

SIMPLE SAVER SYSTEM®

US PATENT #4446664, #4573298, #5901518 AND #5953875



Trade Show Pavilion



Fire Department



Indoor Hockey Arena

A MULTI-PURPOSE SYSTEM THAT PERFORMS ALL THESE FUNCTIONS:

- ➔ Saves Energy
- ➔ Insulates
- ➔ Finishes
- ➔ Absorbs Sound
- ➔ Brightens Interiors
- ➔ Prevents Condensation
- ➔ Extends Life
- ➔ Improves Jobsite Safety
- ➔ **Free OSHA Fall Protection**

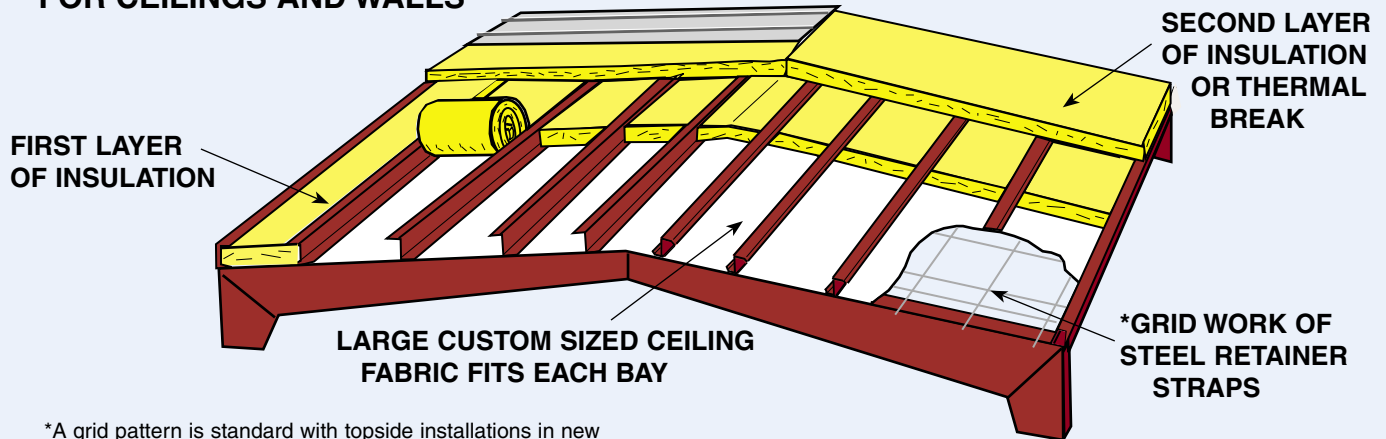
“Much More Than Just An Insulation System”

Best Design, Best Performance, Most Specified!

Over 30,000 Installations Since 1983

Simple Saver System[®] — “Much more than just insulation!”

FOR CEILINGS AND WALLS



*A grid pattern is standard with topside installations in new buildings. Retrofit strap pattern is single direction as standard, however optional grid available for small additional cost.

SUPERIOR INSULATION SYSTEM

The Simple Saver System yields full designed insulation values without compression or voids common with other methods. Insulation is considered within specification with +/- 10% of the R-value. The Simple Saver System creates the uniform depth space needed for full specified insulation thickness. Properly sealed ceiling and wall systems prevent air infiltration and isolate the conductive steel structure from the conditioned space. The Simple Saver System provides both low U-values and low emissivity values stopping over 90% of all three types of heat transfer.

ENGINEERED STRENGTH FOR SAFETY

The Simple Saver Roof Liner system is engineered to be strong and durable for job site safety and has OSHA acceptance as a patented fall arrest system. With puncture resistance of 300+ Beach Units, it withstands the rigors of installation and provides workers beneath with protection from falling objects. The liner then permanently supports the insulation. This limits the liability of owners, designers and contractors (Standard 29 CFR Definitions—1926.751 "Controlling Contractor"). **The fall protection benefits are FREE, but only with the legitimate, patented Simple Saver System.**

EXCELLENT FIRE SAFETY RATING

The vapor retarder liner fabric of the standard Simple Saver System is self-extinguishing and complies with ASTM 1136-03a, Types I through VI; flame spread 25 or less; smoke developed 50 or less per ASTM E-84 (equivalent to NFPA 255, UBC 41-1, ANSI 2.5 or UL/ULC 723). Special order or modified products are tested only upon order by the purchaser.

ABSORBS SOUND

Provides excellent yet inexpensive acoustic finishes where conventional suspended ceilings are not appropriate or not in the budget. Standard system has 75% sound absorption (NRC 0.75). Sound attenuation or STC rating is 35 to 45 decibels in an assembly. **This superb by-product of the Simple Saver System comes free with the system.** Excellent for gymnasiums, arenas, manufacturing, etc.

FINISHES AND DECORATES

The Simple Saver System with its free, bright white appearance is most often used as an exposed interior finish in metal buildings. Various colors and strap patterns may be specified to obtain unique aesthetic appearances. Purlins and girts are hidden, eliminating the cost to paint them. The ceiling and wall surfaces are washable and easy to maintain.

The Simple Saver System is often used above conventional suspended ceilings to keep insulation in one homogenous layer. Insulation lying on top of suspended ceilings voids the ceiling fire rating and the insulation R-value. The Simple Saver System creates clear space above suspended ceilings and allows easy access to duct work, electrical wiring, computer wiring or light fixtures without interference of insulation.

BRIGHTENS INTERIORS

The bright white, light reflective surface enhances efficiency of the lighting system, requiring only about 70% of the number of fixtures, a 30% savings. Light reflectance tests of 85% are achieved. Savings of lighting equipment, wiring and the perpetual electricity savings result in significant dollar savings for the building owner or user. **Low ultraviolet producing light sources or UV filtered lenses are recommended to prevent UV degradation of the polymer plastic liner fabric coatings. Only use such bulbs or filters.**

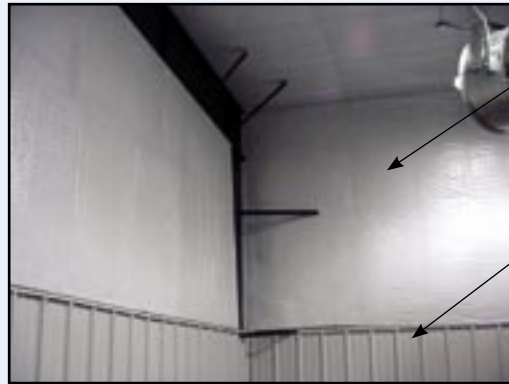
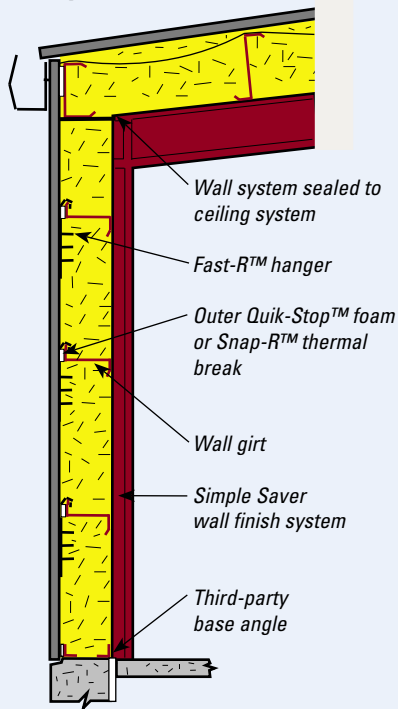
HELPS PREVENT CONDENSATION

The high strength Simple Saver liner fabric isolates the cold conductive purlin and girt surfaces from the inside conditioned air. The Simple Saver System is designed to reduce exposed conductive purlin and girt surface area from over 50% of the actual roof/wall area to a fraction of less than one percent. Water vapor transmission rate (perm rating) is less than 0.02 grains per hour for the standard system. Factory-made, double extrusion welded seams preserve the very low vapor permeance and vapor barrier integrity as opposed to thousands of staple holes and hidden, unsealed lapped joints common with laminated products.

THE SIMPLE SAVER SYSTEM LOWERS THE NET COST OF OWNERSHIP!

Simple Saver System[®] New Wall Insulation and Finishing System

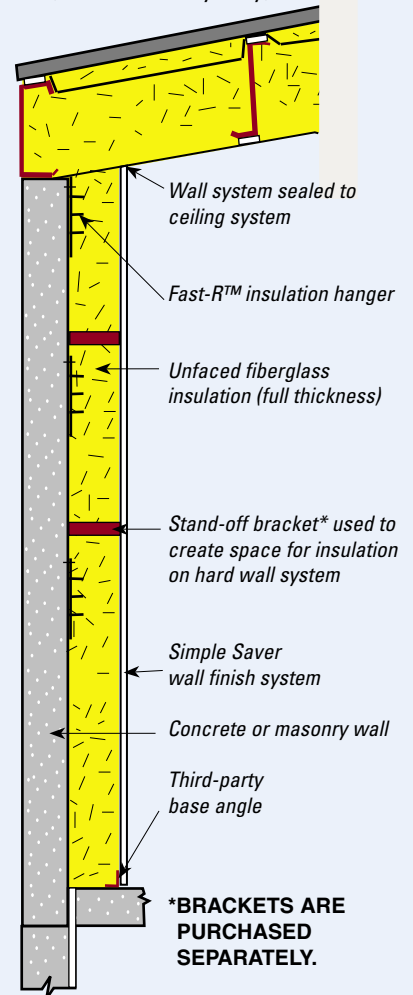
Typical Metal Panel Wall System Shown Below



Simple Saver Wall Finish system with R-25 insulation and white liner system. The Simple Saver System conceals dust-collecting girts.

Optional third-party steel wall liner panels protect bottom eight feet of system.

Concrete Wall System Shown Below (conditions may vary)



Thermal efficiency of the building envelope includes the wall area. The Simple Saver System installs in many wall structures to make the complete building envelope energy efficient at a very low installed cost.

Thermal Design's Quik-Stop™ foam thermal breaks are recommended between metal wall panels and the metal structure with a Single Layer System to minimize thermal conduction. Wall panel laps and flashing should be caulked to prevent air infiltration into the insulation cavity.

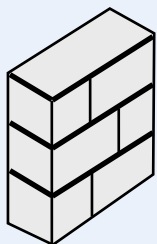
The Single Layer Systems help speed the wall sheathing process. Wall insulation is installed completely from the inside, out of the wind and weather without compression. The insulation cavity is completely isolated from the inside air by the liner fabric.

Single Layer Systems prevent bulging and dimpling of metal wall panels common with laminated insulation compressed between the panels and sub-structure. Insulation thickness used should equal the girt depth. A thick single layer of insulation is preferred to two layers in walls. Filling the cavity is recommended!

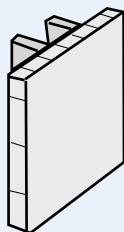
AVAILABLE WALL SYSTEMS

Total 'R'	Insulation Thickness
R-10	3"
R-11	3 1/2"
R-13	4"
R-19	6"
R-25	8"
R-30	9 1/2"

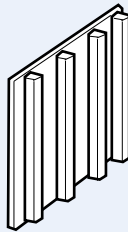
High density fiberglass batts also available for higher R-values.



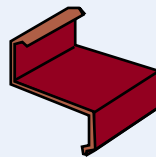
MASONRY



PRECAST



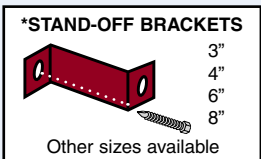
STUD



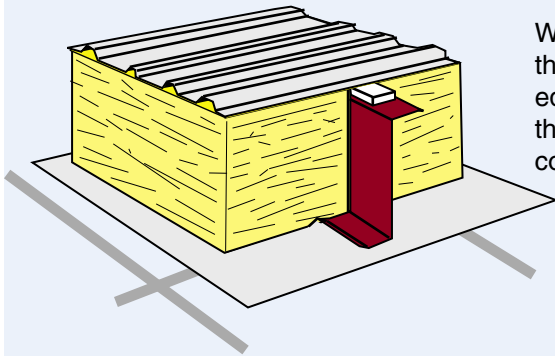
METAL GIRT

Common structures in which the Simple Saver System[®] may be installed.

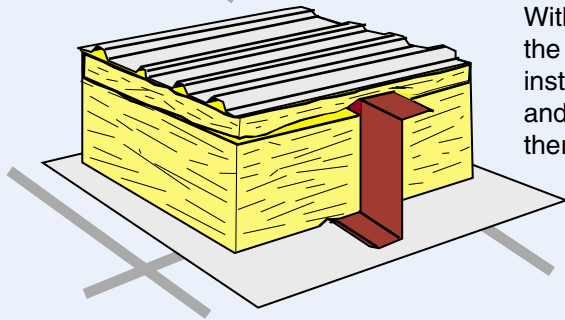
Insulation Pays...in the Roof and Walls!



Simple Saver System® New Roof Insulation and Finishing System



With Single Layer Systems, thermal breaks are recommended between roof panels and the structure to reduce thermal conduction.



With Double Layer Systems, the upper layer of fiberglass is installed between roof panels and the structure to reduce thermal conduction.

Simple Saver Roof Systems (nominal thickness in inches)		
Total 'R'	Lower Layer	Upper Layer
R-19	6	-
R-20	3	3
R-22	3 1/2	3 1/2
R-25	8	-
R-26	4	4
R-29	6	3
R-30	9 1/2	-
R-30	6	3 1/2
R-32	6	4
R-35	8	3
R-36	8	3 1/2
R-38	8	4
R-40	9 1/2	3
R-43	9 1/2	4

Other R-values available upon request.
Call 800-255-0776

Filling Purlin Cavities Recommended for Best Performance



Ideal for use above Suspended Ceilings

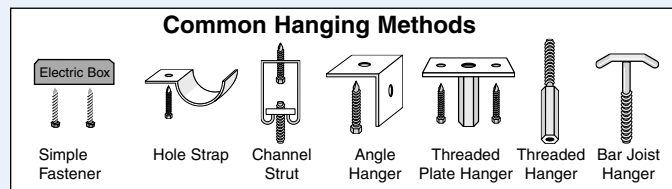
All thermal insulation can be placed in the purlin cavities, eliminating the need for a "split system." ASHRAE 90.1 excludes ceiling insulation from roof insulation as it is ineffective for thermal performance and can lead to attic condensation problems. Placing insulation on ceiling panels also voids fire rating of the ceiling system. The Simple Saver System solves these problems by retaining all insulation in the purlin spaces. A clean, open attic area allows easy access to mechanical equipment, wiring installations and future maintenance without disturbing the insulation.

Common Hangers Preserve The Vapor Barrier

The Simple Saver System solves the common problem of condensation forming on exposed purlins. With our system the purlins are isolated by the vapor barrier fabric yet are still accessible for easy attachment of common items. Standard attachment methods and hangers shown below preserve the highest vapor barrier integrity without need to cut the vapor barrier fabric. These hangers are available locally and from Thermal Design to assure optimum vapor control.

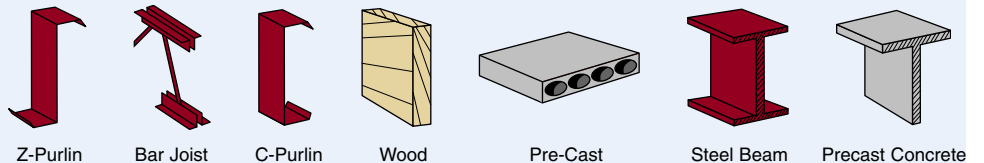


Example of things properly fastened to ceiling.



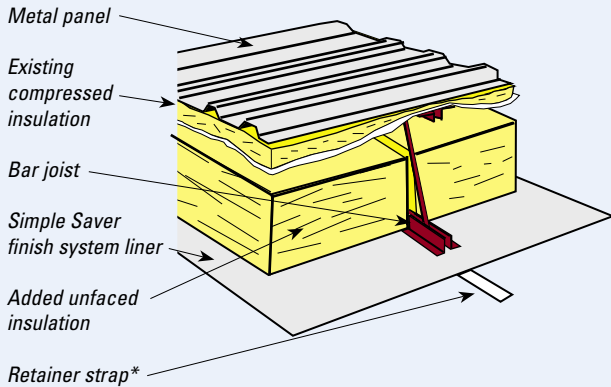
These are some of many common hangers that can be used with the Simple Saver System without cutting the vapor barrier fabric. Virtually anything can be attached to the underside of the purlins with negligible effect on the vapor barrier quality. Call Thermal Design for recommended application on any project.

Common Structures In Which The Simple Saver System® May Be Installed.



Retrofit with Simple Saver Systems®

Insulation and Finishing Systems for Ceilings and Walls



- Lowers Energy Costs by 50% or More
- Improves Interior Appearance
- Increases Light Levels with White Liner System
- Helps Prevent Condensation
- Increases Thermal Efficiency
- Creates Quiet Interiors with Acoustic Absorption
- Prevents Corrosion and Extends Roof Life
- Seals Off Dust-Collecting Structure
- Lowers Maintenance Costs

Installs Easily in Bar Joists, Metal Buildings and Many other Ceiling or Wall Structures

Retrofit Systems	
R-Value of Added Insulation Subject to Space Available	
Added R-Value	Insulation Thickness (inches)
R-10	3
R-11	3 1/2
R-13	4
R-19	6
R-25	8
R-30	9 1/2

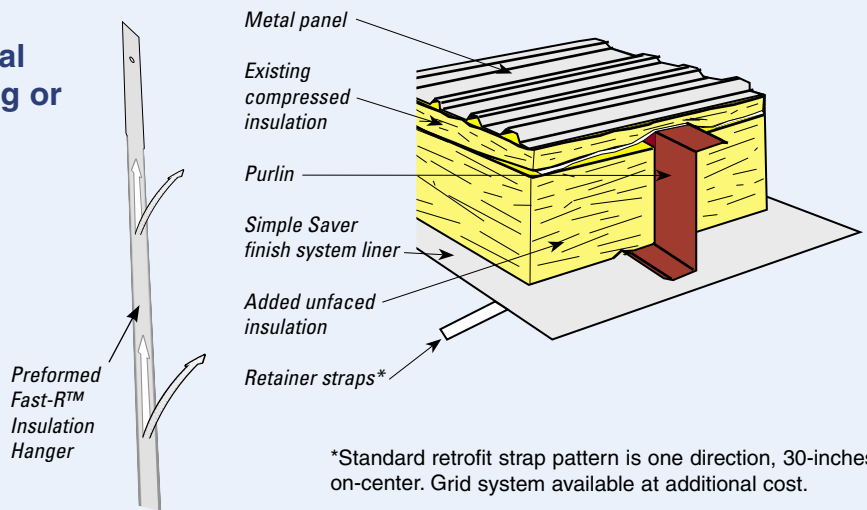
The values shown above are the values obtained by the added Simple Saver System insulation. For a total insulation value add the R-value of the retro-fit insulation system above to the R-value of the existing insulation below.

R-Value of Existing Insulation Installed in Compressed Manner	
R-Value	Insulation Thickness (inches)
R-5.0	1 1/2
R-7.2	3
R-8.3	4
R-10.0	6

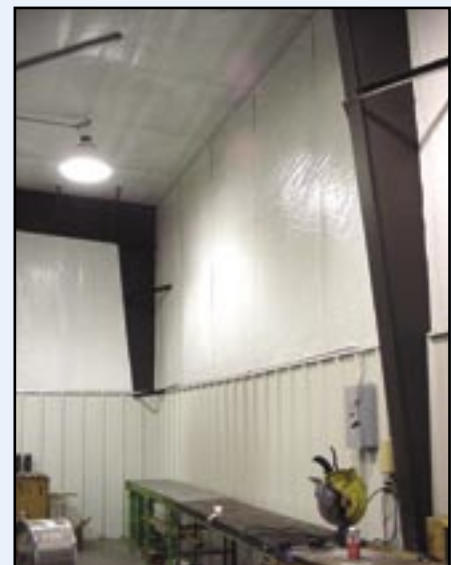
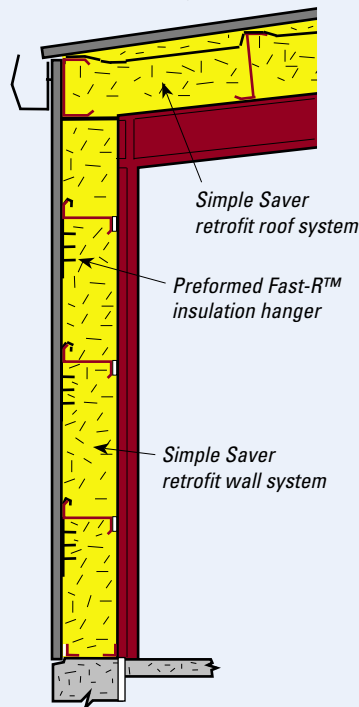
Thermal breaks are recommended on the interior of the purlins/girts if no insulation exists between the conductive metal panels and the metal structure.



Snap-R thermal block Quik-Stop thermal block



*Standard retrofit strap pattern is one direction, 30-inches on-center. Grid system available at additional cost.



The Simple Saver System liner installed over R-25 wall insulation. Filling typical wall cavity is recommended.

**HIGH QUALITY AND FAST ECONOMIC PAY BACK
MAKE THE SIMPLE SAVER SYSTEM® THE BEST RETROFIT SYSTEM.**

Retrofit with the Best...



BEFORE

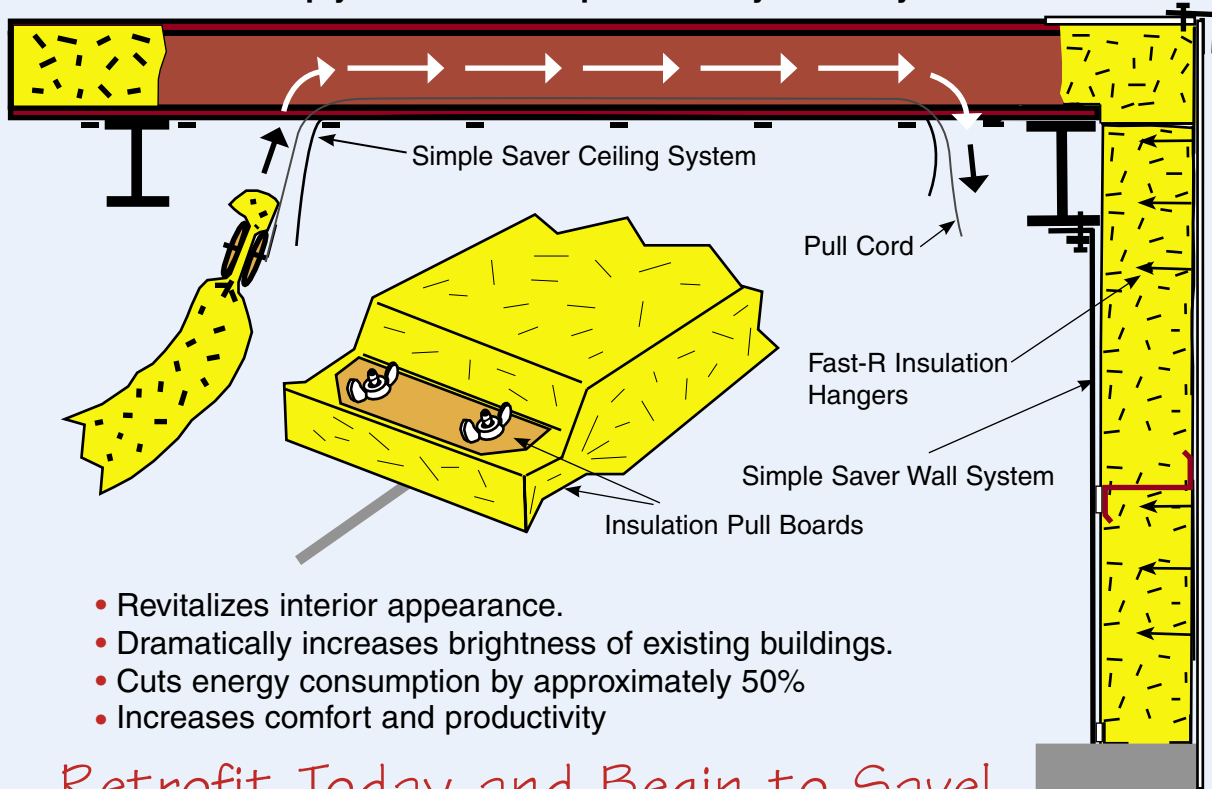
The building has an unfinished appearance and structure is exposed to the conditioned air. Heat escapes in the winter through the purlins and radiates into the building during the summer. The vapor barrier faced insulation is compressed over the purlins. The tops of the purlins are seasonally below the dew point which leads to condensation, corrosion and shortened roof life. Poorly sealed seams have opened up and the vapor retarder facing has cracked and ripped, allowing moisture to reach the conductive metal roof panels. Compressed insulation results in poor thermal and acoustical performance. The exposed structure absorbs light and casts shadows requiring unnecessary lighting.

AFTER

Purlins are covered by the high strength ceiling liner system and encapsulated by the insulation. The ceiling has excellent light reflectivity and dispersion. The vapor barrier is properly placed on the interior of the purlins to prevent condensation and corrosion which extends the life of the roof. Added insulation greatly increases thermal performance and acoustic absorption. The vapor barrier is of high strength fabric that holds up to the abuse inside this gymnasium. A 50% reduction in energy usage is not uncommon by retrofitting with the Simple Saver System.



Insulation simply feeds into the purlin cavity or it may be blown full!



- Revitalizes interior appearance.
- Dramatically increases brightness of existing buildings.
- Cuts energy consumption by approximately 50%
- Increases comfort and productivity

Retrofit Today and Begin to Save!

Many Buildings and Uses...One Insulation System



Manufacturing Facility



Printing Facility



Tennis Facility



Fire Station

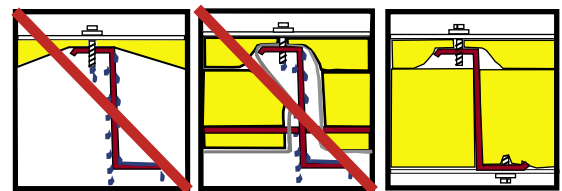
COMMON USES

The **Simple Saver Systems** are ideal for use in buildings of all types for finishing and insulating, thermally and acoustically. Some minor wrinkles may be visible due to the large pieces of support fabric used. Systems are commonly used in:

- Schools
- Offices
- Bus Barns
- Arenas
- Gymnasiums
- Warehouses
- Retail Stores
- Fire Halls
- Repair Shops
- Cold Storage Structures
- Indoor Tennis Facilities
- Aircraft Hangars
- Indoor Skating Rinks
- Manufacturing Plants
- Agricultural Structures
- Prison Facilities, etc.

The Simple Saver liner fabric is over 300% stronger than competitive metal building facing (VRP). The Simple Saver System eliminates virtually all intermediate field seams. Older methods using stapled or lapped joints typically have poor strength and poor vapor barrier integrity.

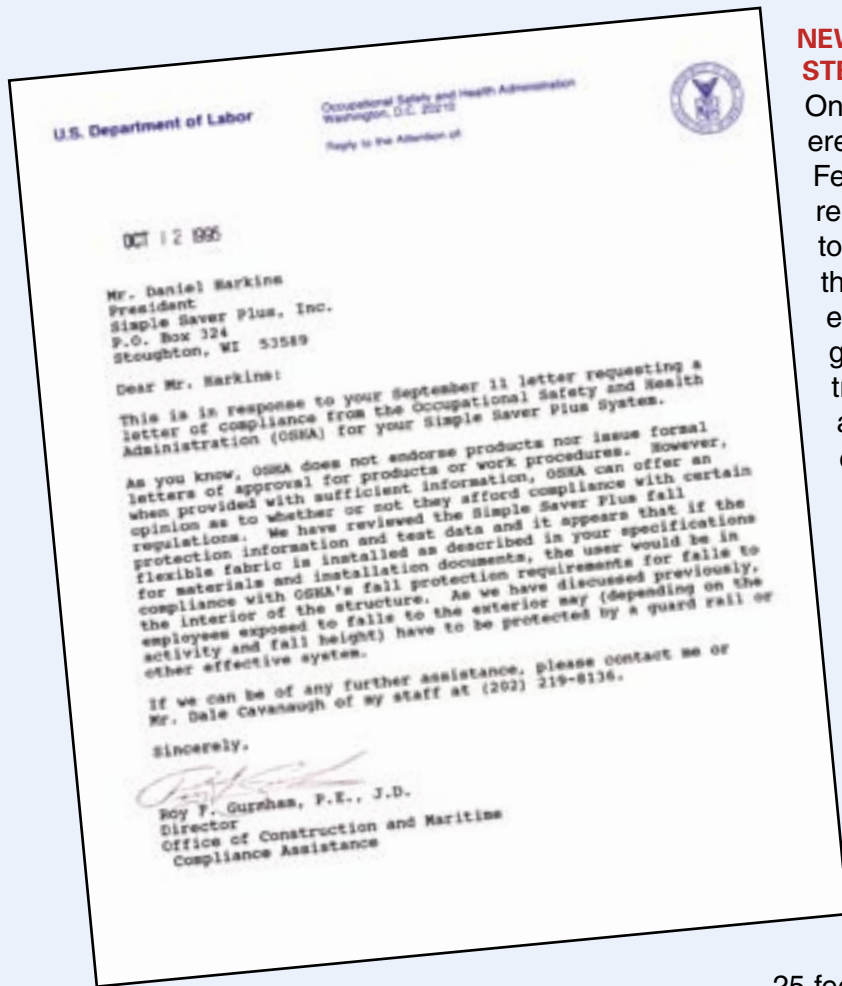
INSIST ON THE PATENTED STATE-OF-THE-ART SIMPLE SAVER SYSTEMS FOR INSULATING AND FINISHING YOUR BUILDINGS



- | OBSOLETE METHOD NO.1 | OBSOLETE METHOD NO.2 | SIMPLE SAVER SYSTEM |
|------------------------------------|------------------------------------|---------------------------------|
| *Severely Compressed Insulation | *Compressed Insulation | *Full Thickness Insulation |
| *Defective Vapor Barrier Placement | *Defective Vapor Barrier Placement | *Proper Vapor Barrier Placement |
| *Exposed Conductive Structure | *Voids in insulation | *Purlins Fully Encapsulated |
| *Unfinished Appearance | *Exposed Conductive Structure | *Finished Appearance |
| *Poorly Sealed Seams | *Unfinished Appearance | *Extrusion Welded Seams |
| | *Poorly Sealed Seams | |

SUPERIOR BUILDINGS AT NET LOWER COSTS!

OSHA Accepted Fall Protection



NEW OSHA STEEL ERECTION STANDARD

On January 18 of 2001, the new steel erection standard was published in the Federal Register. The new standard requires full fall protection for steel erectors and insulators at heights greater than 15 feet. This new rule became effective July 17th 2001.(www.osha.gov). Owners, architects and upline contractors are now also liable for compliance of workers on projects under their control (Standard 29 CFR Definitions—1926.751 "Controlling Contractor"). The Federal Registry, Vol. 66 No. 12 states that "*A controlling contractor is an entity that has general supervisory authority over the worksite such that it can correct safety and health violations itself or have others correct them. So, an owner, project architect or any other entity that has this authority would be considered a controlling contractor.*"

In the past, steel erectors and insulators were exempt on buildings of 25 feet or less. The new rule requires full fall protection greater than 15 feet in height. The consequence is that most buildings are no longer exempt from fall protection compliance. Workers will now be required to be tied off or use alternative means of fall protection. This will result in a significant loss of productivity.

THE SIMPLE SAVER SOLUTION...CALL 800-255-0776 TODAY!

Thermal Design offers free OSHA-accepted fall protection with the Simple Saver insulation system for new pre-engineered metal buildings. Thermal Design has tested this system as instructed by OSHA. The system passes this stringent test earning the OSHA letter of acceptance.

PATENTED FALL PROTECTION

Once the liner system is installed from lifts, the workman are safe to work from above without the need to be restrained by cumbersome lanyards. Effective January 1st of 2001, Thermal Design added the patented fall protection as a **FREE** standard feature of the Simple Saver System at no additional cost. The best insulation system for metal buildings is now even better! It is also the safest! Reduce your liability...Call 800-255-0776 for specifications and other information or visit our website at www.thermaldesign.com.



FREE FALL PROTECTION ONLY WITH THE SIMPLE SAVER SYSTEM!

SIMPLE SAVER INSTALLATION SEQUENCE



Large custom-sized ceiling fabric installs quickly on structural steel strap network.



Bay of ceiling fabric positioned on strap network and fastened to overlying structure.



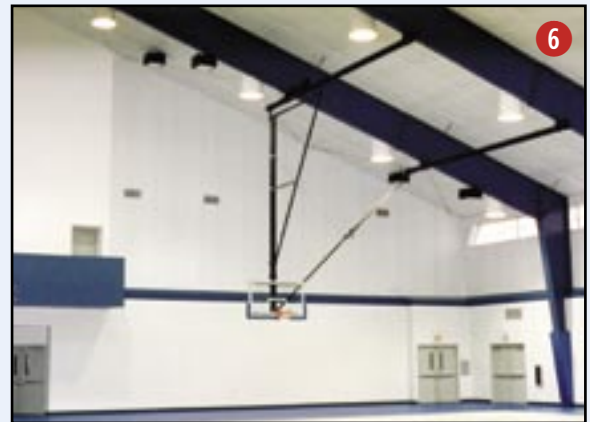
Ceiling fabric adhered to rafter for a sealed vapor retarder.



Additional layer of insulation or thermal break placed over purlins.



Full thickness insulation placed on wall and ceiling system.

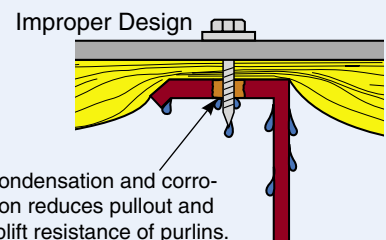


Finished ceiling system in school gymnasium.

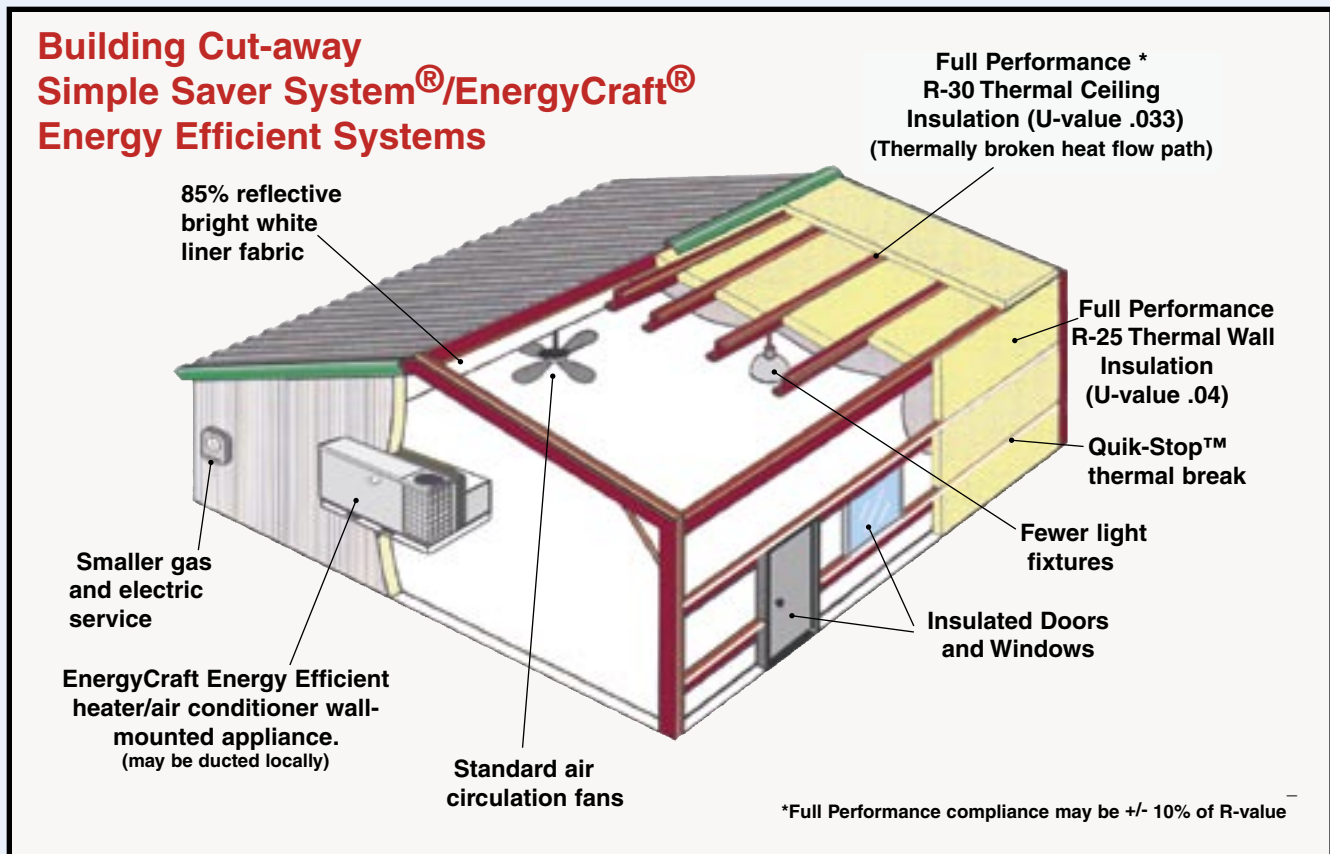
CAUTION! IMPROPER VAPOR RETARDER PLACEMENT CAUSES ROOF SYSTEM FAILURE

THE SIMPLE SAVER EXTENDS ROOF LIFE WITH PROPER PLACEMENT

The Brookhaven National Laboratory, Dept. of Applied Science Publication #52134, Metal Buildings Study: Performance of Materials and Field Validation, states that: **“A strong recommendation is addressed to contractors. Stapled vapor retarders and the associated humidity problems significantly lower the longevity of a building and should be avoided at all cost.”**



Save Energy with the Best...



MUCH MORE THAN INSULATION...

- Insulates
- Finishes
- Absorbs Sound
- Saves Energy
- Increases Comfort
- Reduces Utilities
- Prevents Condensation
- Raises Productivity
- Brightens Interiors
- OSHA Fall Protection
- Saves Time
- Washable
- Custom-sized
- Jobsite Safety
- Reduces Liability

WHY RISK SERIOUS INJURY OR DEATH...

Insist on Simple Saver and EnergyCraft Systems to create the most energy efficient metal building possible. Only these systems by Thermal Design are designed to work together to provide proven, tested and OSHA accepted results for your projects. The Simple Saver System methods and structures are covered by United States Patents until 2016. Don't be misled by those offering unapproved materials to practice our patented systems without proper license. Quality fabrication, quality materials, and proper installation must be controlled as people's lives depend on it! A legitimate Simple Saver System provides quality controlled materials and fabrication, project detail drawings, specific installation instructions (written and video), optional installation training and project inspection services. The Simple Saver System is designed to give you fall protection, true in-place R-values, full insulation thickness and excellent performance. **There is more to the success of these systems than the material cost!** Call today 800-255-0776 for *free* quotes and additional information.

We have experience with over 30,000 buildings nationwide!

EnergyCraft

by Thermal Design
**Metal Building Heater &
Air Conditioning Appliances**

Super 92% high efficiency heater
Super 10 SEER rated air conditioner
No license normally required for installation
Units designed as appliances for fast installation

The cost effective way to heat a building!

EnergyCraft heaters are pre-fabricated **Ready-to-Run** appliances that simply mount in-place and operate when utilities are connected. These heaters are designed and sized to work with energy efficient buildings using the Simple Saver System®. Thermal Design will size the units for each project and provide a quotation for the recommended installation. Thermal Design will guarantee the sizing of the units for the quoted parameters or will provide a solution. Superior insulation performance results in significant reductions in heating equipment. The equipment savings usually pay for the difference to use the superior Simple Saver System insulation system.



EnergyCraft Heating Appliance

EnergyCraft appliances are also available in combination heating/cooling functions. These **Ready-to-Run** appliances simply need to be connected to utilities to operate. This saves significant installation costs.

These EnergyCraft appliances are great for temporary heat and then become the permanent heating and cooling appliances. A thermostat and cord with plug are supplied. A framed opening must be provided by the contractor. The EnergyCraft appliances along with the Simple Saver insulation system create a super efficient energy package. Call 800-255-0776 today for FREE quotes or information. Estimated energy savings calculations are available on any project!



EnergyCraft Heating/Cooling Appliance

The efficient way to cool a building!

Call today for FREE information on the TOTAL ENERGY PACKAGE which includes

EnergyCraft

METAL BUILDING HEATERS/AIR CONDITIONERS

**Ceiling Fans · Exhaust Fans ·
Intake Louvers · Ventilation Systems**

5 Year Parts Guarantee
PLUS a lifetime heat exchanger warranty!

GUARANTEES, WARRANTIES AND NOTICES

Guarantee: Thermal Design, Inc. will guarantee to the building owner/user that the thermal performance of a Simple Saver System will perform at the specified insulation level when properly installed at specified thickness and sealed against air and water vapor infiltration. Thermal Design shall, at its option, correct any deficiencies of thermal performance or credit to the owner/user the percentage of the insulation system material cost equal to the percentage of any deficiency.

Limitation of Material Warranty: The Simple Saver System, its owners, licensees and distributors have no control over site conditions or its suitability for any particular purpose. Therefore, the Simple Saver System, its owners, licensees and distributors do not warrant the performance, merchantability or fitness for any particular purpose of any part of or complete installation containing the Simple Saver System or products. There are no other expressed or implied warranties that extend beyond this limitation. The buyers remedies shall be limited to the repair or resupply of a like quantity of non-defective product or the value thereof. The company shall not be held responsible for consequential or liquidated damages. The seller limits its liability to the cost of materials furnished to the buyer. Installation costs are excluded.

Notices: All customers will be charged Nebraska sales tax on all products unless sales and use tax certificates are provided. Point of sale and venue for all claims shall be Madison County, Nebraska. Any material not specifically included on a quotation is excluded although additional materials may be provided solely at the discretion of Thermal Design.

Unauthorized making, using or selling of this patented technology or trademarks or service marks shall be each subject to a minimum royalty of ten dollars per square foot of surface insulated from such unauthorized acts. Sellers of any component with the knowledge or intent that such component is to be used to evade the purchase of legitimate materials from authorized sources shall be held liable as contributory infringers and otherwise as lawful. All costs of collection, including legal fees and costs, shall be sought as damages for unauthorized infringement.

The EnergyCraft units are factory run tested. Minor adjustment may have to be made on site. Installation of these appliances and framing kits normally do not require a license. Installation of gas piping and electric power to the appli-

ance receptacles should be done by a qualified licensed installer. See Goodman manufacturing warranty documents for limitations and exclusions pertaining to the HVAC products. All sales are subject to the limitations and conditions set forth in those documents as well as the contract of sale.

Simple Saver System is not designed or intended to be walked or stood upon. Any such use will void the fall protection certification. The fall protection feature is strictly for accidental falls while insulating and roofing.

To obtain a project fall protection certificate, all system materials must be purchased from an authorized distributor of Thermal Design, Inc. The erectors/installers will be required to thoroughly read the installation instructions and sign the form provided that he has read, understands and agrees to install the Simple Saver System in accordance with the instructions. A copy of the signed form must be received by Thermal Design, Inc. along with a current erector/installer insurance certificate listing Thermal Design a certificate holder and show required coverages of liability, property damage and workman's compensation coverage for the project. The primary limits of the insurance coverage shall be those already provided by the erector/installer to cover his workmen and liability. The secondary limits shall be that liability coverage carried by Thermal Design.

Safety lines along the rafters and a safety harness with shock absorbing lanyards must be used while installing the Simple Saver liner system for top-side workmen. A safety harness with lanyard in combination with a suitable lift must be used by bottom-side workmen when installing the Simple Saver liner system. Once the Simple Saver System liner is properly installed in the affected building roof area, the through fall protection certificate will become effective for topside workmen for subsequent insulation and roof sheeting work.

The Simple Saver liner system must be completely installed in each affected building area prior to reliance on the system as an alternative means of fall protection for that area. Only one installation of the Simple Saver Systems materials will be allowed per certificate. A copy of the installation instructions and the "Certificate of Alternative Fall Protection" signed by the erector/installer must be prominently posted at the job site as notice to all contractors, workmen and inspectors. Perimeter protection must be provided by guard-rail or other effective system per OSHA regulations.



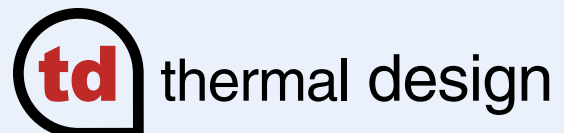
As an Energy Star® Partner, Thermal Design has determined that this product meets the Energy Star® guidelines for energy efficiency.

Heater Limited
5 Year Warranty
All parts • All products

Every part in every unit guaranteed for at least 5 years, subject to the conditions and exclusions described in Goodman product warranty. Heat exchangers have a lifetime limited warranty. This is the strongest warranty in the industry and shows our commitment to deliver you the highest possible quality.

THERMAL DESIGN
America's Leading Thermal System Technology
P.O. Box 468
Madison, NE 68748
Phone: 402-454-6591
Fax: 402-454-2708
1-800-255-0776
www.thermaldesign.com

**CALL TODAY FOR FREE
INFORMATION & ANALYSIS**



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