

Medical Packaging Solutions





Table of Contents

Medical Packaging	2
Top Web and Bottom Web	3
Flow Wrap and IV Solution Overwrap	4
Medical Pouch Films and Medical Kit Bags	5
Optym™ EST and Optym™ DL	6
9-Layer Clean Room Film	7
DuraMed™	8
DirectSeal™	9
About Berry	10

Serving the Healthcare Industry with Medical Packaging Solutions

Global Footprint
Large and small scale capabilities, including contract manufacturing at state-of-the-art facilities



Regional Product Development
Comprehensive cross-functional team support for new and, ongoing programs

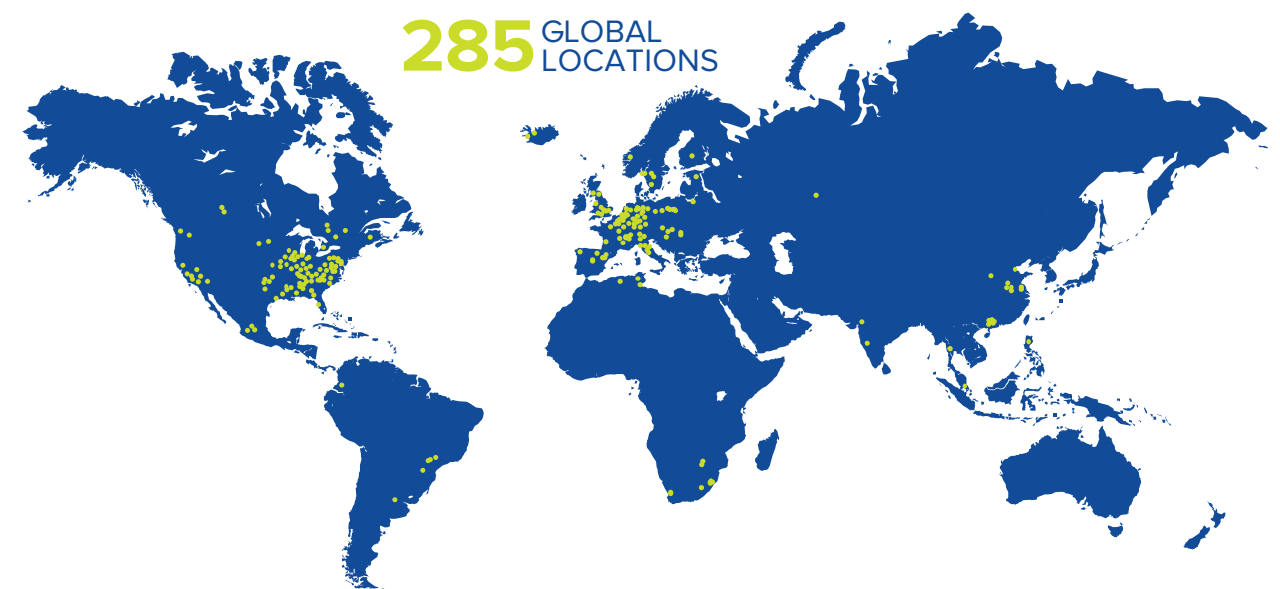
World-Class R&D Facilities
Unparalleled expertise in material science and process technology



Product Testing and Compliance
In accordance with applicable US and EU regulatory requirements

Global Facilities

At Berry, our goal is to meet and exceed the demands of our customers around the globe. Our ever expanding footprint allows us to work with you both near and far.





Medical Packaging

Our 60 years of experience in extruded, coated and, laminated materials manufacturing leaves us ideally placed to serve the medical packaging market.

We offer a comprehensive portfolio consisting of medical device packaging films and breathable microbial barrier products. Our capabilities ensure your products reach healthcare professionals and patients safely, every time.

- Forming Films and Peelable Top Webs
- IV Solution Overwrap and Flow Wrap Films
- Component Films
- High-Performance Medical Bag Films
- Clean Room Manufacturing
- Breathable Barrier Packaging

Top Web (Form-Fill-Seal)

Available in printed or unprinted in a 3-layer configurations



Features and Benefits

- Peelable options with tamper evidence are available
- High gloss appearance
- Suitable for E Beam, Gamma, and Steam Sterilization
- Breathable microbial barrier

Product	Technology	Layers	Peel Type	Peel Type	Peel Type
Optym Top Web		Mono-9	Fusion/Peel Option	HDPE	Nylon PP
Low Peel	Blown	3-7	1.5 lb/in	◆	
Heavy Peel	Blown	5-9	2.5 lb/in	◆	◆
Duramed	Nonwoven	N/A	1.5 lb/in		◆



APPLICATIONS
Seals to forming films for packaging of syringes, catheters and various medical devices



COLORS & TECHNOLOGY
Multiple color options and high clarity, blown and cast, corona treat for printability



GAUGE THICKNESS
1 to 12 mil+

Bottom Web (Form-Fill-Seal)

Available in monolayer to 7-layer configurations

Features and Benefits

- Designed for resistance to melting during sealing process
- Excellent balance of stiffness and toughness
- Suitable for Ethylene Oxide, Autoclave, Gamma and E Beam Sterilization
- Manufacturing in ISO 7 Class 10000 clean room available
- Peelable options with tamper evidence are available
- Dual-layer nylon designs for optimum performance
- Recycle-ready mono-material films



APPLICATIONS
Bottom Web for packaging syringes, catheters and various medical devices
Seals to most top webs: paper, film, flash spun HDPE, DuraMed



COLORS & TECHNOLOGY
Multiple color options and high clarity, blown and cast



GAUGE THICKNESS
1 to 12 mil+

Product	Technology	Layers	Peel Type	Peel Type	Peel Type	Peel Type	Peel Type	Peel Type	Peel Type
Optym Bottom Web	Cast	Blown	Mono-9	PE	PP	Ionomer	Nylon	COC	EVOH
Deep Draw		◆	3-7	◆	◆	◆	◆	◆	◆
Shallow Draw	◆	◆	5-9	◆	◆				

Flow Wrap

Superior clarity and toughness for medical device protection



Features and Benefits

- One component package
- Significant material savings
- E Beam, Steam, and Gamma Sterilizable
- Increased packaging speeds
- Print options available



APPLICATIONS

Overwrap for medical devices



COLORS & TECHNOLOGY

Multiple color options and high clarity, blown and cast, broad seal window



GAUGE THICKNESS

1 to 12 mil+ (fractional gauge capability)

Product	Technology		Layers	Layer Composition			
	Cast	Blown		Nylon	HDPE	LLDPE	PP
Optym Flow Wrap	Cast	Blown	Mono-9	Nylon	HDPE	LLDPE	PP
Polyethylene	◆	◆	3-5		◆		
Polypropylene	◆		3-5				◆
Coex		◆	Mono-9	◆	◆	◆	◆

IV Solution Overwrap

High clarity films designed for optimal packaging performance



Features and Benefits

- One component package
- Significant material savings
- E Beam, Steam and Gamma Sterilizable
- Higher package speeds
- Print options available
- Reduced gel counts and defects



APPLICATIONS

Overwrap for IV solutions



COLORS & TECHNOLOGY

Multiple color options and high clarity, blown and cast, broad seal window



GAUGE THICKNESS

1 to 12 mil+

Product	Technology		Layers	Material	
	Cast	Blown		PP	HDPE
Optym IV Overwrap	Cast	Blown	Mono-9	PP	HDPE
Polypropylene	◆		3-5	◆	
Polypropylene		◆	Mono-9		◆

Medical Pouch Films

Extensive film portfolio for medical packaging converters

Features and Benefits

- Film used in header bag, pouch, and medical packaging applications
- High clarity with excellent puncture and abrasion resistance
- Suitable for E Beam, Gamma, Steam, and EtO Sterilization
- Low seal initiation with broad seal window



APPLICATIONS

Pouch Stock, Medical Kit Bags, Header Bags, Sealant Films



COLORS & TECHNOLOGY

Color option available, high clarity, blown or cast films



GAUGE THICKNESS

1.25 to 8 mil+

Product	Technology		Layers	Layer Composition				
	Cast	Blown		PE	EVOH	Ionomer	Nylon	EVA
Optym Medical Pouch	Cast	Blown	Mono-9	PE	EVOH	Ionomer	Nylon	EVA
Standard		◆	Mono-9		◆	◆	◆	◆
High Barrier		◆	Mono-9	◆	◆			◆

Medical Kit Bags

In-line bag converting

Advantages

- In-line manufacturing (3-sided bag, bag-on-roll, bag-in-box)
- High clarity with excellent puncture and abrasion resistance
- Suitable for E Beam, Gamma, and EtO Sterilization
- Low seal initiation with broad seal window
- 1 color in-line printing for traceability



APPLICATIONS

Medical kit bag applications and in-line bagging options available



COLORS & TECHNOLOGY

Color option available, high clarity, vector printing, perforation perforation



GAUGE THICKNESS

3 to 8 mil+

Bag-In-Box	Min	Max
Length Range (Inches)	10	30
Notching capability	Yes	-
Width Range	22.5	58
Bag-on-Roll	Min	Max
Length Range (Inches)	10	100
Roll OD (Inches)	10	29
Perforation	Yes	-
Width Range	22.5	58

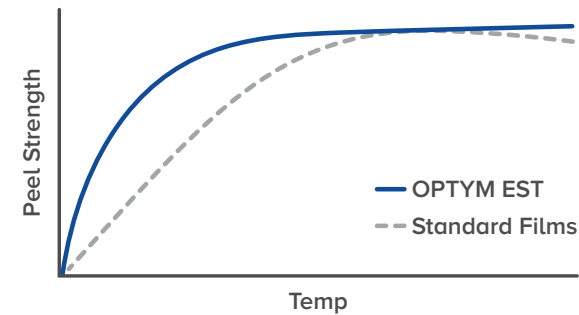


Optym™ EST - Enhanced Sealant Technology

Sealant system for optimum peel performance across a wide range of packages

Advantages

- Sealant technology provides wide process window
 - Lower seal initiation
 - Broad seal plateau
 - Strong, clean peelable seals meeting altitude test requirement
 - Matching web designs for quick change-over to deliver savings
- Designed for operational flexibility at customer location(s)
- Incorporate in most 3-9 Layer Optym™ film designs for enhanced seal performance
- Standardize your forming web portfolio with Optym™ EST films capable of sealing to Optym™ EST top webs, coated paper, or coated flashspun HDPE



9-Layer Film Inside Controlled Room

Film production from Pallet to Packaging inside controlled environment designed to meet ISO 7 at rest and ISO 8 in operation

Film Features

- Unique raw material combinations up to 9 layers
- 86" max width
- 100% roll inspection capable of detecting defects down to 1mm² in size
- Auto thickness and gauge control
- Film annealing for improved flatness
- FDA compliant Lubes and contact surfaces
- Controlled environment from extrusion to packaging
- Air locked gowning room with fully gowned work force
- Conditions are closely controlled in our 9-layer room by utilizing 99% HEPA air filtration system



APPLICATIONS

Pharmaceutical packaging, primary fluid containment, and medical packaging



LOCATION

Dalton, GA



GAUGE THICKNESS

1 to 12 mil (fractional gauge capability)

Optym™ DL Forming Webs

7-9 Layer Dual-Layer Nylon

Advantages

- Abrasion resistant outer surface
- Peelable Sealant Layer capable of sealing to Optym™ Top webs, Flash Spun HDPE, Medical Paper, and Duramed
- Dual layer design improves uniformity in wall and corner thickness across entire package
- Superior puncture resistance with excellent balance of stiffness and toughness offers down gauging opportunities
- Available gauges ranging from 1.25
- Suitable for FFS packaging equipment with or without plug assist
- Replace ionomer-based film designs



APPLICATIONS

DL Forming Web for packaging syringes, catheters and various medical devices
Seals to most top webs: paper, film, flash spun HDPE, DuraMed



LAYERS

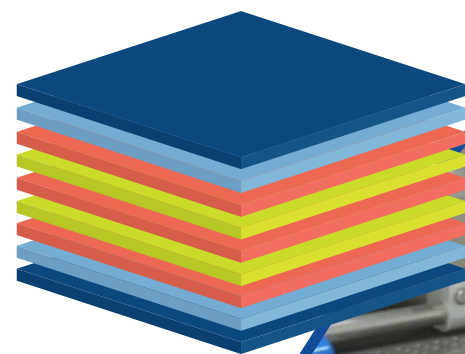
7-9 Layers



GAUGE THICKNESS

1 to 12 mil+

PA Layers



Locations

- Dalton, GA



DuraMed™

The clear alternative for the next generation in specialty materials for medical packaging

Forget flash spun HDPE: DuraMed is the future.

Boasting strong performance on breathability, barrier, clean peel, resistance to tear, and puncture. DuraMed is the first choice for your medical packaging needs.

Use DuraMed as a top web for forming films, breathable strip for header bags and as a back panel for peel pouches. Benefits include EtO and steam sterilization compatibility with excellent permeability and an effective microbial barrier.

DuraMed's unique sealing characteristics provide a strong uniformity of seal ensuring tamper evidence.



DirectSeal™

Our proprietary sealant technology helps reduce cost by eliminating the need for a coated substrate

DirectSeal provides a consistent seal across temperatures with uncoated paper and flash spun HDPE, but use it with DuraMed™ for the ultimate performance in seal strength, sterility, and cost savings.

Our Solution

- Seals to uncoated paper
- Eliminates top web coating for cost savings
- Delivers consistent seal strength across wide operating window
- Releases cleanly from uncoated paper leaving no fiber tear/loose fibers
- Peeled areas exhibit tamper evidence
- DirectSeal can be used in conjunction with multiple forming and sealant web designs



Features and Benefits



Rollstock for form-fill-seal



Rollstock for header bag



Rollstock for pouch lamination



Features and Benefits

- Help eliminates the need for a matching coated substrate
- Compatible with e beam, gamma, and EtO sterilization
- Easy, virtually fiber free peel when heat sealed to common substrates such as flash spun HDPE, paper, and DuraMed

Partner of choice

The right solutions for you, and for end users

Customer Intimacy
Customized products for your specific needs.



Global Manufacturing
Worldwide production with leading technology, quality, and service.



Certified Materials
Using patented technology we create highly specified solutions.



Over 60 years of experience in extruded, coated, and laminated materials manufacturing

Our commitment

Whatever the size of the project, the satisfaction of our customers and end-users are our absolute priority. Our production and logistics systems are continuously improved to guarantee the highest quality products, delivered where you want them, when you want them.

We have a partnership mentality. We focus on building and developing business relationships with our customers; we win when you win.

Above all we're proud to create value-driven solutions that deliver precision and intuitive functionality. We specialize in projects tailored to your specific needs, both in terms of end product and testing and manufacturing processes.





To make Berry part of your medical packaging process, please contact us at:

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berryglobal.com