

Marshall Plastic Film Re-Design Program

Selecting correct materials in correct form to reduce costs.

Flexible Packaging Film and Bags

Flexible packaging films and bags protect products of endless description and size. Each application requires a design which optimizes protection and minimizes materials. With today's emphasis on reductions of packaging at the source, a Marshall Plastic Film product ensures that function and efficiency are served as well as economy. Materials specified yesterday are being replaced with today's materials with the result that more is done with less.

Film Comparison

1 You can reduce your film and bag costs by 25% or more.

Since the new Marshall films are stronger than what you may be using, you can most likely downsize to a thinner gauge. Typically our films can be 25 to 50% thinner than films they replace—WITHOUT ANY CHANGE IN FILM STRENGTH.

2 You can solve tearing, sealing and other problems.

By replacing your existing film with an equal thickness of our new films, you can increase film strength by a significant amount, which means that parts that used to poke through the package will not. And bags that used to leak will not.

3 You can develop new and better packaging and containment systems.

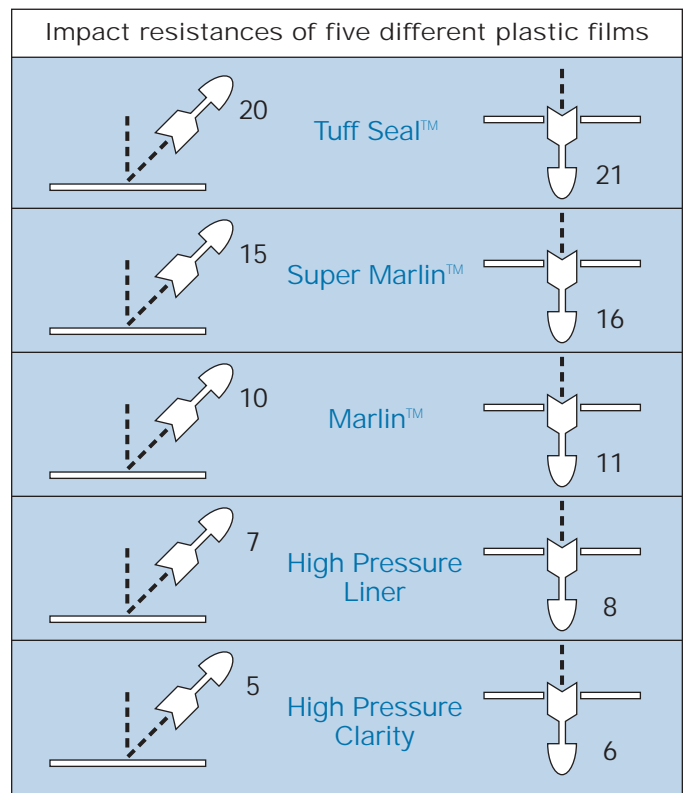
Our new films permit you to take a whole new approach to solving your packaging and containment problems. Because now you can package things in a way that you could not before. Where earlier films would not do the job, the new films will.

EXACTLY HOW MUCH WILL YOU SAVE?

If you are using the older resin materials, we can almost guarantee you that we can reduce your costs and/or improve your film performance. Users of our new films have reported average cost reductions of 10-25%.

The Re-Design Program

The Marshall Plastic Film Re-Design Program will enable the end user to select exactly the correct materials in exactly the correct form to best accomplish the packaging function often at significantly reduced costs. High strength linear low-density resins allow thinner materials to do the job of weaker materials. In addition, materials can be specified to include colors in both opaque and tint types; be printed for identification, be blended with additives to provide ultra-violet protection, anti-static characteristics, moisture corrosive inhibiting abilities, high and low slip, and be non-abrasive when needed.



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Custom Options for Film

- Mil Thickness
- Width
- Perforation intervals (also placement of seals on bags)
- Number of bags or perforated sheets per roll
- Length of continuous sheeting rolls
- Center slit rolls offer choice of slit opening wound to inside or outside, except when the option of folded rolls is selected
- Folding to reduce the roll width by half. The slit opening is folded to the outside of the roll.

Film Specification Comparison

Product	Marlin™	Super Marlin™	Tuff Seal™
Melt Index / MPR	1.0 / 28	0.85 / 28	1.0 / 30
Density	0.918	0.926	0.908
Gauge, Mils / BUR	1.5 / 2:1	1.5 / 2:1	2.0 / 2:5
Elmendorf Tear, g / mil	MD 140 TD 340	MD 170 TD 550	MD 480 TD 650
Dart Impact, g / mil	100	125	>830
Tensile Impact ft-lb / in ³	MD 1400 TD 900	MD 1800 TD 1600	MD 1800 TD 1500
Secant Modulus psi	MD 28,000 TD 32,000	MD 43,000 TD 49,000	MD 29,000 TD 31,000
Tensile Strength psi	MD 5000 TD 3800	MD 6200 TD 5400	MD 7970 TD 7640
Yield Strength psi	MD 1600 TD 1500	MD 2000 TD 1900	MD 1600 TD 1500



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