

Radiant Technology

Composites

P.O. Box 227194 - Dallas, Tx 75222 - (972) 721-7233 - FAX (972) 554-0599

Product Data Sheet

Larger Samples of Material are Available Upon
Request

1 RTRM01

Radiant Technology Residential Material.

Used In Home Insulation

#2 RTCM01

Radiant Technology Commercial Material

Used for Metal and Pole Building Insulation

#3 RTSSF1

Radiant Technology Single Sided Reflective Insulation

Designed to reflect low heat loads on one side only - A/C Duct and
Chiller Lines

#4 RTDSF1

Radiant Technology Double Sided Reflective Insulation

Used where there is no air space; where only thermal heat is a factor.
Available with adhesive on both sides.

#5 DSRIP1

**Radiant Technology Double Sided Reflective Insulation with Acoustical
Foam**

Used inside truck and tractor cab ceilings and walls. Available with
adhesive on both sides and can be laminated to cab interiors with a
Peel and Stick System.

#6 SSFSM02 ¼" or ½"

Radiant Technology Single Sided Fire Seal Reflective Insulation

Used for reflecting high heat loads on one side. This is a fire proof
foam. It can have adhesive on one side. Firewalls - any areas where
heat is greater than 200· F. Only reflects on one side. Available in
¼" or ½"

#7 DSFM01 ¼" or ½"

Radiant Technology Double Sided Fire Seal Reflective Insulation

Designed for reflecting high heat on either side. Used where no air
space is available. Available in ¼" Or ½" foam and can have adhesive
on both sides.

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#8 SSFW2A1

Radiant Technology Single Sided Fire Seal Insulation with Two Frequency Acoustics

Used under floor mats of tractors where High Heat and Noise are a Factor.

#9 DSW2A01

Radiant Technology Double Sided Reflective Insulation with Two Frequency Acoustics

Used under the floor mats of agricultural tractors and truck tractors top application..

#10 DSW2A02

Radiant Technology Double Sided Reflective Insulation with Two Frequency Acoustics

Used under the floor mats of agricultural tractors and truck tractors bottom application..

#11 RTHAF31

Radiant Technology High Acoustical Foam

Designed for use in and around Generator Sets. Material features two barriers and one dampener. Available in 1" Thickness. Rolls are available in 54" X 25'.

#12 RSSFSM01

Radiant Technology Reinforced Single Sided Fire Seal Insulation

Used for Reflecting heat on one side. This is a Reinforced Fire Proof Material. Primarily used on Engine Side Fire Wall for heat and Noise. The Thicker the material the greater the noise attenuation.

#13 SSFMM01

Radiant Technology Single Sided Floor Mat Insulation

Textured Solid Butal Floor Mat. For use in cab areas of Heavy Equipment. This material will aid in the transmission of Heat and Noise.

#14 RTTAPE01

Radiant Technology Reinforced Tape.

Available in 2" and 3" wide by 48" lengths w/300· F PSA. To be used where high heat is a Factor.

15 -- RTTAPE02

Radiant Technology -- Reinforced Tape.

Available in 2" and 3" wide X 48" Lengths w/300EF P.S.A. To be used around areas where High Heat is a Factor.

16 -- #FBVB02

Radiant Technology -- 1" Acoustical Foam W/Vinyl

#FBVB02W/DSF

Radiant Technology -- 1" Acoustical Foam W/Vinyl And Double Sided Foam

Available in Textured Black. Designed to be used as Noise Insulation alone, or can have #4 added to back side for a Complete Thermal - Accoustic Finish. For use on walls and ceilings. Available in 4.5' X 8' Sheets. Contact factory for additional colors.

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PHYSICAL PROPERTIES OF ALUMINUM FOIL

Density	0.0976 lb./in
Specific Gravity	2.70 (approx.)
Melting Range	1190E-1215E
Electrical Conductivity	59°IACS, Vol., 200% IACS (approx.), weight
Thermal Conductivity	53 CGS units at 25°C.
Thermal Coefficient of Linear Expansion	13.1 x 10 ⁻⁶ , per °F. from 68° to 212° F.
Reflectivity of white light, Tungsten filament lamp	85% to 88%
Reflectivity for radiant heat; from source at 100E F	95% (approx.)
Emissivity, at 100E	5% (approx.)
Atomic number	13
Atomic Weight	26.98
Valence	3
Strongly Electropositive	1.5/v
Specific Heat at 20EC	0.21-0.23 cal/gm/°C
Boiling Point	3200°F
Temperature Coefficient of Resistance for Aluminum	(Representative values per °C)

Temperature °C	Coefficient
20	0.0040--0.0036
100	0.0031--0.0028

Low temperature properties -- Aluminum increases in strength and ductility as temperature is lowered, even down to - 320°F.

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RADIANT TECHNOLOGY RESIDENTIAL MATERIAL

This foil membrane acts as a radiant barrier when placed in an air space. Radiant barrier when perforated has a water vapor permeability of over 70 grams per square meter per 24 hours (perms).

TYPICAL PROPERTIES

Product Makeup - Foil-Face Woven Polyethylene

The product is manufactured from two reflective sheets of 99.5% pure industrial grade aluminum with a polyethylene insert to provide a thermal break. It is perforated to prevent moisture condensation and a nylon scrim is added to increase the strength.

Emissivity .03 (amount of potential radiant heat transfer)

ASTM E408

Reflectivity .97 (degree of reflectance of thermal radiation)

ASTM E408

Caliper .004

Tensile Strength MD 54.0
(lbs/inch width) CD 18.05

Smoke Density 10

ASTM E84

Flame Spread 10

ASTM E84

Weight per 1000 Sq.Ft. 18 Lbs.

Standard Roll dimension 48" x 6" x 250'

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Radiant Technology Residential Material (RTRM01)

1

Technical Data

Two sheets 99.5% pure industrial grade aluminum perforated with reinforced polyethylene scrim, light weight.

Fire Rating of Class A Class 1.

Standard roll dimension: 4'x 250' = 1000 Sq.Ft. Roll

Reflectivity 97%

Emittance 3%

Add \$15.00 per roll for shipping and handling to location or port of entry.

Potential Applications

Designed to be laid on top of mass insulation. It can also be stapled to trusses of new or remodeled homes.

Used where no wind load occurs, not to be used outside.

Contact factory for installation instructions.

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Radiant Technology Commercial Material (RTCM01)

2

Technical Data

Two sheets 99.5% pure industrial grade aluminum perforated with heavy reinforced polyethylene scrim

Fire Rating of Class A Class 1.

Standard roll dimension: 4'x 250' = 1000 Sq.Ft. Roll

Reflectivity 97%

Emittance 3%

Add \$15.00 per roll for shipping and handling to location or port of entry.

Potential Applications

Ceiling, or Suspended installation, garages, metal warehouse buildings (**See letter from E-Systems St. Petersburg Florida**), horse barns, ostrich shelters aircraft hangers, open beam structures, animal shelters, dairy barns, poultry houses (particularly in Mexico due to their specific construction).

Designed for light wind loads.

Contact factory for installation instructions.

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Radiant Technology Single Sided Reflective Insulation (RTSSF1)

3

Technical Data:

Low density closed cell polyethylene foam, foil membrane composed of one sheet of 99.5% pure industrial grade aluminum 2 mills thick.

Fire Rating of Class B Class 2.

Standard sheet size: 54" x 8' = 36 SqFt

Material is Anti-Static Treated

Reflectivity 93%

Emittance 7%

Add \$15.00 shipping and handling F.O.B. Dallas all orders:

Potential Applications:

Used on the top side of drop ceiling tiles and to wrap around outside heat, A/C, duct work, ventilation systems, or chiller lines. Works for inside and outside applications.

Contact factory for installation instructions.

Examples: automobile and truck headliners, folding garage doors, under carpet padding, insulation under roofing shingles, under roof deck and in wall panel applications.

Contact factory for installation instructions.

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TABLE OF PROPERTIES

Radiant Technology
Double-Sided Reflective
Insulation
(RTDSF1)

4

<u>PROPERTY</u>	<u>PROPERTY FACTOR</u>	<u>TEST STANDARD</u>	<u>POLYPROPYLENE</u>
<u>NATURAL</u>			
Specific Gravity	1=Water	D792	.90-.91
Density	lb/in ³	D792	.033
Tensile Strength	PSI	D638+	4000-6000
Elongation	%	D638+	100700
Compressive Strength 1%P	SI	D695	3500-8000
Flexural Strength	PSI	D790	5000-8000
Impact Strength, Izod	ft/lb/in of notch	D256A	.4-1.0
Hardness	Rockwell	D785	R80-100
Thermal Conductivity	BTUin/hr/ft ² E/F	C177	1.22-2.8
Thermal Expansion	10 ⁻⁵ in/in F	D696	5.8
Resistance to Heat F	Continuous	----	200
Melt Point F	EF	D1525	>275
Brittleness Temp. F	EF	D7646	-20 to 32
Deflection Temp. 264psi	EF	D648	115-140
Deflection Temp. 66psi	EF	D648	185-250
Volume Resistivity	ohm/cm	D257	6.5 x 10 ¹⁶
Dielectric Strength	V/10 ³ in	D149	600-650 (1.25)
Dielectric Constant	50-100 Hz	D150	2.1-2.3
Dielectric Constant	10 ³ Hz	D150	2.1-2.3
Dielectric Constant	10 ⁶ Hz	D150	2.1-2.3
Dissipation Factor	50-100 Hz	D150	.0003
Dissipation Factor	10 ³ Hz	D150	.0003
Water Absorption 24 hr.	%	D570	.01-.03
Water Absorption Saturation	%	----	.01-.03
Burn Rate	Description	D635	Burns
Effect of Sunlight	Description	D543	Affected
Wear Factor (k)	k x 10 ¹⁰	----	----
Coefficient of Friction	Dynamic	----	----

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**Radiant Technology
Double Sided Reflective Insulation
With Acoustical Foam
(DSRIP01)**

5

Technical Data:

Low density closed cell polyethylene foam, foil membrane center is composed of one sheet of 99.5% pure industrial grade aluminum 2 mills thick.

Fire Rating of Class B Class 2.

Laminated to a 1/8", 1/2" or 1" piece of polyurethane

Material is Anti-Static Treated

Reflectivity 58%

Emittance 42%

Add \$15.00 shipping and handling F.O.B. Dallas all orders:

Potential Applications:

Used as insulation in Tractor Cab Walls and Ceiling, off road equipment, and trucks for heat and noise transfer .

Can be applied to the back of interior panels or upholstery vinyl.

Contact factory for installation instructions.

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Radiant Technology Single Sided Fire Seal Reflective Insulation (SSFSM02)

6

Technical Data:

Low density open cell fire-seal foam, foil membrane composed of one sheet of 99.5% pure industrial grade aluminum 2 mills thick.

Fire Rating of Class A Class 1.

Standard sheet size: 4.5' x 8' = 36 SqFt

Available in ¼" and ½"

Material does not burn

Reflectivity 97%

Emittance 3%

Add 10% shipping and handling F.O.B. Dallas all orders:

Potential Applications:

Used where heat loads are greater than 200° F. Automobile and Truck Cab Firewall.

Contact factory for installation instructions.

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Radiant Technology Double Sided Fire Seal Reflective Insulation (DSFSM02)

7

Technical Data:

Low Density open cell fire-seal foam, foil membrane center composed of one sheet of 99.5% pure industrial grade aluminum 2 mills thick.

Fire Rating of Class A Class 1.

Standard sheet size: 4.5' x 8' = 36 SqFt

Available in ¼" and ½"

Material does not burn

Reflectivity 97%

Emittance 3%

Add 10% shipping and handling F.O.B. Dallas all orders:

Potential Applications:

Used where heat loads are greater than 200° F where no air space is available. Aircraft insulation and seat cushions.

Contact factory for installation instructions.

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**Radiant Technology
Single Sided Fire Seal
Reflective Insulation
With two Frequency Acoustics
(SSFW2A1)**

8

Technical Data:

Low Density open cell fire-seal foam, foil membrane composed of one sheet of 99.5% pure industrial grade aluminum 2 mills thick.

Fire Rating of Class A Class 1.

Laminated to a two frequency acoustic foam

Available in ¼" and ½"

Reflectivity 58%

Emittance 42%

Add 10% shipping and handling F.O.B. Dallas all orders:

Potential Applications:

Race Car floor mats, tractor truck floor mats, farm tractor mats.

Contact factory for installation instructions.

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***Radiant Technology
Double Sided Reflective Insulation
With two Frequency Acoustics
(DSW2A01, DSW2A02)
9, 10***

Technical Data:

Low Density closed cell polyethylene foam, foil membrane center is composed of one sheet of 99.5% pure industrial grade aluminum 2 mills thick.

Fire Rating of Class B Class 2

Laminated to a two frequency acoustic foam

Material is Anti-Static Treated

Reflectivity 58%

Emittance 42%

Add 10% shipping and handling F.O.B. Dallas all orders:

Potential Applications:

Used as Insulation in Tractor Cab floors, offroad equipment, and trucks for heat and noise transfer.

Contact factory for installation instructions.

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NOISE BARRIER/ABSORBER COMPOSITE

RTHAF31 W/GLUE

11

FOAM

Type: polyurethane/polyester
Density: 2.0 lbs./ft³
Color: charcoal gray
Thickness/decoupler: 1/4"
Thickness/absorber: 3/4"
Service Temperature: -40EF low, 225EF high
K factor @ 30EF: .26 BTU in/hr x ft x EF

VINYL BARRIER

Type: flexible polyvinylchloride
Thickness: 3/32 inch
Weight/Thickness: 1.0 lbs/ft
Color: charcoal gray

FACING

(absorber
foam side) aluminized polyester (mylar)
2.5 mils thick, reinforced with
coated fiberglass fabric

ADHESIVE

(decoupler
foam side) pressure-sensitive
4 mils thick
unsupported acrylic

FLAMMABILITY

MVSS 302

ACOUSTICAL PROPERTIES

Frequency in Hz:	125	250	500	1K	2K	4K	
Sound Transm. Loss in dB:	21	27	30	25	43	62	STC
30(1)							
Sound Abs. Coefficients:	.17	.55	.55	.19	.41	.37	
NRC.45(2)							

(1) Ref. Riverbank Acoustical Laboratories, Test TL82-183
(Composite adhered to 16 ga. sheet metal.)

(2) Ref. Riverbank Acoustical Laboratories, Test A91-100

AVAILABILITY

Rolls:
Sheets:
Die-cut Parts

54"wide x 25 ft
54"wide x specified length
as specified