole Free
- Economical
- Good Outdoor Longevity
- Fire Retardant
- Breathable
- Dimensional Stability
- Low Gas Permeability
- Increased Surface Friction

#### PRODUCT TYPE:

- Extruded 1-Layer MDPE Blend
- Extruded Flexible Polypropylene
- Cross Laminated (HDPE/LDPE/HDPE)
- Scrim Reinforced LLDPE
- Woven HDPE Ribbons and Coated with LDPE
- Extruded 1-Layer LLDPE
- Extruded 1-Layer Polyolefin
- Co-Extruded 3-Layer Polyolefin
- Co-Extruded 7-Layer with Barrier
- Microporous Reinforced Non-woven
- Woven Polyolefin Microporous
- Coated Polyolefin Fabric

#### PRODUCT TYPE CONTINUED:

- Scrim Reinforced Flexible PP Laminated
- Textured Scrim Reinforced LLDPE
- Cast Extruded
- Blown Extruded

- LDPE = Low Density Polyethylene  
MDPE = Medium Density Polyethylene  
VLDPE = Very Low Density Polyethylene  
LLDPE = Linear Low Density Polyethylene  
HDPE = High Density Polyethylene  
PP = Polypropylene

#### ROLL WIDTH RANGE:

- Up to 16'
- Up to 32'
- Up to 40'
- Up to 150'
- Consult Factory for widths over 150'
- Consult Factory for Sizes

#### BASIC ADDITIVES:

- Ultraviolet Inhibitors/Thermal Stabilizer
- Fire Retardant
- Carbon Black
- Anti-Skid
- TiO2 (titanium dioxide)

Roll Lengths are typically 100'. Many other roll lengths are available. Maximum Roll Weight is 8,000 pounds.

<sup>1</sup> Contains UV inhibitors, however, is intended for non-exposed applications. (Underslab Vapor or Gas Barrier)

<sup>2</sup> UV Protection in coated side only

<sup>3</sup> Designed for buried applications

<sup>4</sup> 15 yr. approximate exposed longevity with gray side up

Note: To the best of our knowledge, unless otherwise stated, the information listed on this sheet is best estimate and is intended as guides only, not as specification limits. Chemical resistance, moisture and/odor transmission, as well as other performance criteria are not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. LONGEVITY varies with actual location and weather conditions, which include sun or shade, extreme heat or cold, wind, altitude, installation and many other variables. Because of these variables, we cannot determine exact longevity. Please visit our website to learn more at [www.ravenefd.com](http://www.ravenefd.com)