TRUPROTECT™

MULTI-LAYER HIGHLY ENERGY EFFICIENT REFLECTIVE SHEETING

SAVE $$$$

PROTECTION FROM

HEAT
COLD
RF/EMI
SOUND
HAIL
FIRE

www.truprotect.com

TruProtect™ is a patented product that brings it all together: EMI/RFI shielding, insulation, radiant barrier, sound reduction, fire retardant, hail damage reduction -- all of this while being environmentally friendly.

RF Shielding				
Tested on TruProtect using conductive 5 mil Al tape front and back. All layers of Al in the panel are electrically connected. Testing preformed by	Frequency	1" TruProtect Attenuation (dB)	1/2" TruProtect Attenuation (dB)	1/4“ TruProtect Attenuation (dB)
	200 KHz, Magnetic Field	25	25	25
	200 KHz, Electrical Field	100	80	80
	1 MHz, Electrical Field	100	80	80
	10 MHz, Electrical Field	100	80	80
	80 MHz, Electrical Field	100	100	80
	400 MHz, Plane Wave	100	>90	60
	700 MHz, Plane Wave	100	100	60
	1 GHz, Plane Wave	100	100	60
	10 GHz, Plane Wave	100	100	60

Insulation	
ASTM C 1363-97: Thermal Performance Test	For 1" - R-value of 2.89 For 1/2" - R-value of 1.61 For 1/4" - R-value of 1
ASTM E903: Hemispherical Spectral Reflectance	For 1/2" - 81.5% Solar Reflectance For 1/4" - 80.4% Solar Reflectance
ASTM E408-71: Total Emittance Test	For 1/2" - .02 Emittance - .98 Reflectance For 1/4" - .03 Emittance - .97 Reflectance
Hail Damage Protection	
Tested according to UL 2218 Class 4 hail test.	Test summary indicates 50% less surface damage and 100% less structural damage using 1/2" in comparison to a roof without TruProtect.
Fire Retardant	
ASTM E84-04: Surface Burning Characteristics	Class A Fire Rating: Flame Spread Index = 25
	Class A Smoke Rating: Smoke Developed Index = 20
Noise Reduction	
ASTM E90: Sound Transmission Loss Test	For 1/2" - STC - 19; OITC - 15 For 1/4" - STC - 9; OITC - 7 For total assembly thickness 8": STC - 51; OITC - 35
NRC: Noise Reduction Coefficient	For both 1" and 1/2" - 0.6
CAC: Ceiling Attenuation Class	For 1" - 43 For 1/2" - 38
Installation	
Sizes	TruProtect Panels: 4' x 8' x 1"— 4' x 8' x 1/2"— 4' x 8' x 1/4" OSB backed TruProtect: 4' x 8' x 1" — 4' x 8'x 1/2" — 4' x 8' x 1/4" Drywall backed TruProtect: 4' x 8' x 1" — 4' x 8'x 1/2" — 4' x 8' x 1/4" Ceiling tiles: 2' x 4' x 1/2" — 2' x 2' x 1/2"
Weight	For 4' x 8' x 1/2" sheet - 17 pounds For 4’ x 8’ x 1/4" sheet - 8 pounds
Busting strength	For 4' x 8' x 1/2" sheet - 450 pounds For 4' x 8’ x 1/4" sheet - 290 pounds
Equipment required	No special safety clothing or equipment required.
Environment Friendly	
TruProtect is made of 95% recycled products. The active ingredient in the V-769 Fire Retardant is a very stable aqueous organic solution. It is non-regulated by the DOT and carries an HMIS rating of 1-0-0. Carcinogenicity: None of the components in this material are listed by IARC, NTP, or OSHA. It is listed as a non-hazardous product.	

Made in the USA

MiLyn LLC
7012 Cedar
Lubbock, Texas 79404
806-281-9698
1-877-219-5616

In several ASTM test, TruProtect has been proven to have the highest radiant/thermal barrier rating. Other material test high,but TruProtect has been given the highest rating these testing labs are allowed to give under the stringent testing protocolof ASTM. We at TruProtect were presented with a question as to how effective our product would be in walk-in coolers. We decided to test the products ourselves since there was no test designed by any of these labs to answer this question.

Dustan Harber, our plant manager, has extensive experience in building walk-in coolers. His father is in the business of building and distributing these coolers for the food service industry. Dustan built a walk-in in our factory. The dimensions were 8'x8'x6' with 2"x4" wall studs. The wall voids were filled with normal R-13 fiberglass insulation and then an outer layer of OSB and an inner layer of the same OSB. All walls were tested and any air leaks were sealed. We then installed a 10,000 BTU window air conditioner with the Cool-Bot controller. The Cool-Bot controller allows a normal window cooler to cool the room to a lower temp than normally would be allowed. Note that the inside was empty and we were cooling dead space.

We sat the cooler at 45 degrees F with the Cool-Bot for convenience and ease of record keeping. At first,we ran the cooler for 44 hours without the TruProtect sheets in place. This was to establish a data point from which to compare our TruProtect lined cooler. You can refer to the attachment and see that the inside temp was hard to maintain at a given number even though the outside temp was normal. The temperature inside the factory was really stable even though the outside temp fluctuated quite a bit. This was an aide to the cooler keeping the inside temp constant because of not having to fight extremes on the outside influencing the inside temperatures.

In the end, the cooler averaged .25 KW per hour to run and used a total of 11 KWH. Notice the inside temperature fluctuated 5 degrees during the record keeping 44 hours.

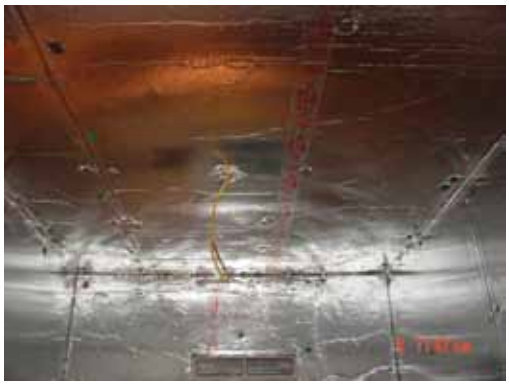
We shut the cooler down and installed the normal ½" TruProtect sheets that tested at 98 % (+/-2%) on the ASTM E903 radiant/thermal barrier test. These sheets were nailed to the OSB and all seams sealed with the seam sealing tape. Note that the door was a rubber seal door and it too had a layer of TruProtect, and the floor and ceiling did also. The window cooler was restarted and the temp again was set at 45 degrees. The initial cool down time was very short compared to the test without TruProtect. If you will notice on the attachment the following 44 hours were amazing. The inside temperature was maintained at the 45 degrees easily and without the fluctuations experienced before. The outside temp was as consistent as the test before. We never caught the compressor running after the initial cool down but only the circulating fan was running to maintain the inside temperature. At the end of the 44 hours the cooler and used 1 KWH which averages out to .023 KW per hour run. This is a 99% reduction in energy cost while maintaining a more consistent temperature. Another power point that has to be considered, if a power failure is experienced then the temperature will rise slower. This will save food from spoilage and ruin. This along with the power savings will justify installing TruProtect as a retrofit to all existing walk-in coolers and freezers. Note: After the 44 hours of 45 degrees temperature we sat the controller to 32 degrees. In 15 minutes the set temperature was reached and maintained for 2 hours again with no more compressor runtime and only the circulating fan running.

Our conclusion is that we may not be able to guarantee 99% in every situation. We can guarantee a reasonable return and reduction in the energy cost associated with walk-in coolers or freezer. The reduction in run time will also reduce maintenance cost while saving food from spoilage during power outages. We are in the process of hiring crews to do retrofitting of existing coolers or freezers.



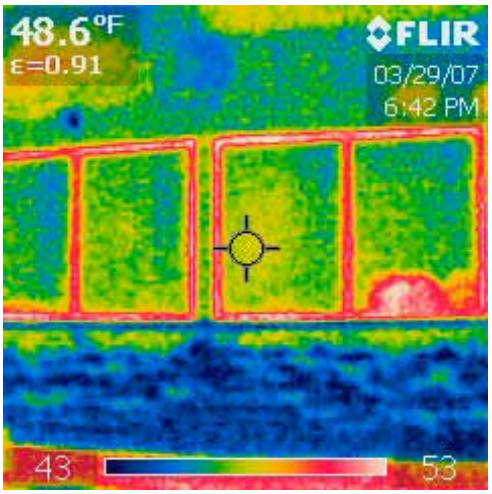







Set temperature	Time	Date	Cooler temp	Warehouse temp	Outside temp	KWH meter reading
		WITHOUT TRUPROTECT				
45	2:00 PM	30-Aug	44	89	89	663
45	8PM		42	91	90	665
45	8:00 AM	31-Aug	42	82	70	667
45	11:45 AM		39	88	83	669
45	3:15 PM		44	91	82	671
45	8AM	1-Sep	40	68	68	672
45	10AM		39	79	79	674
Total run time 44 hours using 11 KWH or .25 KWH per hour run time						
			With 1/2" TruProtect installed on all 6 sides			
45	3:00 PM	1-Sep	47	95	93	674
45	8:00 AM	2-Sep	45	79	66	674
45	11:30 AM		45	88	81	674
45	3:15 PM		45	99	96	674
45	8:00 AM	3-Sep	45	77	62	674
45	11:00 AM		45	81	67	675
Total run time is 44 hours using 1 KWH or .023 KW per hour run time						

Radiant Barrier & Insulation



Infrared photo of exterior wall pictured above shows how TruProtect helps keep warm air inside during the winter. The argon filled windows and window frames show loss of interior warm air. In the summer, TruProtect helps keep hot air out and cool air in.

TruProtect's components and their arrangement make it an amazing barrier to radiant, convective, and conductive heat transfer.

Heat always travels from warmer spaces to cooler spaces. There are three ways in which it goes from warm spaces (outside in summer, inside in winter) to cold spaces (inside in summer and outside in winter).

1. **Conduction** is the flow of heat through matter as in a hot iron applied to wrinkled clothes. In general, the more dense a substance, the better conductor it is. Air has low density and, thus, is a poor conductor of heat. TruProtect uses this fact to its advantage. With 6 "dead-air" zones, conduction of heat is reduced, providing TruProtect with an R-factor of 1.6, which is okay, but certainly not the end of the story!

2. **Convection** is the transfer of heat through a gas or a liquid. This is the reason hot air rises. The primary function of conventional, bulk insulation is to trap still air within the insulation and reduce heat transfer by air movement.

3. **Radiation** is a significant means of heat transfer and is where TruProtect really "shines." The sun's heat arrives by infrared waves traveling through space. When these rays hit an object, they either are reflected or are absorbed. Only the rays that are absorbed will produce heat. The amount of the radiation emitted depends on the emissivity of the object's surface.

   Emissivity is the rate at which radiation is given off. Common objects used in buildings such as brick and wood have emissivity rates from 80-90%, meaning it is absorbing the heat and making the building hot. The surface of TruProtect has the emissivity rate of 2%, meaning almost none of the heat is absorbed and 98% of the infrared rays are reflected and never enter the attic.

TruProtect installed on a roof will help achieve thermal comfort by hindering all three ways of heat transfer. Starting with TruProtect's outstanding radiant barrier qualities, it reduces the amount of infrared waves entering the attic. The result is that the attic remains much cooler in the summer. This makes the bulk insulation more efficient and the home cooler. The reverse works in the winter, holding warm air in. And as an added bonus, the 6 "dead-air" zones work to block conduction of heat.

Since radiant barriers reduce radiation of heat to or from the surface of the material rather than heat conducted through the material, associating R-values with radiant barriers is difficult and inappropriate. The R-value test measures heat transfer through the material, not to or from its surface. There is no universally accepted laboratory method to measure the resistance to heat flow of a multi-layer foil product.

Atlas Weathering Services Group, Phoenix, Arizona

Total Emittance measurements performed in accordance with ASTM E408-71 Method A. TruProtect tested at .98 reflectance. Near-normal emittance was calculated at .02. Hemispherical spectal reflectance measurements were performed using ASTM Standard Test Method E903. TruProtect test results showed a solar reflectance of 81.5%.

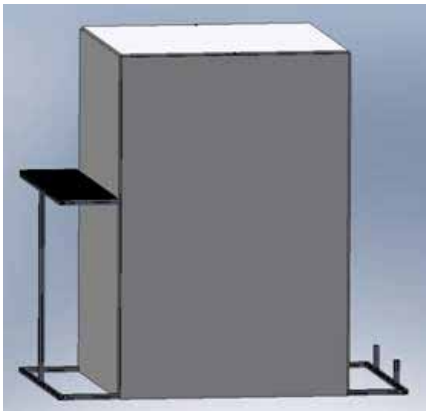
Architectural Testing, St. Paul, Minnesota

Standard test method for the thermal performance of Building assemblies by means of hot box, ASTM C 1363-97. Thermal transmittance - 0.32; Thermal conductance - 0.62; Thermal resistance 1.61; Overall thermal resistance 3.11.

RF Shielding/SCIF

Installation in boardroom for privacy

Roof installation gives significant shielding



Drawing of anechoic chamber designed and built at the University of Rhode Island. The design team chose TruProtect for the walls of the chamber because of its shielding capabilities. It also had the added bonus of being light weight, low in cost, and recyclable.

TruProtect's components and their arrangement make it an amazing barrier to radio waves.

Three layers of aluminum (0.13mm, .05mm, and .05mm) each separated by two layers of 6mm fiberboard and air spaces leads to TruProtect's high test results for RF shielding. When the 4' x 8' panels are joined with 5mil aluminum tape, TruProtect provides a light weight, sturdy solution for RF shielding.

Security is an important issue for businesses. When an information thief can steal credit card data while driving by a store, more security measures are needed. Corporations need to be assured that their proprietary information is secure from electronic eavesdroppers. Additional uses are government, military, and commercial secure facilities; EMC, RF, and wireless test laboratories; RF shield test chamber; secure conference rooms; SCIF facilities; recording studios; anechoic chambers; computer rooms; office rooms; and secure buildings.

Radio waves are electromagnetic waves occurring on the radio frequency portion of the electromagnetic spectrum. A common use is to transport information through the atmosphere without wires.

The voltage in a radio wave alternates back and forth between plus and minus many times per second. This frequency of radio wave is measured in cycles per second.

There are two types of matter in the universe that affect electromagnetic waves: conductors and insulators. When a radio wave hits a material, some of the power is reflected at the surface, and some of the power is transmitted into and possibly through the material. Power absorbed in or blocked by an insulator (dielectric) is called the Attenuation Coefficient of the material. The higher the Attenuation Coefficient, the more efficient blockage of radio waves, with 100 indicating a complete blockage.

Electromagnetic radiation consists of coupled electric and magnetic fields. With the use of an RF shield, the result is that electromagnetic radiation is reflected from the surface of the conductor: internal fields stay inside, and external fields stay outside.

Electromagnetic energy is an environmental issue that is often overlooked. This invisible environmental factor should be considered as carefully as air and water quality.

RF Shielding			
		1/2 " TruProtect	1 " TruProtect
Tested on TruProtect using conductive 5 mil Al tape.	Frequency	Attenuation (dB)	Attenuation (dB)
	200 KHz, Magnetic Field	25	25
	200 KHz, Electric Field	80	100
	1 MHz, Electric Field	80	100
	10 MHz, Electric Field	80	100
	80 MHz, Electric Field	100	100
	400 MHz, Plane Wave	>90	100
	700 MHz, Plane Wave	100	100
	1 GHz, Plane Wave	100	100
	10 GHz, Plane Wave	100	100

Noise Reduction

Tests conducted in this sound transmission testing chamber indicated TruProtect virtually stops transmission of airborne sound.

Installed during remodel of offices. Reduced noise and increased privacy and corporate security.

TruProtect's components and their arrangement make it an amazing barrier to noise transmission.

Homes

Homes can be our refuge, but they can also be a source of excessive, irritating noise. A media room in the basement, home entertainment center in the family room, dish washer in the kitchen, or a daughter playing the latest hit in her bedroom are just a few of the sources of noise inundating our homes. TruProtect installed in walls and ceilings can help contain sound where we want it and keep it out of places we don't want it.

Mike Jach installed TruProtect in the ceiling of his basement. Of course he and his wife encouraged their son to practice his trombone, but now the entire family does not have the "joy" of listening to songs played over and over again.

Living closely together in cities makes quiet a precious commodity. People living in apartment complexes and condominiums usually have no choice in who their neighbors will be. TruProtect installed in exterior and partitioning walls can dramatically cut noise from adjoining neighbors. Owners of condominiums in a high-rise complex in Las Vegas will be the beneficiaries of the quiet provided by TruProtect installed in partitioning walls.

Las Vegas will be the beneficiaries of the quiet provided by TruProtect installed in partitioning walls.

Businesses

Privacy is often needed in buildings, such as the offices of lawyers, doctors, counselors, human resources departments, or board of directors meeting rooms. When we tell our physician about our health concerns, we don't want the patient in the adjoining room to listen in. When the board of directors discuss financial projections or upcoming projects, they need to keep the company secrets just that–secret.

United Supermarkets included TruProtect in the remodeling of their executive offices for not only sound reduction but also to insure the privacy for their company officers and board of directors.

Ecology

Acoustic ecology, sometimes called soundscape ecology, is the relationship between living beings and their noise environment. The effect of intrusive sound on our physical and emotional health is well documented. Schools, offices, manufacturing plants, and homes using TruProtect as a sound block provide benefits to students, employees, and family members.

Acoustics Systems Acoustical Research Facility, Austin, Texas

- The tests were performed in accordance with ASTM E90-04.
- Sound Transmission Class (STC) is the single number rating of the effectiveness of a material or construction assembly to retard the transmission of airborne sound at frequencies between 125Hz and 4000Hz. TruProtect's test results for its 1/2" thickness were an STC of 19.
- Outdoor-Indoor Transmission Class (OITC) is a standard used to indicate the rate of transmission of sound between outdoor and indoor spaces in a structure. It considers frequencies down to 80 Hz and is weighted more to lower frequencies such as that emitted by aircraft, trains, and truck traffic. TruProtect's test results for its 1/2" thickness were an OITC of 15.
- A second set of tests performed using TruProtect as part of a SWS317 wall assembly with a total assembly thickness of 8" had STC results of 51 and OITC results of 35.

ELF TruProtect RF Shielded Panels - 4' x 8' x ½"

TruProtect™ is a patented product with multiple uses: EMI/RFI Shielding; fire retardant; noise reduction; insulation; radiant barrier; protection from hail damage; mold, mildew, and fungus retardant. It is strong, durable, and resilient!

RF Shielding

- ✓ RF Shielded Panel System – Shielding Effectiveness Chart

ELF TruProtect RF Shielded Panels - 4' x 8' x ½" Panels joined using 5 mil Al tape with conductive adhesive	
Frequency	**Attenuation (dB)**
10 Hz, Magnetic Field	2
10 Hz, Electric Field	140
100 Hz, Magnetic Field	18
100 Hz, Electric Field	120
1 KHz, Magnetic Field	35
1 KHz, Electric Field	100
200 KHz, Magnetic Field	70
200 KHz, Electrical Field	80
1 MHz, Electrical Field	80
10 MHz, Electrical Field	80
400 MHz, Plane Wave	80
700 MHz, Plane Wave	85
1 GHz, Plane Wave	90
10 GHz Plane Wave	100

- ✓ Made in convenient 4' x 8' x ½" panels, weighing only 18 lbs.
- ✓ Applies directly to outer wall using construction adhesive
- ✓ 15 mils and three layers of Aluminum foil in the ½" thick panels
- ✓ RF shield panels are joined together using 5 mil Aluminum tape with conductive adhesive
- ✓ Saves time and labor over conventional shielding and even foil

Fire Retardant

- ✓ Fire resistant; holds an ASTM E84-04 Class A Fire and Smoke Rating

Insulation

- ✓ Helps reduce the heat level in attics enabling heating and cooling units to work less; savings in heating and cooling expenses range from 40-50%
- ✓ Has 4 times the R-factor of fiberglass insulation
- ✓ ½" panel has an R-factor of 6 by itself

- ✓ When used in conjunction with fiberglass insulation, TruProtect increases the fiberglass R-factor by about 98 % as shown in ASTM C 1363-97 and ASTM E903 tests
- ✓ Multiplies the R-factor of existing insulation. When used with R-19 fiberglass, TruProtect accentuated the true R-factor to an R-49.5, and an R-25 is raised to an R-61.38
- ✓ Stops heat-to-cold transfer by 97.3%
- ✓ Reflects 98% of applied heat as shown in ASTM E903
- ✓ One architect's description of TruProtect was, "It's a radiant barrier on steroids."
- ✓ Tested and proven to be 100% thermal barrier

Noise Reduction

- ✓ Natural sound barrier; STC of 19 (OITC of 15) for ½" material by itself.
- ✓ Natural sound barrier; highest possible STC number for ½" material and a STC of 51 in a normally constructed 8.0" wall
- ✓ Reduces noise pollution

Earth Friendly

- ✓ Composed of 98% recycled materials and is100% recyclable
- ✓ Enables owner to use 40% less resources (electricity, natural gas, coal) to heat and cool.

Installation

- ✓ Made in convenient 4' x 8' x 1/2" sheets
- ✓ Weighs 17 pounds per sheet
- ✓ RF System saves time and money
- ✓ Costs less than fiberglass insulation
- ✓ Easily installed with no environmental or worker problems
- ✓ Can be made with adhesive backing so no fasteners are needed
- ✓ Reflects 98% of the applied heat as shown in ASTM test
- ✓ Has a 450 pound busting strength

Applications

- ✓ Government, Military and Commercial Secure Facilities
- ✓ Medical Laboratories and Examination Rooms
- ✓ EMC, RF & Wireless Test Laboratories
- ✓ RF Shielded Test Chamber
- ✓ Secure Conference Rooms
- ✓ SCIF Facilities
- ✓ Recording Studios
- ✓ Anechoic Chambers
- ✓ Computer Rooms
- ✓ Office Rooms
- ✓ Secure Buildings

Conforms to or exceeds all applicable IBC codes. In addition to the mentioned tests, methods, and results, the material is in agreement with IBC Sections 1504.6 (impact resistance), Sound Transmission Section 1206, Fire Partitions Section 708, and Fire Resistance Section 705.

TruProtect
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877.219.5616 office and fax
806.781.2554 cell

Fire, Smoke, Bug & Hail Protection

Hail Damage Test

Fire Test Tunnel 1860°F

Minimal Damage after Fire Test

TruProtect is made of the finest components which are treated with environmentally safe materials to help it protect your house or commercial building from fire and smoke damage; bug damage; and hail damage.

Hail Protection

Hail damage to roofs costs homeowners in higher insurance premiums and in replacement costs. TruProtect is a patented, multi-layer sheet that, when installed under shingles, protects the shingles and the underlying roof.

When hail stones strike shingles, the shingles crack and must be replaced. TruProtect installed under the shingles enables the hail impact to be absorbed- the hail stone boomerangs off the roof without causing damage.

In a side-by-side test comparing a roof assembly with Truprotect as an underlayment and one without, four-pound steel balls were dropped from a height of 20 feet. Impact locations were then analyzed to determine the damage. The sample using TruProtect received significantly less damage than the sample without TruProtect. The Truprotect roof showed 50% less surface damage and 100% less structural damage.

Bug Protection

TruProtect can be treated with BugBan™ 9000. This performance enhancing coating is a water based repulpable coating which reduces the damage associated with insects. It was designed to not just repel insects, but to eliminate them before they can penetrate the product. The treated product gave rapid and high mortality of all three test species. 93-100% mortality was recorded after 24 hours. It has an EPA approval for use in food containers. There is no significant transference to material handler's hands.

Fire Protection

TruProtect was tested for its fire and smoke spread. Three sheets were placed in a tunnel with an 1860°F flame drawn through the tunnel at about 125 feet per minute. Results are compared to other building materials that are at the extremes of the scale used.

Specimen	Flame Spread Index	Smoke Developed Index
Mineral Fiber Cement Board	0	0
Red Oak Flooring	100	100
TruProtect	25	20

The test indicates minimal damage done to TruProtect under extreme conditions. Under real conditions, this means that Truprotect can help provide additional time for your employees and your family to escape a fire.

Architectural Testing, Inc., Southlake, Texas

UL 2218, is a standard for impact resistance of prepared roof covering material

Omega Point, Elmendorf, Texas

ASTM E84-04 is a standard test method for surface burning characteristics of building materials. TruProtect earned a Class A fire rating and a Class A smoke rating.

Progressive Coating, Inc.

Environmentally Friendly

TruProtect can be installed with simple tools and needs no protective clothing.

TruProtect is the only product that brings it all together–radiant barrier, insulation, RF shielding, sound reduction, fire protection, and bug protection–and it accomplishes all this while being environmentally friendly.

- **TruProtect is made from 95% recycled materials.**
- The multiple layers that make up TruProtect are bonded by adhesives that are plant-based and water-based.
- TruProtect can be treated by BugBan™ 9000. This performance enhanceing coating is a water based repulpable coating which reduces the damage associated with insects. It was designed to not just repel insects, but to eliminate them before they can penetrate the product. The treated product provides rapid and high mortality of all three test species. 93-100% mortality was recorded after 24 hours. It has an EPA approval for use in food containers. There is no significant transference to material handler's hands.
- The active ingredient in the fire retardant is a very stable, aqueous, organic solution. It is non-regulated by the DOT and carries an HMIS rating of 1-0-0. It is listed as a non-hazardous product, and none of the components in the fire retardant material is listed by IARC, NTP, or OSHA.
- No special protective clothing is required for installation of TruProtect. A saw, nails, and tape are all the tools needed.
- TruProtect is manufactured in Lubbock, Texas. This places many cities within the 500 mile radius suggested for USGBC's L.E.E.D. rating.

Also, the best way to save energy, and save on the bills that accompany that energy, is to reduce consumption. TruProtect's combination of radiant barrier and insulation will help accomplish this goal.

Ceiling Tiles

Finding solutions to problems is how TruProtect originated. They are also the same problem solving skills that led to the development of the new ceiling tiles. Many office buildings have dropped ceilings with tiles made of mineral fiber or fiberglass. These tiles are porous, collect dust, have minimal insulation and sound proofing qualities, and make a complete mess when installing and replacing. Surely there had to be a better product!

Enter TruProtect's new ceiling tiles to solve these problems. Each tile is the original TruProtect with an added polypropylene cover that is remarkably durable and visually appealing. Without the hassle of remodeling, a building can now add the benefits of TruProtect. Heat and cold from the attic or plenum are stopped from entering the work space. Noise from the floor above or below no longer irritates employees. Rooms are brighter because light is reflected off the tiles. Pipes may leak, but moisture will not soak into these tiles avoiding ugly discoloration and mold.

In a side-by-side comparison of TruProtect ceiling tiles (left) with conventional ceiling tiles, TruProtect looks brighter and cleaner.

Where can TruProtect ceiling tiles be used to great advantage? Practically anywhere! Use them anywhere you want to control temperature and sound.

Commercial Buildings
- offices
- restaurants
- schools
- warehouses
- theaters
- board rooms
- churches
- government buildings
- studios

Residences
- home media centers
- home gyms
- home offices

Start with TruProtect, add a polypropylene covering, and the result is an unbeatable product.

Up until now, ceiling tiles have been beneficial because... well, because they hide ugly pipes, and that's about all. With TruProtect ceiling tiles, any building can have the benefit of insulation, sound protection, and light reflection.

The temperature extremes that radiate down from roofs or unairconditioned spaces will be stopped by TruProtect's radiant barrier and insulation. With an R-factor of 6 and a radiant barrier of 98%, the temperature controlled air in rooms will require less energy to stay within a desirable comfortable range. Energy savings may be from 10-25%.

The half-inch ceiling tile with its nine noise reflectors has an STC rating of 19, a NRC rating of .6, and a CAC rating or 38, which has important implications. It means that sound in the room will stay in the room, and sound outside of the room will stay outside of the room.

TruProtect's ceiling tiles combined with TruProtect wall board applied to walls will keep sound in or out, depending on the need. The noise from movie sound-tracks or a loud stereo will stay in media rooms. Discussions in doctor's offices, conference rooms, or executive suites can remain confidential. Sounds from noisy cars or machinery can be kept out of rooms.

With a busting strength of 400 lb for the 1/2" and 900 lb for the 1", TruProtect's ceiling tiles are strong and durable. The polypropylene covering has a puncture strength of 60psi. This will eliminate the flaking and cracking which happens with conventional tiles.

The covering for the ceiling tiles comes in over 40 colors, ranging from bright white to black. The selection of textures ranges from smooth to a fashionable basketweave. This expansive range of choices should meet all needs.

TruProtect ceiling tiles come in 2'x2' and 2'x4' width and in 1/2" or 1" inch thickness.

ASTM C 1363-97: Thermal Performance Test	Thermal resistance Rs – 1.61 (hr.ft.sq.)/Btu Conductance Cs – 0.62 Btu/hr.ft.sq.F
ASTM E903: Hemispherical Spectral Reflectance	81.5 % Solar Reflectance
ASTM E408-71: Total Emittance Test	.02 Emittance: .98 Reflectance
ASTM E84-04: Surface Burning Characteristics	Class A Fire Rating: Flame Spread Index=25 Class A Smoke Rating: Smoke Developed Index=20
ASTM E90: Sound Transmission Loss Test	Thickness ½": STC – 19; OITC – 15
	Total assembly thickness 8": STC – 51; OITC – 35
ASTM D-3273-94: Resistance to Growth of Mold	TruProtect scored a perfect 10
NRC: Noise Reduction Coefficient	0.6 for both 1/2" and 1" thicknesses
CAC: Ceiling Attenuation Class	38 for 1/2" and 43 for 1" thick

Jerry and Judy Golledge

To Whom It May Concern

I would like to give you my account of our experience with TruProtect. I heard an ad on the radio about this new product, TruProtect, in late August 2005. Being intrigued by its claims, I called and got more information. I also visited their web site, www.TruProtect.com and visited their assembly facilities. To be blunt, I did my homework about this product because I had just lost my roof to a hail storm that passed thru Lake Ransom Canyon in late July. My wife and I decided to have TruProtect installed under the new roofing material. The TruProtect people came out and as the roofing crew took the old roof off, they lay down and installed the TruProtect sheeting over the decking. Where we had vents and attic temperature control vents the TruProtect was cut and the raw edges sealed by the fireproof tape. The roofing crew was at first leery about the sheeting going down, but grew more confident with it as people walked on top of the sheets with no apparent damage. This stuff was as tough as nails! When the roof was finished you could not tell the difference immediately inside the house though! Our house is a 2 story and since we have lived here (10 years) the upper story in the summer was uninhabitable. Now our home is a comfortable temperature from top to bottom. For the first time we can enjoy the upper stories all year long. Another benefit is that our utility bills have been reduced by at least 33%. My wife and I are so pleased that we are planning to do some remodeling on the outside of the upper story this summer and intend to put TruProtect on this remodel. By doing this I am confident my utilities will be reduced by 50%.

To be sure, I am glad we decided to add TruProtect to our home. It is now safer, quieter, more energy efficient, protected from hail damage and more liveable.

Sincerely,

Jerry and Judy Golledge
Ransom Canyon, Texas

Testimonials

Gary Lentz

Home of Gary Lentz
Seminole, Texas

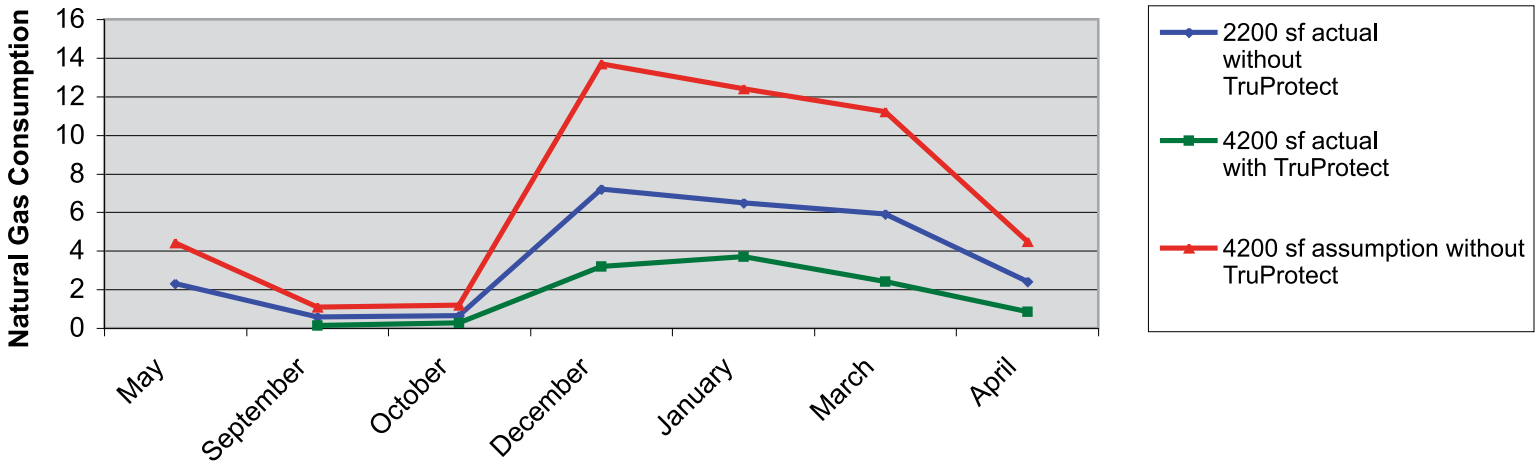
The Lentz' 2,200 square foot home was remodeled and enlarged. The exterior walls of the resulting 4,200 square foot home were completely wrapped in TruProtect. The square footage of the home increased by 91%; however, the electricity use for the first four months of 2010 averaged a 55% decrease in Kilowatt-hours usage. This amazing improvement came from adding TruProtect to the exterior walls --the roof is still to come!

Monthly Electric Comparison

Last Year			This Year					
Average Daily Temp.	Kilowatt-Hours Used	Kilowatt-hours per sq. ft. for 2,200 sq. ft. home	Meter reading date	Average Daily Temp.	Kilowatt-Hours Used	Kilowatt-hours per sq. ft. for 4,200 sq. ft. home	Percentage **decrease** in kilowatt-hours per sq. ft. from previous year	Bill
42°	1,244	.565454	1/20/2010	37°	1,123	.266666	**53%**	$89.45
46°	863	.392272	2/19/2010	42°	877	.208809	**47%**	$71.27
55°	770	.350000	3/20/2010	47°	503	.119761	**66%**	$43.27
56°	685	.311363	4/17/2010	59°	601	.143095	**54%**	$51.31

Monthly Gas Comparison

	2200 sf actual without TruProtect	4200 sf actual with TruProtect	4200 sf assumption without TruProtect
May	2.3		4.4
September	0.59	0.14	1.1
October	0.63	0.26	1.2
December	7.2	3.2	13.7
January	6.5	3.7	12.4
March	5.9	2.4	11.2
April	2.4	0.85	4.5



Michael Jach

Milyn, LLC
Lubbock, TX

To Whom It May Concern:

I have recently finished my basement and used TruProtect insulation in the basement ceiling. I would like to say that I am very pleased at the results of the product. Our desire was to mute out noise transfer from the upstairs to the basement and the basement to upstairs. Prior to installing the TruProtect one could clearly hear the upstairs TV as well as people talking when standing in the basement. With the TruProtect in place you have to really pay attention in order to hear noise coming from upstairs. What little noise gets through is merely a mumble and not really noticeable. Our builder and his foreman have also made comments on how quiet the basement has become since they installed the TruProtect. All in all a very impressive product. We have also noticed how our basement has warmed up this winter with TruProtect as our only basement insulation. We are currently looking to put TruProtect in the attic of our house and have recommended it to friends and family.

Sincerely,

Michael Jach
Avon Lake, OH

Testimonials

HygieniCare

HygieniCare
Topeka, KS

Dear Mr. McDonald, I am writing this endorsement of your product TruProtect because after using it in two separate applications I find it has great versatility and fabulous performance. My original application was as insulation for an RV [recreational vehicle] designed for catastrophically injured individuals. We found during the summer that after standing in 90 degree plus exterior temperatures that the inside temperatures of the RV was maintaining a 73 degree temperature unoccupied, and without air-conditioning on. We also found that the air-conditioner could maintain interior temperatures at fewer cycles per day or night in either the heat or air-conditioning mode.

The second application was lining the interior of the tooling plant in Grain Valley, MO. The steel building with only fiberglass blanket insulation became a heat generator during the summertime. The insulation also sagged and was becoming dusty from the activities within the plant. The installation of the TruProtect insulation accomplished three things. First it provided additional insulation in what we believe to be a 20 degree reduction in temperature during the summer months. During the winter it also contained the heat and reduced the gas bill for the plant. It also provided reflective light from the aluminum skin of the TruProtect boardstock providing additional candle power for the workstations. Thirdly it appears to have reduced sound levels within the plant, and certainly improved the interior appearance as well.

I enthusiastically recommended your product as an insulation, structural component, sound deadener and ease of application. “Congratulations on a fine product.”

Sincerely,

Jerald P. Skinner, CEO Founder

Testimonials

All Texas Builders, Inc.

The “TruProtect” product is a simple product to install. Its standard 4’ x 8’ sheets size make it applicable in all construction avenues working on 12”, 16” or 24” centers. Its light weight makes it versatile on flat or vertical surfaces allowing sheets to be installed quickly and efficiently. Cuts are capable of being made with a utility knife making saws and chords unnecessary. Cuts that are made are simply wrapped with foil tape and all butt joints are flat taped making a tight seal to wall or structure systems you might fasten to. All types of fasteners may be used to integrate with all types of surfaces or structures making anchoring systems versatile and easy to find. “No special tools or anchors needed.” The layout of the product is a staggered joint type making sure no joints of “TruProtect” coincide with surface joints that makes for a stronger tighter installation. Any surface damage to the product is an easy fix with foil tape.

This product has proven to be light, fast and easy to install requiring no special tools, anchors, or schooling to install. I believe anyone should be capable of installing “TruProtect” with just a few quick, basic pointers.

All Texas Builders, Inc.
Dusty Ratliff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