

ACCELERATING EFFICIENCY

energy & safety for plastic manufacturing

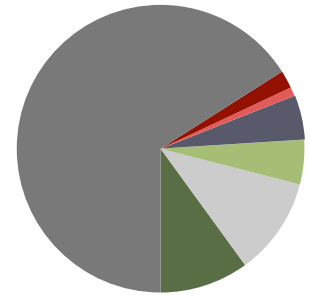


Rising Energy Costs

Energy costs can seem like an uncontrollable expense, but in reality, energy consumption should be controlled with the use of the right energy efficiency systems for your facility. UniVest® insulation systems capture and retain heat, promoting efficient energy production and reduced consumption. With the money you save on your energy bill each month, UniVest® presents a complete return in less than 12 months.

The Real Energy Consumers

A common misconception is energy projects, such as re-lighting facilities, will bring significant energy savings to plastics manufacturing. The truth is, the fundamental machines in a business consume the greatest amount of electricity.



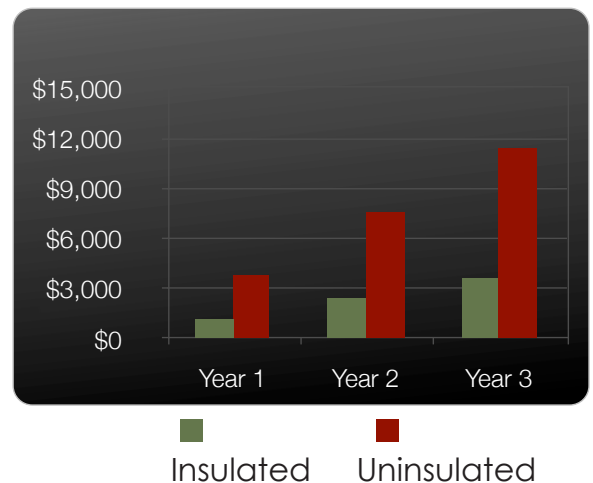
UniVest For Barrels, Extruders, Dies & Molds

UniVest® removable, reusable insulation jackets are high return, low investment systems that will lower your energy bill, protect your employees, and lower the ambient air temperature in your facility.



Payback in 1 Year or Less

On average, UniVest® insulation systems pay for themselves in energy savings within the first year. Few energy saving programs offer paybacks as quick as UniVest®.



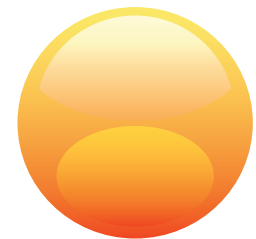
About

UniTherm International, located in Lewisville, Texas, is a manufacturer of insulation blankets for all applications.

UniTherm designs, develops, and manufactures insulation blankets for all applications, specializing in the plastics and oil and gas industries. Our goal is to create unrivaled insulation systems that offer an array of benefits: energy efficiency, personal protection, ease of use, and durability.

We are continuously working to create new insulation products, which benefit the environment through increased energy efficiency and protect personnel from hot applications. Our dedication in providing premium insulation systems, has led to the creation of several unique, patented products to serve various industries around the world.

UniTherm's number one objective is to serve our customers. We continuously improve our standard of excellence through product improvement and customer devotion. Here at UniTherm, we are proud of our high standards for quality, simplicity, cost, and delivery.



Contact

UniTherm Insulation Systems

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Energy Consumption in Plastics Facilities

The chart below displays a breakdown of where energy is consumed in a typical plastics manufacturing plant. Machines consume a staggering 66% of total electricity in most plants. When applied, UniVest® can save 30% - 40% in energy consumption.

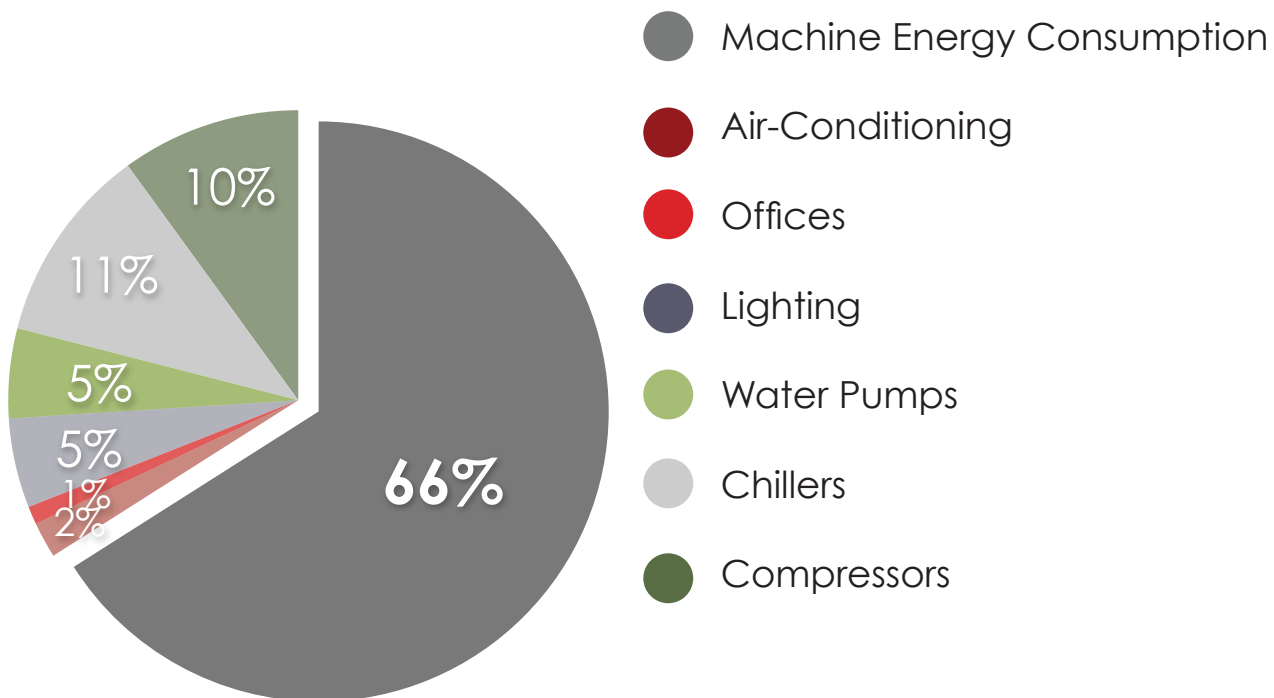
Tax Incentives for Energy Efficiency

Energy efficient updates to a new or existing building can supply a business with rewarding tax incentives. Tax credits directly lessen the income tax a company pays and can administer significant savings. Tax deductions reduce the quantity of income susceptible to taxation.

By 2025, energy efficiency may reduce the nation's energy demand by 20%. Properly implemented, energy efficiency efforts can reduce air pollution and greenhouse gas emissions, as well as save billions of dollars on energy costs in the next 10 to 15 years.

Businesses may be eligible for federal, state, or local tax incentives, in addition to rebates or financial assistance.

For additional information regarding tax incentives for energy efficiency, businesses should consult the Internal Revenue Service and accredited tax professionals.



Barrels



Extruders



Molds & Dies



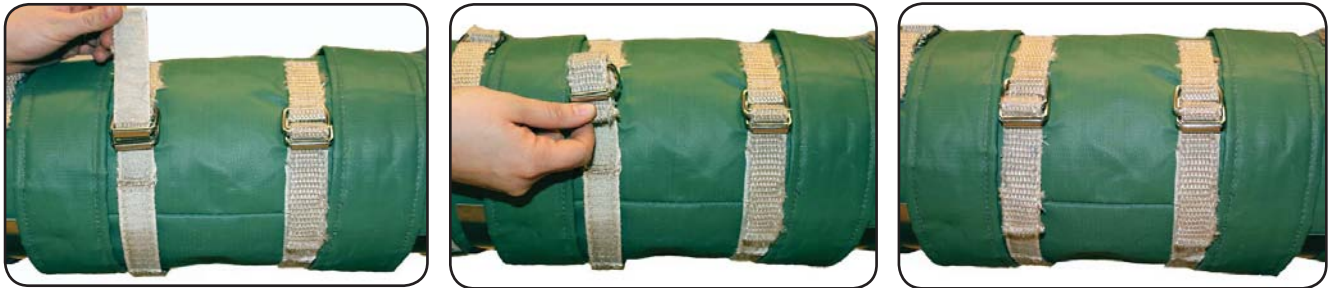
UniVest Insulation Jackets

UniVest® removable, reusable insulation jackets are high return, low investment systems that will lower your energy bill, protect your employees, and lower the ambient air temperature in your facility.

Keeping the Savings Going

Staff often remove UniVest® jackets to service machines and neglect to reinstall them. UniVest® jackets must be kept on machines to attain energy and safety benefits.

UniVest® jackets are light, modular, and easy to handle for installation. The UniVest® Strap and Buckle system allows easy installation - no tools necessary.



QuickCool

Equipped for Process Temperature Changes

QuickCool® is a custom engineered insulation blanket that increases energy efficiency by trapping heat, yet, easily opens to provide quick cool-down time. No tools are needed to remove the flap, just a simple tug of the strap saves minutes per changeover. As a result, production time and profits are increased.



QuickCool® fully enclosed to increase energy efficiency during high-temperature process job.



QuickCool® folds open to allow temperature to drop during process change.

Throw Blankets

Throw Blankets are unique removable, reusable insulation blankets, properly functioning at temperatures up to 1500°F. The characteristic simplicity of the Throw Blanket is ideal for routine use.

Throw Blankets can be utilized in an array of tasks: from preheating dies to the draping of extruders, melt pipes, and injection barrels.

Throw Blankets are lightweight, modular, and easy to maneuver. Draping or magnetizing Throw Blankets to an object or application is virtually limitless.

Simply measure the area of the desired application and choose from our four standard sizes:

Length: 12" and 24"

Width: 12", 24", 36", and 48"

Throw Blankets are manufactured with or without magnets, to better suit your requirements for placement, protection, and energy efficiency.

Benefits

- » Draping or magnetizing is quick and easy
- » Functions up to 1500°F
- » Lightweight and portable



Warning: magnets are not to be used around electrical connections!

Payback & ROI

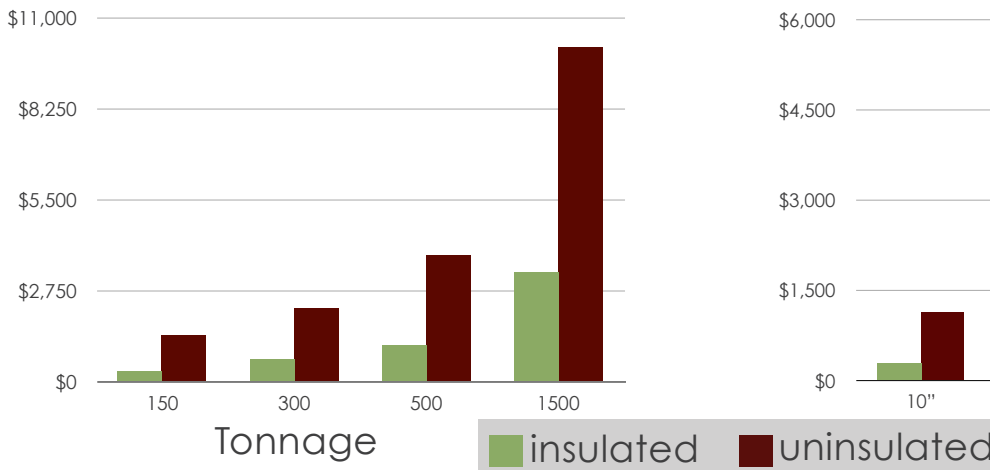
Injection Molding Barrel Estimated Return on Investment

Tonnage	Estimated Initial Investment	KWh Uninsulated	KWh Insulated	Payback Period (Months)	3 Year Savings
150	\$300	1.52	0.52	8.54	\$1,391.81
300	\$660	3.00	2.05	10.69	\$2,223.72
500	\$1,100.00	7.65	6.02	10.38	\$3,815.28
850	\$1,870.00	9.33	6.79	11.32	\$5,945.04
1000	\$2,200.00	11.35	8.12	10.48	\$7,560.00
1500	\$3,300.00	13.54	9.22	11.75	\$10,111.32

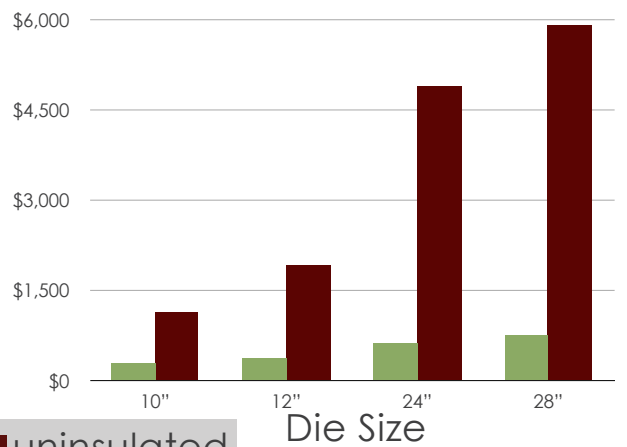
Blown Film Die Estimated Return on Investment

Die Size	Estimated Initial Investment	KWh Uninsulated	KWh Insulated	Payback Period (Months)	3 Year Savings
4 in	\$220	5.21	1.67	11.33	\$733
10 in	\$293	19.95	6.38	9.25	\$1,140
12 in	\$365	33.41	10.69	6.88	\$1,908
24 in	\$623	85.56	27.38	4.58	\$4,887
28 in	\$752	103.42	33.09	4.58	\$5,907

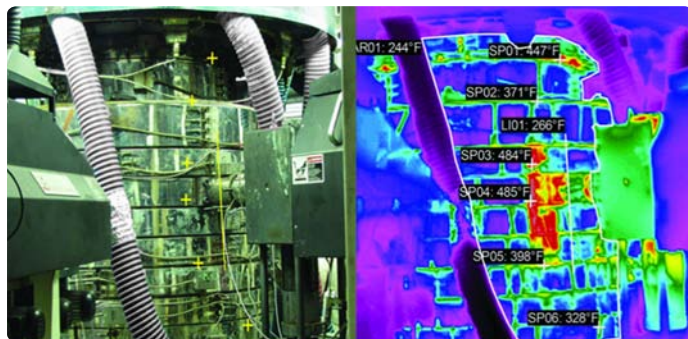
Barrel Insulation 3 Yr Cost Comparison



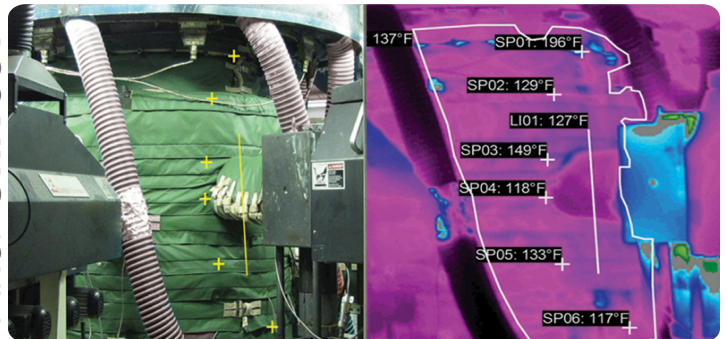
Die Insulation 3 Yr Cost Comparison



Before UniVest



After UniVest



Drool Protection

Injection molding machines will eventually extrude plastic drool, or “blow back,” despite routine maintenance and equipment inspections. Plastic drool will extend periods of downtime for cleanup or increase significant damage to equipment.



DroolShield® by UniTherm provides a simple solution for protecting heater bands, wiring, and insulation from the damaging and costly effects of drool blow back. DroolShields® are adjustable to fit any machine and install within seconds, with no downtime or equipment modification necessary.

DroolShields® are suitable for a clean-room environment and PTFE coated to allow easy clean-up. Constructed from sturdy Air Craft Aluminum, DroolShields® withstand temperatures up to 700°F (370°C), making them a reusable, long-term solution for blowback at an affordable price. Protect your investments today with DroolShield® by UniTherm.

Benefits

- » Simple & quick installation
- » Protects equipment, heater bands, wiring, and insulation
- » Adjustable for any nozzle size
- » Easy clean-up
- » Avoid downtime for cleaning
- » High temperature resistant



Dryer Hose Insulation

ThermaSleeve dryer hose insulation is custom manufactured to insulate silicone dryer lines. ThermaSleeve lowers heat loss and conserves energy. Insulating material dryer lines with ThermaSleeve allows a drying system to run up to 50% more efficiently.

Benefits

- » Provides personnel protection
- » Reduces heat loss
- » Decreases ambient air temperature
- » Improves energy efficiency

Design Components

- » 1.5"-2" of insulation
- » Hook and loop enclosure flaps
- » Non-stick exterior

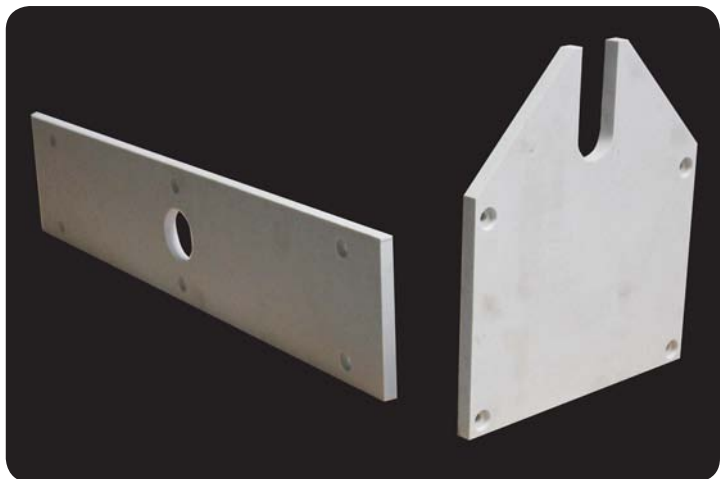


Rigid Board Insulation

Board insulation is high compression, high temperature efficient, and offers molders insulation between head molds and platens. Rigid board is an asbestos-free, durable solution that immediately reduces heat loss and increases process efficiency. Rigid board aids in the regulation of temperature control throughout the extrusion process. The platen plate is concealed, insulating while plastic is extruded into a mold or form.

Benefits

- » High heat/compressive strength
- » Low thermal conductivity
- » Oil and moisture resistant
- » Faster mold startup
- » In-house design & development



Respected Oklahoma Plastics Plant Saves 5% of Total Energy Consumption



Company Background

A plastics manufacturer for more than 40 years, this industry veteran began with a simple vision: to become the leading packaging manufacturer in the U.S. The manufacturer has grown to include four divisions, and its Oklahoma facility is a Flexible Films plant with over 20 blown and cast film lines.

Energy Objective

A Pryor, Oklahoma facility wanted to reduce energy consumption and the ambient air temperature near their equipment.

Solutions

Their maintenance manager turned to UniTherm Insulation Systems to insulate blown film dies and extruders for their 23 lines.

Success

The facility has seen a 5% reduction in electricity consumption, and also enjoys a 15-degree ambient air temperature reduction in the areas near machines.

One heat zone of bare metal pipe was drawing 5.4amps before insulation. After UniTherm Insulation Systems were installed, the amp draw was 2.2amps. This translates to \$500 a year in savings for a single heat zone.

“I have found that the blankets are very durable, easily removed and reinstalled when access to insulated equipment is needed. In the rare instance that a replacement blanket is needed, just supply the part number of the blanket to UniTherm and they will take care of the rest. The people at UniTherm have been very good to work with and willing to meet our needs.”

**Maintenance Manager
Plastics Manufacturer
Pryor, OK**



UNITHERM
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