

The OptiMISER[®] System

Polyethylene Blend Formulating & Optimizing

Material Cost Savings. *Guaranteed.*



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Cost savings. Guaranteed.

Resin is typically the largest cost element within a manufacturing environment. Using recycled polyethylene in a blend reduces costs but presents challenges in throughput, productivity and quality.

Imagine being able to use recycled materials and not only cut costs but at the same time improve product quality, reduce scrap *and* increase throughput.

You can. With The OptiMISER[®] System from Advanced Blending Technologies.



Processors using The OptiMISER System are experiencing material savings of 10% to more than 30%.

The OptiMISER System is a proven blend formulation and material characterization solution combining Advanced Blending Technologies' expertise in polyethylene blend formulation and advanced material characterization with one-of-a-kind, easy to use formulation software.

Properly engineered resin blends perform with the same characteristics and reliability as prime materials but at much lower costs. Using the OptiMISER you can easily manufacture high-value products from a wide range of recycled low-cost material streams.

The OptiMISER System:

- Works on all polyethylene resins and grades
- Brings together the various resin attributes that ultimately predict product quality—for the first time
- Provides formulations optimized not only for cost but for your key properties—ensuring cost-effective high-quality products.

Blending for the right properties. Every time.

Routine output of high-quality product starts with a clear understanding of the product requirements *and* the material properties for each potential resin component. The OptiMISER works on all polyethylene resins and grades and—using advanced formulation software, accurate polyethylene resin characteristics and in-depth knowledge of resin behaviors — brings together the various resin attributes that predict product quality. For the first time.

With every blend you get formulations optimized not only for cost, but for your key properties ensuring **cost-effective, high-quality products.**

Over a billion pounds have been converted using this system...

Material Cost Savings. *Guaranteed.*

The OptiMISER[®] System provides:

- Customization
- Rapid low cost material characterization
- Initial software programming
- Easy-to-use operator instructions and start-up assistance

Software features:

- Selects blends from your inventory of available polyethylene resins.
- Can be set for multiple material properties (as few as two specifications and as many as seven)
- Takes into account quantities of available materials and their costs.
- Delivers all possible recipe/blend solutions optimized for least cost.
- Provides full on-screen results and analysis.

Having trouble buying low cost polyethylene resins to fit your manufacturing specifications?

Until now, to maintain both product quality and manufacturing processability you've confined purchasing to a narrow specification...limiting availability and increasing cost.

The OptiMISER System gives you more buying power. Your purchasing window is expanded to include materials that—by themselves—might not work for you. But now, blended together in the right ratio, these same materials are within your current manufacturing specs.

You're no longer limited.

Blend Solutions screen showing blends prioritized by least cost.

The screenshot displays the 'Blend Solutions' screen of the ABT OptiMISER software. The window title is 'ABT OptiMISER - Blow Mold_30.INV'. The interface includes a menu bar (File), a toolbar, and three main tabs: 'Inventory', 'Create Blend Solutions', and 'Blend Specifications'. The 'Create Blend Solutions' tab is active, showing a 'Select Product Specification' dropdown set to 'Blow Mold, 1 Gallon, Part #5685-2', a checked 'Filter Inventory using Process Limits' option, and a 'Maximum Number Components' set to 3. There are 'Create Blends' and 'Print Selected' buttons. A 'Logging' section shows 'Select Solution to Log' set to '#2 [3 component/s 79126 lbs @ \$0.3826]' with 'Log Solution' and 'View Log' buttons. Below this is a 'Solutions' table with columns: Solution_ID, IDs, MI, Density, Izod, ESCR, Polypro%, Cost, and Lbs. Solution 2 is highlighted. Below the solutions table is a 'Solution Components' table with columns: ID, MaterialType, Vendor, Product, MI, Density, Izod, ESCR, Polypro%, Cost, Available_Lbs, Used_Lbs, Remaining_Lbs, and Percentage. At the bottom, there are summary statistics for 'Min:' and 'Max:' values for MI, Density, Izod, ESCR, Polypro%, % Blend, and # Cmpts.

Solution_ID	IDs	MI	Density	Izod	ESCR	Polypro%	Cost	Lbs
1	2, 7	0.255	0.954	3,506	97.496	0.00	0.379	68953
2	1, 2, 7	0.259	0.954	3,413	96.75	0.00	0.383	79126
3	2, 7, 8	0.259	0.954	3,464	95.157	0.00	0.392	69952
4	1, 2	0.286	0.954	2,843	91.845	0.00	0.407	60269
5	1, 7, 8	0.21	0.952	3,784	124.827	0.00	0.412	67506
6	1, 2, 8	0.289	0.954	2,817	89.717	0.00	0.419	61143
7	1	0.231	0.952	3.1	122	0.00	0.420	46876
8	7, 8	0.252	0.953	3,485	96.549	0.00	0.425	67506
9	1, 8	0.255	0.952	3,067	106.00	0.00	0.427	50004

ID	MaterialType	Vendor	Product	MI	Density	Izod	ESCR	Polypro%	Cost	Available_Lbs	Used_Lbs	Remaining_Lbs	Percentage
1	HDPE CoPoly	ECO Plastics	PO 3421	0.231	0.952	3.1	122	0.00	0.42	46876	7913	38963	10
2	HDPE HoPoly	Midwest Polymers	PO 7689	0.602	0.961	2.1	34	0.00	0.36	43876	27334	16542	34.5
7	HDPE CoPoly	UT Plastics	PO 7834	0.156	0.95	4.7	178	0.00	0.39	43879	43879	0	55.5

	MI	Density	Izod	ESCR	Polypro%	% Blend	# Cmpts
Min:	0.2	0.952	2	75	0	10	1
Max:	0.4	0.954	6	200	0	100	3

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Blow Molding

The OptiMISER[®] System is used today in processes ranging from blow molding, sheet extrusion and thermoforming to injection molding and pipe and profile extrusion.



Sheet & Film Extrusion Thermoforming

Blending formulation is a complex and multifaceted process. The properties that determine the success of every formulation are different for every process and manufacturer. With The OptiMISER System, all the complex issues are handled upfront, *keeping the manufacturing process simple for you.*



Injection Molding

Only The OptiMISER System builds into its software algorithms that represent decades of discoveries in resin behaviors, feedstock blends and formulation experience. And once it's set up, you get formulation solutions — *solutions that work* — in seconds.

Say goodbye to guesswork. The solutions you're looking for are right here.



Pipe & Profile Extrusion

Reducing material and processing costs can provide the strategic advantage you need in today's competitive market. The OptiMISER System opens the door to those opportunities by formulating blends using lower-cost recycled polyethylene resins — *in seconds*. Eliminating trial-and-error.

How much can you save?

Contact us to find out.



Formulating the Future of Plastics

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