UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA
FORT MYERS DIVISION

FEDERAL TRADE COMMISSION Plaintiff, v. SPM THERMO-SHIELD, INC., a corporation, PETER J. SPISKA, individually and as an officer of SPM THERMO-SHIELD, INC., and GEORGE P. SPISKA, individually and as an officer of SPM THERMO-SHIELD, INC., Defendants.	**Case No. 2:20-cv-542** **COMPLAINT FOR PERMANENT INJUNCTION AND OTHER EQUITABLE RELIEF**

Plaintiff, the Federal Trade Commission ("FTC"), for its Complaint alleges:

1. The FTC brings this action under Section 13(b) of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. § 53(b) to obtain permanent injunctive relief, rescission or reformation of contracts, restitution, the refund of monies paid, disgorgement of ill-gotten monies, and other equitable relief for Defendants' acts or practices in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

2. Defendants market their Thermo-Shield roof and wall coatings using deceptive energy savings claims and claims related to R-values. R-value is a measurement of the insulating ability of materials, including home insulation.

3. Defendants claim that their Thermo-Shield Roof Coat, Thermo-Shield Exterior Wall Coating, and Thermo-Shield Interior Wall Coating (collectively "Thermo-Shield Coatings") provide significant energy savings for consumers when applied to a home or other building. They also claim those products have R-values and R-value equivalents of R-20, R-21, R-22, and R-40, and consequently, also provide significant energy savings for consumers when applied to a home.

4. However, these claims are false. Therefore, Defendants cannot substantiate them. In fact, SPM Thermo-Shield's Coatings have R-values that are substantially less than one when applied as Defendants instruct, and Defendants' purported substantiation demonstrates their products do not provide the claimed energy savings.

JURISDICTION AND VENUE

5. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1337(a), and 1345.

6. Venue is proper in this District under 28 U.S.C. §§ 1391(b)(1) and (c)(2).

PLAINTIFF

7. The FTC is an independent agency of the United States created by statute. 15 U.S.C. §§ 41-58. The FTC enforces Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), which prohibits unfair or deceptive acts or practices in or affecting commerce.

8. The FTC is authorized to initiate federal district court proceedings, by its own attorneys, to enjoin violations of the FTC Act and to secure such equitable relief as may be appropriate in each case, including rescission or reformation of contracts, restitution, the refund of monies paid, and the disgorgement of ill-gotten monies. 15 U.S.C. § 53(b).

DEFENDANTS

9. Defendant SPM Thermo-Shield, Inc. ("SPM Thermo-Shield") is a Florida corporation with its principal place of business at 4876 Sedgewood Lane, Naples, Florida 34112. SPM Thermo-Shield transacts or has transacted business in this District and throughout the United States. At all times material to this Complaint, acting alone or in concert with others, SPM Thermo-Shield has advertised, marketed, distributed, or sold Thermo-Shield Coatings to consumers throughout the United States.

10. Defendant Peter J. Spiska is the President of SPM Thermo-Shield. At all times material to this Complaint, acting alone or in concert with others, he has formulated, directed, controlled, had the authority to control, or participated in the acts and practices of SPM Thermo-Shield, including the acts and practices set forth in the Complaint. Defendant Peter Spiska resides in this District and, in connection with the matters alleged herein, transacts or has transacted business in this District.

11. Defendant George P. Spiska is the President of Global Sales for SPM Thermo-Shield. At all times material to this Complaint, acting alone or in concert with others, he has formulated, directed, controlled, had the authority to control, or participated in the acts and practices of SPM Thermo-Shield, including the acts and practices set forth in the Complaint. Defendant George P. Spiska resides in this District and, in connection with the matters alleged herein, transacts or has transacted business in this District.

COMMERCE

12. At all times material to this Complaint, Defendants have maintained a substantial course of trade in or affecting "commerce," as "commerce" is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.

DEFENDANTS' BUSINESS PRACTICES

13. Defendants manufacture and market coatings designed for residential, industrial, and commercial applications.

14. Coating products are marketed for application on homes and buildings and include paint, paint with additives (such as ceramic spheres), varnishes, and lacquers, and products that incorporate such coatings.

15. Defendants' coatings include Thermo-Shield Roof Coat, Thermo-Shield Exterior Wall Coating, and Thermo-Shield Interior Wall Coating.

16. Since at least January 2014, Defendants have disseminated or caused the dissemination of advertising, packaging, and promotional materials for Thermo-Shield Coatings, including through advertisements on their website and marketing materials for its distributors.

17. In these materials, Defendants describe Thermo-Shield Coatings' performance in terms of R-values and R-value equivalents. For example, they advertise that Thermo-Shield Coatings have "an insulation equivalent to an R-22 against solar heat." *See* Exhibit A at no. 10.

18. R-value is a measurement of resistance to heat flow. *See* FTC's Trade Regulation Rule Concerning the Labeling and Advertising of Home Insulation ("R-value

Rule" or "Rule"), 16 C.F.R. Part 460 (initially issued in 1980 and last amended in 2019). The greater the R-value, the greater the reduction in heat flow, and the more energy may be saved to heat or cool a building. 70 Fed. Reg. 31258 (2005).

19. Different products have different R-values. For example, fiberglass batt is among the most common insulating materials in the United States. It generally has an R-value of R-3.0 to R-3.8 per inch. Other popular insulation materials, polyisocyanurate or polyurethane foam, have R-values of R-5.6 to R-8.0 per inch. Consumers typically apply these materials several inches thick to provide the desired level of insulation. By comparison, hardwood has an R-value of R-0.9 per inch. Poured concrete has an R-value of about R-0.08 per inch, making it a poor insulator.

20. The U.S. Department of Energy recommends levels of insulation for homes. It divides the country into eight climate zones and lists R-values for each zone. The Middle District of Florida is in Zone 2. The Department recommends homes in this zone have R-30 to R-60 insulation in the attic and R-13 to R-15 insulation in the walls. Thus, if such a home uses fiberglass batt (at R-3.8 per inch), it should have at least 8 inches of the batt in its attic. By comparison, Miami, Florida is in Zone 1 where the Department recommends R-30 to R-49 for attics. For the coldest zone, Zone 8, the Department recommends attic insulation of R-49 to R-60.

21. On April 12, 2019, the FTC informed Defendants of its investigation into their R-value and energy savings claims and requested substantiation for the claims.

22. On October 1, 2019, the FTC informed Defendants that it intended to file a lawsuit against them. In response, Defendants removed certain claims from their website, but certain energy savings claims still appear**.**

23. Defendants' conduct is ongoing as of the filing of this Complaint.

24. Based on the facts and violations of law alleged in this Complaint, the FTC has reason to believe that Defendants are violating or are about to violate laws enforced by the Commission.

DEFENDANTS CLAIM THERMO-SHIELD COATINGS HAVE AN R-VALUE OR R-VALUE EQUIVALENT OF R-20, R-21, R-22, R-40

25. Defendants' website, for example, included a summary of test results, including ones reporting an R-value of 22 for Thermo-Shield Roof Coat and an R-value of 21 for Thermo-Shield Exterior and Interior Wall Coatings. Exhibit B at 4, ref. 5.

26. Brochures on Defendants' website reported results of "R=22" from a test on a five mil (*i.e.*, .005 inches) thick sample of Thermo-Shield Roof Coat. Exhibits C at 1, D at 1, E at 1, F at 1.

27. A brochure called "Thermoshield Insulating Value" reports R-values of 20 and 40 for the Thermo-Shield Coatings. Exhibit G.

28. Defendants' website included a webpage called "THE THERMO-SHIELD DIFFERENCE" that describes Thermo-Shield Coatings as having "a thermal barrier that is reluctant to conduct heat and reflects as well as dissipates heat away from the surface. This has an insulation equivalent to an R-22 against solar heat." Exhibit A at no. 10.

29. A promotional flyer called "Rocket Science" states that Thermo-Shield Roof Coat has "HEAT BLOCKING PERFORMANCE EQUIVALENT TO AN R-22." Exhibit H at 2.

30. For coverage, Defendants instruct consumers to apply Thermo-Shield Roof Coat at a thickness of 27 mils (700 microns) (*i.e.*, .027 inches) on flat roofs and 15 mils (380 microns) (*i.e.*, .015 inches) on sloped roofs. They instruct consumers to apply Thermo-Shield Exterior and Interior Wall Coatings on walls at a thickness of 8 mils (190 microns) (*i.e.* .007 inches). Exhibits I, J, K.

DEFENDANTS CLAIM THAT THERMO-SHIELD COATINGS SAVE CONSUMERS MONEY

31. Defendants claim that using Thermo-Shield Coatings creates "energy savings," is "energy efficient," and will "save on energy costs." *See, e.g.*, Exhibits C, I, J, and K.

32. Informational flyers Defendants posted on their website and shared with customers contain Defendants' R-value test results and statements about how the insulating performance of Thermo-Shield Coatings save consumers money.

33. For example, brochures for Defendants' Roof Coat and Exterior Wall Coating include statements that just using Thermo-Shield "CAN SAVE UP TO 50% ON YOUR HEATING AND COOLING COSTS." Exhibits D at 2, E at 2; s*ee also* Exhibit F at 2 (stating that Thermo-Shield Interior Coating "CAN SAVE YOU BIG $$ ON YOU HEATING AND COOLING COSTS").

34. Other informational flyers advertise:

A. "[Roof Coat] SAVE ENERGY➠30%." Exhibit L.

B. "Reports from customers of energy savings up to 40% are not unusual with an application of THERMO-SHIELD Roof System." Exhibit M at 2.

C. "[A]pplied no thicker than a fingernail [Exterior and Interior Coatings] can give savings equal to inches of other type of insulation." Exhibit N at 1.

35. Defendants include testimonials about the purported energy-saving benefits of Thermo-Shield Coatings on their website.

36. Defendants' website, for example, includes a testimonial from homeowners in Sandy City, Utah who used Defendants' Roof Coat and report "[w]e also enjoy savings on our cooling costs, which we expected, but we have also cut our heating costs in the winter, totally un-expected . . . . I used 30% less gas to heat my home the winter following the application." Exhibit O at 2, 5.

37. A testimonial on the website from a Las Vegas, Nevada homeowner who used Defendants' Roof Coat on her patio roof states that her "cooling bills have been reduced 25% just by painting my patio roof." Exhibit P at 4.

38. In emails with their customers and potential customers, Defendants also claim that the R-values and R-value equivalents associated with their Thermo-Shield Coatings result in energy savings.

39. For example, in response to a customer's question about the "indicated R-22 value" of Defendants' Thermo-Shield Coatings, Defendant Peter Spiska responded that "[i]t is like having a R 40 insulation during the summer." He also advised that "[w]ith a complete Thermo-Shield protection, Roof, Exterior and Interior you can expect 20%-40% reduction on heating expense" and that "it is like having a R 21 insulation in the winter." Exhibit Q at 1.

40. In another email related to the R-value of Defendants' Thermo-Shield Coatings, Defendant Peter J. Spiska told a customer that "during the summer heat, as much as 50% can be saved on AC, during the winter the Thermo-Shield Interior with combination of Exterior can save 20-30% of energy." Exhibit R at 5.

41. Defendants post several videos on their website in which Defendant George Spiska touts the benefits of Thermo-Shield Coatings, including their insulating and energy savings attributes. His father, Defendant Peter Spiska, copies him on email to customers, including the emails described in Paragraphs 39 and 40.

DEFENDANTS CLAIM THAT TESTING ESTABLISHES THEIR R-VALUES

42. Defendants expressly claim that testing supports their R-value claims of 20, 21, and 22.

43. Their website, for example, included a "Summary of Official Test Reports" including reports that Defendants' Roof Coat has "R=22" and that their Exterior and Interior Wall Coatings have "R=21." Exhibit B at 4, no. 5.

44. Thermo-Shield brochures posted on Defendants' website reported test results of "R-Value 22" from testing on a five mil thick sample (*i.e.*, .005 inches) of Defendants' Thermo-Shield Roof Coat. Exhibits C, D, E, and F. Defendants' purported test results, however, do not support Defendants' R-value claims.

45. Defendants tested five mil thick (*i.e.*, .005 inches) samples of Thermo-Shield Coatings, which yield R-values significantly less than one. In order to achieve the claimed R-values, consumers would need to apply at least one inch worth of Thermo-Shield Coatings to their roofs or walls.

DEFENDANTS' R-VALUE, R-VALUE EQUIVALENT, AND ENERGY SAVING CLAIMS ARE FALSE OR UNSUBSTANTIATED

46. Thermo-Shield Coatings do not significantly restrict heat flow, let alone to the extent claimed by Defendants, and do not provide the advertised energy savings. Indeed, the R-value of Thermo-Shield Coatings applied as Defendants instruct are considerably less than one.

DEFENDANTS CLAIMS ARE MATERIAL

47. Defendants tout their products' purported R-values, insulating benefits, and energy saving capabilities to consumers as a basis of superiority over paints and other coatings.

48. Defendants state in marketing materials, for example, that:

A. "Just using Thermo-Shield Exterior in place of paint can save you up to 50% on your heating and cooling costs." Exhibits D at 2, E at 2.

B. "Using THERMO-SHIELD Interior, in place of paint, can save you big $$ on your heating and cooling costs." Exhibit F at 2.

C. "Unlike some coatings that make minor insulation claims based solely on reflectivity, THERMO-SHIELD creates a thermal barrier that is reluctant to conduct heat and readily dissipates heat." Exhibit S at 1.

DEFENDANTS PROVIDED THE MEANS AND INSTRUMENTALITIES FOR THE COMMISSION OF DECEPTION

49. Defendants provided their promotional materials—which alone or in combination make all the claims listed above—to independent builders, dealers, installers, and building supply stores ("Resellers").

VIOLATIONS OF THE FTC ACT

50. Section 5(a) of the FTC Act, 15 U.S.C. § 45(a), prohibits "unfair or deceptive acts or practices in or affecting commerce." Misrepresentations and unsubstantiated claims constitute deceptive acts or practices prohibited by Section 5(a) of the FTC Act.

COUNT I
False or Unsubstantiated Performance Claims

51. In numerous instances in connection with the advertising, promotion, offering for sale, or sale of Thermo-Shield Coatings, as described in Paragraphs 13 to 48, Defendants have represented, directly or indirectly, expressly or by implication, that:

A. Thermo-Shield Coatings have insulation values or insulation equivalent values of R-20, R-21, R-22, and R-40 when applied as Defendants instruct.

B. Using Thermo-Shield Coatings will save consumers money, including, for example, by saving them up to 50% on heating and cooling costs.

52. The representations set forth in Paragraph 51 are false and misleading and were not substantiated at the time the representations were made.

53. Therefore, the making of the representations as set forth in Paragraph 51 constitute deceptive acts or practices in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

COUNT II
False Establishment Claim of R-Values

54. In numerous instances in connection with the advertising, promotion, offering for sale, or sale of Thermo-Shield Coatings, as described in Paragraphs 13 to 48, Defendants

have represented, directly or indirectly, expressly or by implication, that testing establishes R-values and R-value equivalents of R-20, R-21, and R-22 for Thermo-Shield Coatings.

55. In truth and in fact, testing does not establish these R-values.

56. Therefore, the representations set forth in Paragraph 54 are false or misleading and constitute deceptive acts or practices in or affecting commerce in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

COUNT III
Means and Instrumentalities

57. By furnishing Resellers with promotional materials for Thermo-Shield Coatings, including printed materials such as brochures, that make false or misleading representations, Defendants have provided the means and instrumentalities that constitute deceptive acts or practices in or affecting commerce in violation of Section 5(a) of the FTC Act, 15 U.S.C. § 45(a).

CONSUMER INJURY

58. Consumers are suffering, have suffered, and will continue to suffer substantial injury as a result of Defendants' violations of the FTC Act. In addition, Defendants have been unjustly enriched as a result of their unlawful acts or practices. Absent injunctive relief by this Court, Defendants are likely to continue to injure consumers, reap unjust enrichment, and harm the public interest.

THIS COURT'S POWER TO GRANT RELIEF

59. Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), empowers this Court to grant injunctive and such other relief as the Court may deem appropriate to halt and redress violations of any provision of law enforced by the FTC. The Court, in the exercise of its

equitable jurisdiction, may award ancillary relief, including rescission or reformation of contracts, restitution, the refund of monies paid, and the disgorgement of ill-gotten monies, to prevent and remedy any violation of any provision of law enforced by the FTC.

PRAYER FOR RELIEF

60. Wherefore, Plaintiff FTC, pursuant to Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), and the Court's own equitable powers, requests that the Court:

A. Award Plaintiff such ancillary relief as may be necessary to avert the likelihood of consumer injury during the pendency of this action and to preserve the possibility of effective final relief, including a preliminary injunction;

B. Enter a permanent injunction to prevent future violations of the FTC Act by Defendants;

C. Award such relief as the Court finds necessary to redress injury to consumers resulting from Defendants' violations of the FTC Act, including but not limited to, rescission or reformation of contracts, restitution, the refund of monies paid, and the disgorgement of ill-gotten monies; and

D. Award Plaintiff the costs of bringing this action, as well as such other and additional relief as the Court may determine to be just and proper.

Respectfully Submitted,

ALDEN F. ABBOTT
General Counsel

Dated: July 28, 2020

s/ Philip Z. Brown
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Counsel for Plaintiff Federal Trade Commission

EXHIBIT A

THE THERMO-SHIELD® DIFFERENCE

THE THERMO-SHIELD® DIFFERENCE

Thermo-Shield® is an elastomeric acrylic emulsion with energy saving ceramic microspheres. It is made of totally Synthetic state-of-the-art materials, so it is not subject to rapid breakdown and deterioration like traditional paints & coatings. The following is a list of advantages / benefits obtained when you apply Thermo-Shield® Paint & Coatings:

THERMO-SHIELD THERMAL PROPERTIES

1. Reduces energy consumption / costs in all types of climates.
2. Excellent adhesion to most substrates including steel, tin, unprimed or galvanized metal, wood, concrete, stone, tile, foam, rubber, plastic and others (it can be applied to asphalt and tar with Thermo-Shield Acrylic Flex-Tac as a base coat).
3. Provide a fire, weather resistant and flexible coating that can reduce energy costs up to 40%.
4. Waterproofing: the roofing will withstand ponding / standing water.
5. Variable Permeability: Polymers shrink when dry which allows the substrate to breathe and evaporation to occur, however, the polymers expand when wet offering excellent protection against damaging moisture penetration.
6. Thermo-Shield® Interior substantially beats the Class 1 rating of 25 or less Flame Spread Index and 50 or less Smoke Developed Index. Actual results for Thermo-Shield® Interior are a Flame Spread Index of only 6.3 and Smoke Developed Index of only 1.9.
7. Underwriter Laboratories Certified Thermo-Shield® Roof Coating UL Class A Fire resistant.
8. Long life - lasts 2 to 3 times longer than conventional paints & coatings: it is not damaged by ultra violet light, does not get hard or crack, does not get chalky and eliminates the 4-6 year paint cycle.
9. Remains flexible at minus 50° F and maintains its strength at 400° F; eliminates thermal-shock damage.
10. Creates a thermal barrier that is reluctant to conduct heat and reflects as well as dissipates heat away from the surface. This has an insulation equivalent to an R-22 against solar heat.
11. Has excellent elongation, flexibility and recovery properties allowing interior and exterior surface cracks to be repaired and prevents future cracks. The elastic roof coating moves with the building movements preventing new cracks.
12. Eliminates warm air to cold surface contact and reduces the temperature differential thereby reducing or eliminating condensation.
13. Cost effective: will pay for itself in a short period of time through energy savings and long life.
14. Becomes a monolithic, flexible, membrane-like, coating over the entire area with no seams or adhesion problems; eliminating virtually all air infiltration which can be a major source of heat transfer in buildings.
15. It is water soluble, easy to apply and easy to clean up; no elaborate equipment required.
16. Water-based and non-toxic in liquid and cured state - ENVIRONMENTALLY GREEN PRODUCT.
17. May be tinted to desired color; excellent fade resistance.
18. Hail resistant.
19. Fire resistant.
20. Mold and Mildew resistant.
21. Easily Washable.
22. Wind and salt abrasion resistant.
23. Reflects sound back to the source, not allowing the surface to conduct sound, therefore, reducing noise levels.
24. Withstands airborne pollutants.
25. Variable permeability: when the coating is dry the polymers shrink to let trapped moisture breathe out, but when wet the polymers swell and become watertight. This prevents blistering and moisture build-up inside the structure.
26. Provides a high degree of comfort in the building by reducing noise and maintaining the inside mean temperature at a more stable level.
27. Very low maintenance costs.
28. The finished membrane is very lightweight; only 30 lbs. per 100 sq. ft. (tar and gravel is typically about 600 lbs. per 100 sq. ft.).
29. Resistant to normal foot traffic.
30. Labor saving roof application / cost effective to apply.
31. MADE IN U.S.A.

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Exhibit A

EXHIBIT B

THERMO-SHIELD®

Genuine, Made in USA.

SUMMARY OF OFFICIAL TEST REPORTS

Energy Star — Saving The Earth. Saving Your Money.

CRRC Cool Roof Rating Council®

UL®

2014

Exhibit B

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Manufactured by:

SPM Thermo-Shield® Inc. (USA)
Tel.: 001-239-234-5832 **Email: spm@thermoshield.com**
Fax: 001-239-236-6767 **www.thermoshield.com**

Thermal Performance Tests and Coating Performance Tests:

- **ASTM (American Society for Testing and Materials)**
- **UL (Underwriters Laboratories)**
- **JIS (Japanese Industrial Standards)**

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#01	HEAT FLUX (COMPARISON WITH UN-COATED GALVANIZED SHEET STEEL)	ASTM D-177 ASTM C-1045	**HAUSER LABORATORIES**	E87-0839	THE COATED GALVANIZED SAMPLE HAD **64% LESS HEAT TRANSFER** THAN THE UN-COATED SAMPLE. THERMO-SHIELD HEAT TRANSFER = **1.163 BTU/hr/Sq.-Ft^2**
#02	HEAT FLUX (COMPARISON WITH BLACK ASPHALT COATED FIBRBOARD)	ASTM D-177 ASTM C-1045	**HAUSER LABORATORIES**	E87-0839	THE COATED SAMPLE HAD **84% LESS HEAT TRANSFER** THAN THE FIBREBOARD SAMPLE. THERMO-SHIELD HEAT TRANSFER = **6.1 BTU/hr/Sq.-Ft^2**
#03	HEAT FLUX (COMPARISON WITH PLANKIAN COATING ON FIBREBOARD)	ASTM D-177 ASTM C-1045	**HAUSER LABORATORIES**	E87-0839	THE COATED SAMPLE HAD **25% LESS HEAT TRANSFER** THAN THE PLANKAIN SAMPLE. THERMO-SHIELD HEAT TRANSFER = **0.871 BTU/hr/Sq.-Ft^2**
#4	3 YEAR TEST - SOLAR RADIATION CONTROL FOR LOW-SLOPE ROOFS (SOLAR REFLECTION, INFRARED EMITTANCE, SURFACE TEMP. & HEAT FLUX) AND AGEING EFFECT	D.O.E. COOL ROOF CALCULATOR	**OAK RIDGE NATIONAL LABORATORY**	7.00E+91	**REFLECTANCE = 70%** **EMMITTANCE = 90%** OF WEATHERED COATING. ANNUAL HEAT FLUX REDUCED FROM **145,317 BTU PER M^2 TO 48,439 BTU/M$_2$**

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#5	THERMAL RESISTANCE ANDSTEADY STATE HEAT FLUX AND THERMAL TRANSMISSION PROPERTIES. THIS TEST ENCOMPASSES BOTH SINGLE AND THE DOUBLE SIDED MODE OF MEASUREMENT	ASTM C117 ASTM C1045	**CALCOAST ANALYTICAL-ITL**	#0426-1A/D91	ROOF COATING: **K = 0.0454 / R = 22** EXTERIOR COATING: **K = 0.04761 / R = 21** INTERIOR COATING: **K = 0.04761 / R = 21**
#6	THERMAL CONDUCTIVITY TEST	ASTM E1225	**CALIFORNIA INSTITUTE OF ELECTRONICS & MATERIALS SCIENCE**	620930322	ROOF COAT 14-15 MILS DFT: W/m.K **= 0.0538** ROOF COAT 33-34 MILS DFT: W/m.K **= 0.0515** EXTERIOR COAT 8 MILS DFT: W/m.K **= 0.0579** INTERIOR COAT 9 MILS DFT: W/m.K = **0.0556**
#07	REFLECTANCE AND THERMAL EMITTANCE OF 9 SAMPLES OF ROOF COAT: USING EQUIPMENT MANUFACTURED BY DEVICES AND SERVICES COMPANY MODEL SSR-E		**SPECIALIZED TESTING: ACCREDITED BY INTERNATIONAL ACCREDITATION SERVICES, A MEMBER OF THE INTERNATIONAL ACCREDITATION FEDERATION - SANS MEMBERSHIP**	STIQA50018/RIO -1073-05	AVERAGE INITIAL REFLECTANCE **= 0.882** AVERAGE INITIAL EMISSIVITY **= 0.793**

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#8	SOLAR REFLECTANCE AND THERMAL EMMITANCE MEASUREMENTS	ASTM C 1549-09 ASTM C 1371-04a	**R&D SERVICES: ACCREDITED BY INTERNATIONAL ACCREDITATION SERVICES, A MEMBER OF THE INTERNATIONAL ACCREDITATION FEDERATION - SANS MEMBERSHIP**	RD111973SR RD111974HE	AVERANGE REFLECTANCE = **0.888** IR EMITTANCE = **0.844**
#09	HEMISPHERICAL SPECTRAL REFLECTANCE MEASUREMENTS PERFORMED WITH A BECKMAN 5240 SPECTROPHOTOMETER UTILIZING AN INTEGRATING SPHERE	ASTM E903-82 ASTM E892-82	**DSET LABORATORIES**	89r1219-01	% REFLECTANCE UV VIS NIR **15.5 86.2 82.8** **15.7 89.2 84.7** **15.7 88.6 84.7**
#10	TOTAL EMMITTANCE REPORT OF 1 X EXTERIOR COAT AND 2 X ROOF COAT ON WOOD SAMPLES USING A GRIER DUNKLE INSTRUMENTS INFRARED REFLECTOMETER	ASTM E408-71	**ATLAS WEATHERING SERVICES GROUP; ACCREDITED BY THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION, A MEMBER OF THE INTERNATIONAL ACCREDITATION FEDERATION - SANS MEMBERSHIP**	19735-0	REFLECTANCE EMITTANCE EXTERIOR **0.07** **0.93** ROOF **0.06** **0.94** ROOF **0.06** **0.94**

Exhibit B

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#11	TENSILE PROPERTIES	ASTM D-412	**COLUMBINE LAB**		TENSILE STRENGTH AT 25% ELONGATION = **525 psi.** TENSILE STRENTH AT BREAK = **615 psi.** ULTIMATE ELONGATION = **70%.** TENSILE SET AT 25% ELONGATION =**10%**
#12	BRITTLENESS TEST USING A STRIKING DEVICE THAT CONFORMS TO THE STANDARD	ASTM D-746	**COLUMBINE LAB**		**PASSED:** 90^0 BEND TEST AT **-37 Co**
#13	DETERIORATION BY HEATING IN AIR. PRECONDITIONING 1 WEEK AT 25 C^O 50% RH. HEAT AGING 21 DAYS 150 Co	ASTM D-865	**COLUMBINE LAB**		TENSILE STRESS AT 25% ELONGATION - INITIAL **515 psi**, CHANGING AFTER AGING -**15%.** TENSILE STRENGH AT BREAK - **640 psi** CHANGE AFTER AGING -**20%.** ULTIMATE ELONGATION - **85%** CHANGE AFTER AGING -**15%.** TENSILE SET AFTER - **25%** ELONGATION - INITIAL **15%** CHANGE AFTER AGING -**35%**
#14	WATER VAPOUR PERMIABILITY USING GARDNER PARK PERMIABILITY CUP	ASTM 1653	**COLUMBINE LAB**		WATER VAPOUR TRANSMISSION **4.7 GRAINS PER SQ. FT. PER HR.** AVERAGE PERMEANCE **310 PERMS.** AVERANGE PERMIABILITY **8.8 PERM IN.** (AT AVERANGE THICKNESS OF 28.4 MIL).
#15	WATER ABSORPTION - SATURATION OF 5 WEEKS	ASTM D-570	**COLUMBINE LAB**		INCREASE IN WEIGHT **31%.** SOLUBLE MATTER LOST **2.8%.** WATER ABSORBED **34%.** NO CHANGES IN APPEARANCE OF MATERIAL AFTER RECONDITIONING.

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#16	WATER USING GARNER CUP E-96	ASTM E-96	**COLUMBINE LAB**		AVERANGE PERMEANCE **310 PERMS**. AVERAGE PERMEABILITY **8.8 PERM IN.**
#17	SURFACE OZONE CRACKING, TOTAL OF 70 DAYS TESTED.	ASTM D-1149	**COLUMBINE LAB**		**NO FAILURE OBSERVED** IN DURATION OF TEST.
#18	CHEMICAL RESYSTANCE IN A 16 HOUR SPOT TEST	ASTM D-1380	**CALCOAST ANALYTICAL-ITL**		RESULTS AVAILABLE ON ORIGINAL REPORT.
#19	TUNNEL TEST OF SURFACE BURNING ON CEMENT BOARD	ASTM E84	**JOHNS MANVILLE LABORATORY ACCREDITED BY NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAMME USA**	F97-85	QUALIFIES AS **A CLASS 1 RATING**. FLAMESPREAD = **6.3** SMOKE DEVELOPMENT = **1.9**
#20	CLASS A FIRE TESTING (TESTS FOR FIRE RESISTANCE OF ROOF COVERING MATERIALS)	UL 790 ASTM E-108	**UNDERWRITERS LABORATORIES INC.**	86NK28409	FLYING BRANDS - **NONE**. DECK EXPOSURE - **NONE.** LATERAL FLAME SPREAD - **NONE.**
#21	LOW TEMP. STABILITY TEST: INTERIOR COATING	JIS A 6909 (1984) 5.5	**MIYAHARA & CO. LTD.**	631532	**PASSED:** REQUIREMENTS: SHOULD NOT SEPARATE. INGREDIENTS SHOULD NOT SEPARATE, NOT JOINT TOGETHER.
#21	RESISTANCE OF CRACKING AT INITIAL DRYING STAGE TEST: INTERIOR COATING	JIS A 6909 (1984) 5.7	**MIYAHARA & CO. LTD.**	631532	**PASSED:** REQUIREMENTS: SHOULD NOT HAVE OCCURRENCE OF CRACKS.

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#21	ADHESION STRENGTH (NORMAL CONDITION) TEST: INTERIOR COATING	JIS A 6909 (1984) 5.8	**MIYAHARA & CO. LTD.**	631532	**PASSED:** AVERAGE = **158.8 N/cm^2** MINIMUM STANDARD = **29.4 N/cm^2**
#21	WASHABILITY TEST: INTERIOR COATING	JIS A 6909 (1984) 5.11	**MIYAHARA & CO. LTD.**	631532	**PASSED:** REQUIREMENT: SHOULD NOT PEEL NOR RUB OFF.
#21	IMPACT, SHOCK RESISTANCE TEST: INTERIOR COATING	JIS A 6969 (1984) 5.12	**MIYAHARA & CO. LTD.**	631532	**PASSED:** REQUIREMENT: SHOULD NOT CRACK, CHIP, PEEL NOR OBVIOUS CHANGE SHAPE OR FORM.
#21	ALKALINITY TEST: INTERIOR COATING	JIS A 6909 (1984) 5.13.2	**MIYAHARA & CO. LTD.**	631532	**PASSED:** REQUIREMENT: SHOULD NOT CRACK, BLISTER, PEEL, NOR GUMMING, SHOULD NOT HAVE NOTICABLE COLOR CHANGE NOR DULLNESS
#21	DISCOLOURATION TEST: INTERIOR COATING	JIS A 6909 (1984) 5.17	**MIYAHARA & CO. LTD.**	631532	**PASSED:** (GRAY SCALE # 4-5) REQUIREMENT: SHOULD NOT CRACK, PEEL, SHOULD DISCOLOUR ABOVE GRAY SCALE # 3

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#21	HEAT RESISTANCE TEST: INTERIOR COATING	JIS A 6909 (1984) 5.18 / JIS A 1321	**MIYAHARA & CO. LTD.**	631533	**FUSION: PASSED:** REQUIREMENT: SHOULD NOT FUSE THE TOTAL THICKNESS OF THE TESTING BODY. **FISSION: PASSED**: REQUIREMENTS: SHOULD NOT HAVE WIDTH OF CREVICES NO MORE THAN 1/10 OF THICKNESS AT THE REVERSE SIDE. **TRANSFORMATION: PASSED:** REQUIREMENTS: SHOULD NOT HAVE OBVIOUS HARMFUL SHAPE OR FORM AFTER HEAT IS EXTINGUISHED. **FLAME RETENTION: PASSED:** REQUIREMENTS: FLAME SHOULD NOT REMAIN OVER 30 SECONDS AFTER HEATING STOPPED. **BOW AT COOLED TEMP: PASSED:** REQUIREMENTS: THE BOW SHOULD NOT EXCEED THE BOW AT NORMAL TEMP. **COMBUSTION COEFFICIENT OF AREA UNIT: PASSED:** MEASUREMENTS ARE 8, 9, 8
#22	LOW TEMP. STABILITY TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.5	**MIYAHARA & CO. LTD.**	631533	**PASSED:** REQUIREMENTS: SHOULD NOT SEPARATE. INGREDIENTS SHOULD NOT SEPARATE, NOT JOINT TOGETHER.
#22	RESISTANCE OF CRACKING AT INITIAL DRYING STAGE TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.7	**MIYAHARA & CO. LTD.**	631533	**PASSED:** REQUIREMENTS: SHOULD NOT HAVE OCCURRENCE OF CRACKS.

REF. NR.	TEST CRITERIA	STANDARD	LABORATORY	REF. NR.	REPORT
#22	ADHESION STRENGTH (NORMAL CONDITION & AFTER SATURATION) TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.8	**MIYAHARA & CO. LTD.**	631533	**NORMAL CONDITIONS: PASSED** AVERAGE = **138.2 N/cm^2** MINIMUM STANDARD = **49.0 N/cm^2** **AFTER SATURATION: PASSED** AVERAGE = **234.2 N/cm^2** MINIMUM STANDARD = **29.4 N/cm^2**
#22	RESISTANCE TO REPEATED TEMP. CHANGE TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.9	**MIYAHARA & CO. LTD.**	631533	**PASSED**: REQUIREMENT: SHOULD NOT PEEL, CRACK, BLISTER NOR NOTICEABLE DISCOLOURATION, DULLNESS ON THE SURFACE.
#22	WATER PROOF (PENETRATION) TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.10	**MIYAHARA & CO. LTD.**	631533	**PASSED**: RESULT = **0.1 cm** MINIMUM REQUIREMENT = **1.0 cm**
#22	WASHABILITY TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.11	**MIYAHARA & CO. LTD.**	631533	**PASSED**: REQUIREMENT: SHOULD NOT PEEL NOR RUB OFF.
#22	IMPACT, SHOCK RESISTANCE TEST: EXTERIOR COATING	JIS A 6969 (1984) 5.12	**MIYAHARA & CO. LTD.**	631533	**PASSED**: REQUIREMENT: SHOULD NOT CRACK, PEEL NOR OBVIOUS CHANGE SHAPE OR FORM.
#22	ALKALINITY TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.13.2	**MIYAHARA & CO. LTD.**	631533	**PASSED**: REQUIREMENT: SHOULD NOT CRACK, BLISTER, PEEL, NOR GUMMING, SHOULD NOT HAVE NOTICABLE COLOR CHANGE NOR DULLNESS
#22	RESISTANCE TO WEATHER & CLIMATE TEST: EXTERIOR COATING	JIS A 6909 (1984) 5.14	**MIYAHARA & CO. LTD.**	631533	**PASSED**: (GRAY SCALE # 4-5) REQUIREMENT: SHOULD NOT CRACK, PEEL, SHOULD DISCOLOUR ABOVE GRAY SCALE # 3

EXHIBIT C

Thermo-shield has been widely tested in accredited Laboratories, under private and Government sponsorship, and in actual field tests. Here are some of those results:

America's ASTM testing . . .
ASTM D-412 Tensile Strength and
ASTM D-865 Deterioration By Heating In Air,
These test results actually show Thermo-shield roof coating to get stronger and more durable with aging.

ASTM C-177 Steady State Heat Flux and
ASTM C-1045 Thermal Transmission Properties, Roof Coating At 5 Mil. Thickness.
(K-Value .0514) (R-Value 22) *

ASTM D-1653 Water Vapor Permeability and
ASTM E-96 Permeability.
Both tests show Thermo-shield roof coat with 8.8 perm rating, this is excellent, 160 x as much as one of our main competitors, claiming the same property.

Japanese JIS (Industrial Standards) testing. . .
JIS A 6909 5.12 Test For Waterproofing
Maximum to pass test is 1.0 CM rating, Thermo-shield was 0.1 CM, 10 times better than required.

JIS A 6909 5.14 Resistance To Weather &Climate
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US Dept of Energy tests at Oakridge National Labs, Long term Heat Flux tests on roofing systems.
After 3 year test, Thermo-shield Roof Coat maintained 70% reflectivity and reduced heat flux by 66%. The best performance of all white and aluminum coatings tested. You can't get a better reference than that!

Hauser Laboratories test comparison of heat transfer through Thermo-shield vs. other common coatings.
Thermo-shield Interior Coat, white .0871 BTU\HR sq ft, Normal paint , white 1.163 BTU\HR sq ft. Normal paint allows 37% more heat to pass through.

Tests at a certified lab on metal storage buildings
Thermo-shield Exterior Coating out preformed 2" of Fiberglass in the walls and 3" in ceilings in keeping the interior cooler, building also cooled off much quicker

St. Louis comparison tests on 3 houses, one painted with Thermo-shield Exterior.
The Thermo-shield house had energy costs that were 42 percent less, savings summer and winter, totaling $760.00 per year .

*Note some specialists say the ASTM formula for R-Value in this test "R = 1/K" is oversimplified .

Thermo-shield Benefits

Beautiful Finish - Blocks Heat Gain or Loss - Waterproofing - Variable Permeability -Humidity Control - Noise Absorption - Non Toxic in Liquid or Cured Form - No Joints or Seams - Low VOC / No Harmful Emissions - Washable, Scrubable - Eliminate Condensation - Environmentally Friendly - Easy to Insulate Existing Buildings - Foot Traffic Resistant - Remains Flexible - Mold, Mildew, Fungus Resistance - Stain Resistant - Energy Savings/Quick ROI - Easy to Apply - High Fade Resistance - Long Life Performance - Chemical Resistant - Crack Bridging - Improves Air Quality - Long Factory Warranty - Un Effected by UV Exposure - Fire Resistance - Blocks Sound Transmission - Competitive Price - Over 25 Years of Testing and History

EXTERIOR WALL COAT, INTERIOR WALL COAT, ROOF COAT, TEXTURE COAT, TANK SHIELD, CLEAR WOOD AND DECK COAT

www.thermoshield.com

Full service Dealer\Distributor

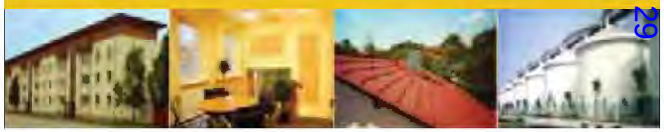
ROCKET SCIENCE

FOR HOMES, BUSINESS AGRICULTURAL AND INDUSTRY

THERMO-SHIELD®
Genuine, Made in USA.

HOW IT WORKS

THERMO-SHIELD products are the original ceramic fortified coatings developed in Colorado Springs, CO. in the 1970's. General Industries Corp. worked closely with the 3-M company who developed the correct ceramics, and Rohm + Haas, who formulated the unique polymers and pure acrylic resins. These industry leaders worked 7 years to develop the "PERFECT" coatings system. THERMO-SHIELD products are the result! Proven here and around the world, In some of the harshest climates on Earth,



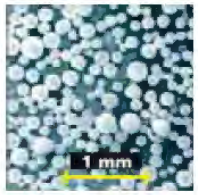
Over 25 Years of Service

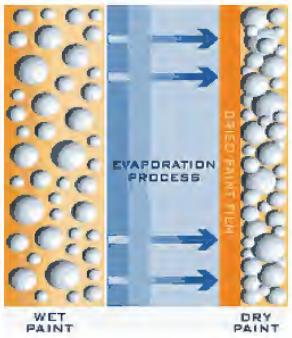
Exhibit C

Ceramics are known to be a great non conductor of heat as shown here. The ceramic cube glows at 2200 degrees f in the center, yet can safely be handled by bare hand. Physics law states nothing can move by conduction through a vacuum, since it represents an absence of matter. In plain English it's impossible for heat or sound to travel by conduction through a vacuum. Space Shuttle technology combines ceramic tiles with a vacuumed center to protect the Space Shuttle against the incredible heat at re-entry.

In the early 1970's General Industries Corp, joined with the 3-M Company, and Rohm & Haas, to develop this technology into a system that could be used on homes and buildings. After 7 years of research and development Thermo-shield was born.

The 3-M Company supply the ceramic, microscopic hollow sphere's, in effect, miniature thermos bottles that are also vacuumed . Rohm & Haas helped develop the special pure acrylic resins and unique polymers that keep the ceramic solids in uniform suspension until applied. These special polymers and resins also give it the lasting flexibility, excellent adhesion, and the unique ability to achieve a long lasting protective barrier, but with none of the reported damaging side effects with some E I F S systems. Waterproofing when you need it, breathable when you don't, never trapping moisture in.





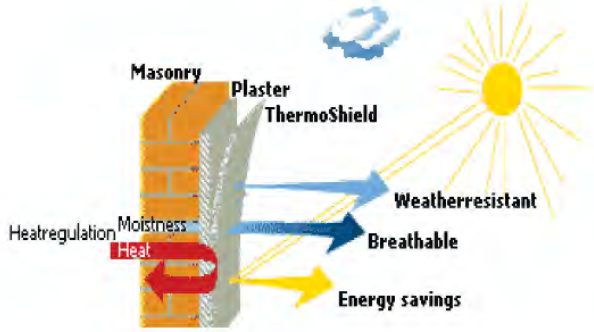
Thermo-shield products are fluid applied and dry to form a seamless monolithic microstructure virtually eliminating air infiltration and heat transfer. Surfaces coated are not only reluctant to conduct heat, but refract, and dissipate heat away from the surface. This very effective THERMAL BLANKET blocks heat from entering in the summer, but also helps keep the heat in during the winter.

THERMO-SHIELD®
Genuine. Made in USA.

Micro-spheres are poured into bare hand and propane torch is ignited

Micro-spheres protect hand from incredible heat of the torch

All of the ingredients are synthetic. Most other paints and coatings use organic materials as fillers. Natural materials that are readily broken down by nature: Thermal Shock, Extreme Heat or Cold, Chemicals, Ultra Violet Radiation, Ozone Decay, Blistering, and Weather such as Wind, Rain, Snow, Hail, or sand abrasion. Other coatings get hard, crack, peel, fade, decay and turn chalky, or simply decompose. The ceramic vacuum micro-spheres are the filler in Thermo-shield. The coating protects its self as well as the substrate it covers, this makes Thermo-shield last and last. The first applications done back in the early 1980's still look sharp, bright, and like new.



The special polymers will remove the moisture that has built up in walls over time and various conditions. This makes the walls more efficient. Its hard to stay warm in a wet coat and the same is true with your walls

Great Science. Great Service. Great Savings.

Elementary Level Charter School opens in Salt Lake City for 06-07 season. School has Thermo-Shield Interior throughout.

48,000 sq ft school has heating bills that average only $300.00 per month for record cold winter 2006

Waterproofing and color change, the goal on this home, SLC, UT. low slope aluminum shingle that was PINK! Leak issue solved, color issue solved. Owner shocked- reports using 34 % less gas to heat !

1 of the 3 Thermo-shield coated homes that survived the Jones Valley fire in Redding, California 2003. Over 60 homes were destroyed in this mobile home complex, including the neighbors on all sides of this one. The one thing the 3 homes that survived this disaster have in common is Thermo-shield Exterior Walls

Historic home turned office headquarters of Managemen in SLC,UT has been restored using Thermo-shield Exterior. Just approved for National Historic Registry.
(owner also has Interior Wall Coat in

Owners of 55 ft. houseboat, The Jobsite, out of Bull Frog Marina, Lake Powell Utah where summer temperatures routinely reach 120 f have Thermo-shield Roof System and report "stopped all leak concerns and has dropped temperature in boat by 40—50 degrees. Love it!

University of Nevada, Las Vegas developed the Arid Regions Environmental Laboratory to test new technologies that could help in saving on energy demand. They constructed 2 identical chambers equipped with a heating and cooling system and various sensors to measure energy usage. The first technology tested was ceramic fortified coatings. June—September, 1994 One chamber coated with white exterior paint, one with ceramics. ceramics saved, on average, 51.32 % of energy.

EXHIBIT D

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ROOF

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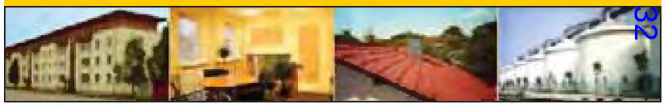

Over 25 Years of Service !

JUST USING THERMO-SHIELD CAN SAVE YOU UP TO 50 % ON YOUR HEATING AND COOLING COSTS. THESE COATINGS CAN PAY FOR THEMSELVES MANY TIMES OVER DURING THEIR GUARANTEED LIFE

THERMO-SHIELD®
Genuine, Made in USA.

Authorized Distributor:

Roof ...

Thermo-shield roof coat is much more than a simple surface treatment, when applied according to manufacturers directions, it is a 10 year warranted roof system, at 10 years the roof is reconditioned by applying 1\2 the amount of original and the warrantee extends another 10 years. Able to water proof even flat, problem roofs, prone to ponding of water. It's ease of application and low cost per square foot make it the easy choice.

Thermo-shield Roof Coating has been applied on all kinds of roofs beginning in 1980, with a success record that will give peace of mind to customer and contractor alike.

The ceramic component, a key ingredient in all Thermo-shield coatings not only protects whatever surface it is applied to, but the ceramics also protect the coating itself, making Thermo-shield the toughest, best performing, long lasting, waterproofing solution available today. Testing done for the Department of Energy, at the prestigious Oak Ridge National Laboratories, in a 3 year study of leading reflective coatings, and effect on heat gain shows Thermo-shield out performs every other coating tested. You can't get a better reference than that .

No hot tar, no 1200 degree torch, no solvents, glues, or noxious fumes. And no specialized training is required. Thermo-shield applies as easy a coat of paint. The system can be applied by anyone, home owners, contractors, business and property owners, home owner associations, facilities management and maintenance departments, etc, etc. And with the Comfort Level inspection and certification service, everyone can receive the peace of mind that comes with a full, 10 YEAR manufacturers warranty. GREAT FOR RV'S , TRAILERS, AND BOATS!

USE ON: shingles, wood shakes, roll roofing, tile, slate, metal, torch down, composites, fiberglass, asbestos, modified bitumen's, EPDM, concrete, and even built up tar and gravel .....
AND THERMO-SHIELD PRODUCTS LAST 3 TO 5 TIMES LONGER

EXHIBIT E

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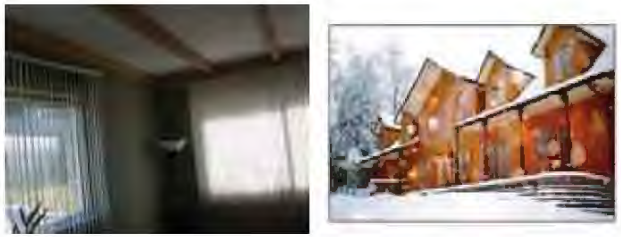

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ROCKET SCIENCE

For Homes, Business, Agricultural, and Industry

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EXTERIOR

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THERMO-SHIELD
Genuine, Made in U.S.A.

Authorized Distributor:

Exterior ...

THERMO-SHIELD Exterior Wall coatings will not crack, chip, peel, or fade. Even deep, rich colors will stay vibrant and bright, Blues stay blue, Yellows stay yellow, Reds won't fade and wash out, even in the harshest climates. The flexible, seamless, monolithic system will bond to almost any clean surface, filling cracks and gaps and also prevents new one from forming. It is 100% waterproof when you need it, yet absolutely breathable, never trapping moisture, mold, mildew, or dry rot in your walls. The unique nature of this remarkable coating will remove moisture that has built up in walls for years, preparing the wall for winter. You can't stay warm in a wet coat, and the same is true with walls.

THERMO-SHIELD is tintable to any color you can imagine, or it can be matched to your existing color. The longest lasting fade resistance available allows you to phase your project to suit your budget and not end up with a patch work look. The coatings are produced from 100% synthetic materials. This is important because paints and other coatings use fillers (a polite word for various clay, or silt, OTHERWISE DIRT) , organic materials that are readily broken down by nature. The vacuumed ceramic micro-spheres are the filler in THERMO-SHIELD.

These ceramics make the coating an excellent insulator, performing like inches of other insulation. That's just the ceramics, factor in that THERMO-SHIELD forms a seamless, beautiful, crack free surface, and then remains flexible, even in the harshest of conditions, this can dramatically reduces air infiltration and can lead to

savings of up to 50%

of your heating and cooling costs.

ALL THESE BENEFITS FOR THE COST OF PAINT !

Insulate, Restore, Beautify, Protect, Sound Proofing, Fire Resistance, Healthy Room and Environment

USE ON: STUCCO, WOOD, CONCRETE, STEEL OR ALUMINUM SIDING, MASONITE, HARDI-BOARD, METAL, CEDAR SHINGLE, FIBREGLASS, BRICK AND BLOCK, PLASTER,, TILE, GLASS, VINYL, FABRIC, ETC, ETC, ETC . .

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ASTM D-865 Deterioration By Heating In Air,
These test results actually show Thermo-shield roof coating to get stronger and more durable with aging.

ASTM C-177 Steady State Heat Flux and
ASTM C-1045 Thermal Transmission Properties, Roof Coating At 5 Mil. Thickness.
(K-Value .0514) (R-Value 22) *

ASTM D-1653 Water Vapor Permeability and
ASTM E-96 Permeability.
Both tests show Thermo-shield roof coat with 8.8 perm rating, this is excellent, 160 x as much as one of our main competitors, claiming the same property.

Japanese JIS (Industrial Standards) testing. . .
JIS A 6909 5.12 Test For Waterproofing
Maximum to pass test is 1.0 CM rating, Thermo-shield was 0.1 CM, 10 times better than required.

JIS A 6909 5.14 Resistance To Weather &Climate
Did not crack, peel, or discolor to minimum scale of #3, Thermo-shield maintained a #4 - #5 scale, rating Excellent, best of any paint tested by the Japanese National Testing Laboratories.

US Dept of Energy tests at Oakridge National Labs, Long term Heat Flux tests on roofing systems.
After 3 year test, Thermo-shield Roof Coat maintained 70% reflectivity and was still reducing heat flux by 66%. The best performance of any coating tested. You can't get a better reference than that!

Hauser Laboratories test comparison of heat transfer through Thermo-shield vs. other common coatings.
Thermo-shield Interior Coat, white .0871 BTU\HR sq ft, Normal paint , white 1.163 BTU\HR sq ft. Normal paint allows 33% more heat to pass through.

Tests at a certified lab on metal storage buildings
Thermo-shield Exterior Coating out preformed 2" of Fiberglass in the walls and 3" in ceilings in keeping the interior cooler, building also cooled off much quicker

St. Louis comparison tests on 3 houses, one painted with Thermo-shield Exterior.
The Thermo-shield house had energy costs that were 42 percent less, savings summer and winter, totaling $760.00 per year .

* Note some specialists say the ASTM formula for R-Value in this test "R = 1/K" is oversimplified .

Thermo-shield Benefits

Beautiful Finish - Blocks Heat Gain or Loss - Waterproofing - Variable Permeability -Humidity Control - Noise Absorption - Non Toxic in Liquid or Cured Form - No Joints or Seams - Low VOC / No Harmful Emissions - Washable, Scrubable - Eliminate Condensation - Environmentally Friendly - Easy to Insulate Existing Buildings - Foot Traffic Resistant - Remains Flexible - Mold, Mildew, Fungus Resistance - Stain Resistant - Energy Savings/Quick ROI - Easy to Apply - High Fade Resistance - Long Life Performance - Chemical Resistant - Crack Bridging - Improves Air Quality - Long Factory Warranty - Un Effected by UV Exposure - Fire Resistance - Blocks Sound Transmission - Competitive Price - Over 25 Years of Testing and History

EXTERIOR WALL COAT, INTERIOR WALL COAT, ROOF COAT, TEXTURE COAT, TANK SHIELD, CLEAR WOOD AND DECK COAT

We Sell ENERGY STAR

www.thermoshield.com

THERMO-SHIELD® Genuine, Made in USA

ROCKET SCIENCE

FOR HOMES, BUSINESS AGRICULTURAL AND INDUSTRY

THERMO-SHIELD® Genuine, Made in USA

INTERIOR

THERMO-SHIELD products are the original ceramic fortified coatings developed in Colorado Springs, in the 1970's. General Industries Corp. worked closely with the 3-M company who developed the correct ceramics, and Rohm + Haas, who formulated the unique polymers and pure acrylic resins. These industry leaders worked 7 years to develop the "PERFECT" coatings system. THERMO-SHIELD products are the result! Proven here and around the world, In some of the harshest climates on Earth,

Over 25 Years of Service!

USING THERMO-SHIELD INTERIOR, IN PLACE OF PAINT, CAN SAVE YOU BIG $$ ON YOUR HEATING AND COOLING COSTS. THESE COATINGS CAN PAY FOR THEMSELVES MANY TIMES DURING THE 15 YEAR GUARANTEED LIFE

THERMO-SHIELD
Genuine, Made in USA.

Authorized Distributor:

Interiors . . .

THERMO-SHIELD *Interior Wall Coatings provide a beautiful "satin-like" finish that changes tones as the light changes. The ceramics reflective ability will brighten even a dark hallway , using the same existing light. Lab tests show 37% less heat loss through THERMO-SHIELD white interior, compared to white paint, and that's just the ceramics at work! Factor in a seamless, monolithic, crack free ceiling and wall system and air infiltration is dramatically reduced! This can lead to savings of up to 50% on heating and cooling costs!*

THERMO-SHIELD *products are totally breathable, never trapping moisture, mold, or mildew in your walls. In fact the special polymers and resins in the coatings will take excess moisture from the from the substrate, preparing the wall for winter, making it more efficient, it also helps keep humidity levels at optimum conditions. No toxins, emissions, or fumes, dirt and dust levels are significantly reduced.*

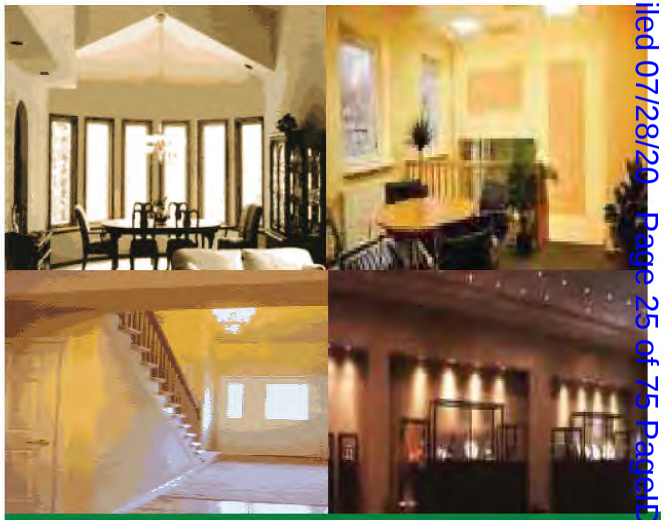
Heated molecules strike the ceramics and bounce away, staying in constant motion. Molecules in motion cause a phenomenon called " mean radiant heat ", which is like standing in the sun or standing in the shade. The temperature will be the same but feels much warmer in the sun because of the molecules in motion striking the skin. This happens in a THERMO-SHIELD room, customers tell us they "set their thermostats 4-6 degrees cooler and experience the same COMFORT LEVEL! Durable, scrubable, stain resistant, easy to clean. Class A fire resistance rated.

The ceramics also improve sound quality, muffling echoes, improving acoustics and reducing sound transmission.

Infrared Imaging shows heat from hand radiating back into Thermo-shield room, while heat just disappears into wall with ordinary paint

Thermo-shield

Ordinary Paint



USE ON: any interior wall or ceiling surface,
AND THERMO-SHIELD PRODUCTS LAST 3 TO 5 TIMES LONGER

Exhibit F

EXHIBIT G

Thermoshield Insulating Value

Radiant Barrier

A radiation control coating is analogous to a radiant barrier. Its resistance to heat flow or **"R"** value increased tremendously with the increase in the reflectivity of the surface. This ultra-thin barrier and its ability to reflect the heat from its surface was later known as **"Radiant Barrier"**.

ASHRAE is aware of the unique property of the thin film of still air on the surface of a radiant barrier, where as the radiant barrier itself could be metallic and a heat conductor. But as long as there is no physical contact or "conduction" the radiant barrier can increase the insulating value **"R"** of the still air against it. Most ceiling and wall insulations are now sold with radiant barrier surfaces to take advantage of this phenomenon.

> ***Highly reflective surface like a bright aluminium foil can increase thermal resistance or "R" value in an enclosed space up to four (4) times as compared to a non-reflective substrate.***
>
> ***Thickness is not a factor in the increase of the insulating value.***
>
> Ashrae handbook of Fundamental (1972)
> *Chapter 20, P. 357 - "Surface Conductances and Resistances for Air"*

These "R" values were derived from controlled ideal laboratory conditions utilising ASTM Standard C236, Guarded hot box or the ASTM Standard C976, Calibrated hot box procedures.

Whereas ***Radiant Barrier*** is used in enclosed ceiling space and walls to improve its overall insulation value, a ***Radiation Control Coating*** is used on the surface to re-radiate or reflect and dissipate radiant heat.

A Radiation Control Coating must have the following re-radiation properties to be effective as an exterior radiant barrier:

1. Low solar absorbance (will absorb less solar energy)
2. High emittance value (will radiate more heat away from surface)
3. High convection coefficient (will convect more heat to the ambient air as surface temperature increases)
4. Very low thermal conductivity ("R" value reciprocal)

Insulation Value Equivalent

Material Testing facilities, TRW and Singapore's SISIR are both world renown in their standard of performance. We have relied heavily on their test results in evaluating the thermo physical properties of ceramic coatings.

The Department of the US Air force performed an independent test of their own for their interest in using the coating in lieu of insulation on expansive aircraft hangar buildings. Lowering down the surface skin temperature of the metal roofing will drastically reduce thermal expansion at peak afternoon temperature. Reducing thermal shock or roof movement will reduce water leaks and corrosion.

This is evident in large metal roofs coated with ceramic coating where water leaks had stopped and a much cooler inside temperature is experienced.

The Christian Testing Lab is the closest test in determining the actual R-value equivalent of the ceramic coating. SISIR K-value will give us an R-value of 40 per 2.54cm. But our coating does not function as an insulation alone as exhibited in the TRW tests. Having a similar property as a radiant barrier, the thickness is of minor consequence.

The surface thermo physical characteristic plays a major role in its ability to provide high reflectivity and drastically reduces inward radiation of exterior heat. The unique property of ceramic coatings has proved in an actual controlled test that it is equivalent to 10.15cm thick of Styrofoam (extruded) insulation of R-20 value. ($\frac{ft^2 \cdot °F}{Btu}$)

Ceramic Coating True R-Value

Acting as Pure Insulation = R-40 per inch (see figure 1)

Incorporating three independent test results produced an almost linear line proving that this generated curve will give us an accurate R-value of the ***Ceramic Coating***.

However, we must remember that if we use this product as a ***Radiation Control Coating***, its other thermo physical properties will come into play and will give a much higher R-value equivalent.

Metric conversions: For R-values $\frac{ft^2 \cdot °F}{Btu}$ to metric format of R-value, multiply as per following example.

R-value 40 $\frac{ft^2 \cdot °F}{Btu}$ x 0.1761 = R-value 7.044 $\frac{m^2 \cdot °C}{W}$

Referring to the above R-value of 40 per inch as per test ASTM C518-85 of the Singapore institute of Standards and Industrial Research, one must take into consideration that this value reflects only a comparison of pure insulation and is not truly representative of the coating's ability as referred to in the Results Summary under point number 3 in this document.

Our ceramic coating's effective efficient capability to re-radiate, i.e. reflect solar spectrum energy, e.g. UV, Visible, Near infra-red and Far Infra-red wave lengths will increase the usable R-value with which to calculate heat loads for all buildings to R-20 $\frac{ft^2 \cdot °F}{Btu}$

Thermoshield Insulating Value contued

Radiation Control Thermal Test I

TRW Space and Technology

Engineering and Test Division
One Space Park, Redondo Beach CA, 90278

Test Performed

Solar Absorbance And Emittance Radiation Control Ceramic coating samples. July 1986

Result Summary

Low solar absorbance as (0 .18 - 0.20)
comparable to spacecraft coating.

High emittance value eb (0 .90 - 0.97).

High convection coefficient h
(1.2 @ 32°C ambient air)
(1.26 @ 44°C ambient air)

Radiation Control Thermal Test II

Department of the Airforce

15th Air Base Wing (PACAF)
Hickam Air Force Base Hawaii, 96853-5000

Test Radiation Control

Ceramic coating of Bldg. 1209
Hickham AFB, Hawaii 96853 April 1997

Result Summary

Warehouse temp. before ceramic coating = 38°C average peak
Inside skin temp. of metal roof surface = 46°C

Warehouse temp. after ceramic coating = 30°C (decrease of 8°C)

Inside skin temp. of metal roof surface = 34°C (decrease of 12°C)

The conclusion of the test proved that the ceramic coating provides a highly heat reflective insulation that decreases the inward radiation of exterior heat. The coating is unquestionably an effective and cost efficient way to insulate buildings.

Radiation Control Thermal Test III

Christina Test Laboratories Inc

2625 Lower Wetumpka Road
Montgomery, Alabama, 36110

Thermal Performance Tests

of Two Similar Structures
(Similar to ASTM C236) July 1978

Result Summary

Two test buildings of 183m x 2.44m x 2.35m high were constructed with all walls fully insulated. After determining that both buildings have the same thermal characteristic, one was coated with ceramic coating on the bare metal roof. Hourly temperatures were taken on both buildings and underside Styrofoam roof insulation was added to the non-coated roof until the hourly inside room temperature equalised.

It required a total of 10.16cm thickness of the
(extruded) Styrofoam insulation extruded before the room temperature was brought down to equal the building with the ceramic coating.

Therefore, with Styrofoam R-Value of 5, ($\frac{ft^2 \cdot °F \cdot hr}{Btu}$) the equivalent value of 20 equals the thermal insulating performance of two coats of ceramic coating @ approx. 381 micron DFT.

Radiation Control Thermal Test VI

Singapore Institute of Standards & Industrial Research

Ref. No. GC/12/3/1713SISIR/FP
July, 1990

ASTM C518-85 Thermal

Conductivity Test on Radiation
Control ceramic coating.

Result Summary

Two pieces of concrete slabs, each on nominal size of 300 x 300 x 30mm thick, one with a thin coat of (approx. 0.5mm) of ceramic coating on the surface of the slab.

The ASTM C518-85 “Steady-State Thermal Transmission Properties by means of the heat Flow Meter” was performed on both specimen.

Using standard fibreglass insulation for flow meter calibration thermal conductivity reading on 25.4mm thickness was 0.03556@/m Deg K at mean temperature of 31°C.

The K-value of the 0.5mm ceramic coating was 0.00345W/m Deg K or theoretically (10) ten times better than fibreglass.

Combining the very low thermal conductivity of the ceramic coat, and its low solar absorbance, complemented by its high emittance value and high convection coefficient has made Radiation Control Coatings a very simple, efficient and cost effective way to insulate buildings.

Thermoshield Insulating Value contued

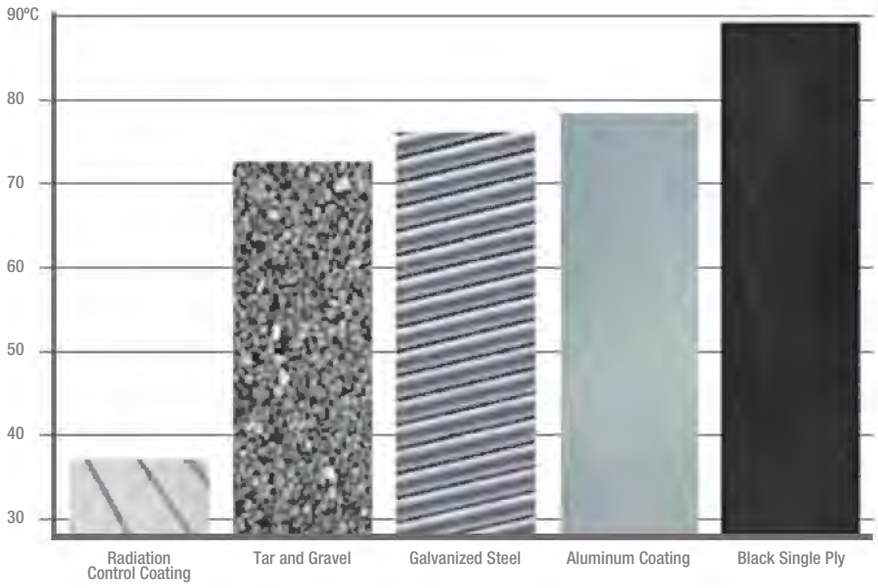
The Effects of Colour on Temperature

Tests were conducted to determine the effect of colours on the temperature of a roof system. Coatings were applied over 2" of polyurethane foam. Small thermo probes were embedded in or under the coating material. The following graph shows the difference between coloured coatings and other roofing materials when exposed to sunlight.

Temperatures of Coatings and Other Materials in Sunlight

These numbers were measured in north central Texas with an ambient temperature of 32°C. Higher altitudes or ambient temperatures above 32°C will result in even hotter surface temperatures than those measured. From the graph it may be seen that even light coloured coatings raise the temperature somewhat. Radiation control coatings reflect sunlight very well. Unfortunately, aluminium filled coatings by contrast are good absorbers of solar energy.

Aluminium coatings and galvanised steel both exceed 77°C while black single ply exceeds 88°C. Radiation control coatings are obviously more productive in repelling extreme heat.



Thermoshield re-radiates heat off a substrate and reflects damaging ultraviolet light.

The ceramic thermal barrier properties of Thermoshield are due to millions of hollow micro-ceramic beads that cluster together and create dead air space. The success of Thermoshield is due to its ability to counter 'radiant heat' transfer. Thermoshield remains effective when it becomes tarnished and addresses the full solar spectrum.

Thermoshield is unique as it has the ability to offer year round energy savings due to its high insulation properties.

A University of Melbourne study proved that Thermoshield has an additional benefit unseen in other products. This benefit is the ability of the product to improve the retention of heat within a building during colder weather.

EXHIBIT H

ROOF COATINGS SPECIFICATIONS

DESCRIPTION * * * THERMO-SHIELD® ROOF COATING IS A HIGHLY EFFICIENT ENERGY-SAVING FLEXIBLE COATING. THERMO-SHIELD® ROOF COATING IS A WATER-BASED, PURE ACRYLIC RESIN SYSTEM FILLED WITH HOLLOW SODIUM BORO-SILICATE CERAMIC MICROSPHERES. EACH MICROSPHERE ACTS AS A SEALED CELL AND THE ENTIRE MASTIC ACTS AS A THERMALLY EFFICIENT BLANKET COVERING THE PROTECTED STRUCTURE. THERMO-SHIELD® ROOF COATING IS HIGHLY REFLECTIVE AND DISPLAYS EXCELLENT DIRT PICK-UP RESISTANCE. IT ALSO RETAINS ITS FLEXIBILITY AT LOW TEMPERA-TURES

TYPICAL USES* * * PRIMARILY USED AS A ROOF COATING, IT MAY BE UTILIZED WHEREVER A WEATHER RESISTANT, FLEXI-BLE, MEMBRANE LIKE COATING IS REQUIRED

PRIMERS*** NO PRIMER IS USUALLY REQUIRED. FOLLOW INSTRUCTIONS FOR PROPER

APPLICATION REGARDING WARRANTED SYSTEMS ON BITUMEN ROOFS. OUR FLEX-TAC BARRIER & BONDING COAT IS RE-QUIRED TO OBTAIN GOOD ADHESION BETWEEEEN THE OIL BASED SUBSTRATE AND OUR WATER BASED ROOF COATING. FLEX-TAC IS USUALLY USED WITH POL-E-FORCE REINFORCING FABRIC. SEE APPLICATIONS INSTRUCTIONS FOR DETAILS. RUSTY METAL WILL REQUIRE A RUST INHIBITOR AND A METAL PRIMER

SURFACE PREPARATION*** ALL SURFACES MUST BE CLEAN AND FREE FROM DUST, DIRT, OIL AND GREASE. MINIMALLY, SURFACES SHOULD BE CLEANED WITH A POWER WASHER PRIOR TO COATING PROVIDING THIS WILL NOT DAMAGE THE ROOF OR CAUSE LEAKING

COLOR* * * TINTING MAY BE ACHIEVED WITH THERMO-SHIELD® ROOF COATINGS BY THE ADDITION OF UNIVERSAL COL-ORANTS. DARKER COLORS WILL GIVE A CORRESPONDINGLY LOWER REFLECTIVITY TO THE COATING SYSTEMS

PERCENT NONVOLATILE*** 51.67% BY VOLUME / 51.14% BY WEIGHT

THEORETICAL COVERAGE*** 33.3 SQUARE FEET PER GALLON AT 27 MIL DRY FILM THICKNESS AND NO LOSS (TO BE APPLIED IN 2 OR MORE COATS). (27 MIL = 686 MICRON)

DRYING TIME TO SET: 45 MINUTES TO RE-COAT: 12 HOURS TO THROUGH: 12HOURS

(AT 75 DEG. FAHRENHEIT AND 50% RELATIVE HUMIDITY.)
AFTER 45 MINUTES THERMO-SHIELD® ROOF COATING HAS SURFACE SET TO THE POINT WHERE IT IS NO LONGER SUSCEP-TIBLE TO AIRBORNE DUST AND WILL NOT RUN IN THE PRESENCE OF INCREASED HUMIDITY (AT 75 DEG. F. AND 50% RELA-TIVE HUMIDITY.) DO NOT APPLY THERMO-SHIELD® COATING IF PRECIPITATION IS IMMINENT OR IS LIKELY TO OCCUR BE-FORE THERMO-SHIELD® ROOF COATING IS DRIED THROUGH, OR IF TEMPERATURE IS EXPECTED TO DROP BELOW 40 DEG. FAHRENHEIT.

FLEXI BI LITY* * * WILL PASS 180 DEG BEND AT 34 DEG F AFTER 6-MONTH EXPOSURE

ADHESION * * * EXCELLENT ADHESION TO A WIDE VARIETY OF SUBSTRATES: WOOD, URETHANE FOAM, GALVANIZED STEEL, ALUMINUM, ASPHALT ROOF SHINGLES, CONCRETE, ASBESTOS AND OTHERS.

ACCELERATED WEATHERING*** ASTM G-53, Q-UV, 3000+ HOURS. NO EVIDENCE OF CHALKING, DELIMITATION OR LOSS OF FLEXIBILITY.

RESISTANCE TO WATER PONDING*** THERMO-SHIELD® ROOF COATING DISPLAYS EXCELLENT RESISTANCE TO PONDING WATER. THIS IS A RESULT OF CAREFUL BALANCING OF THE FOLLOWING PROPERTIES:

PASSAGE OF BULK WATER AT 50 HOURS 40-55 mg/m2

PERMEABILITY (ASTM E-96-80) 8.8% PERMS

FILM SWELLNG (AT EQUILIBRIUM) 10-17%

Strong and Elastic ASTM D-865	Tensile Strength at 25% Elongation Tensile Strength at Break Ultimate Elongation at Break	35Kg/cm2 40Kg/cm2 70%
Breathing trapped water vapor ASTM 1653	Permeability - water vapor transmission	50 grains/m2/hour
Good resistance to long term ponding of water	Not more than 60 mg/m2	50 hours
UV Resistance ASTM G-53	Q-UV, 3000 + hours	No chalking, delaminating or loss of flexibility
Resistance to Ozone surface cracking ASTM 1149		No sign of failure
Chemical Resistance ASTM 1308 to 27 chemicals	16-hour spot tests on salt solutions, acids, petroleum products and other harsh chemicals	No harmful effect
Solar Reflectance ASTM E903-82 Solar Emissivity	Solar (p) Reflectance (white color) Infrared	82% 94%
Fire Resistance UL 790 & ASTM E-108		Class A rating
Thermal Conductivity ASTM E1225		0.0515 K
Oakridge National Laboratories	3-year testing program	Reduced summer heat flux through insulated bitumen panel by 66% (the best out of 26 products tested)

Authorized Distributor:

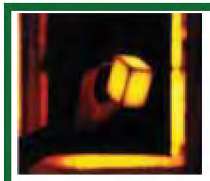
THERMO-SHIELD®

Genuine, Made in USA.

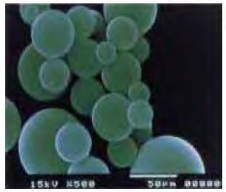
Fluid Applied Ceramics Roof System

Rocket Science For Home, Business, Industry And Agriculture.

- Tremendous Energy Savings
- Long Lasting Performance
- Promotes A Healthy Environment
- Proven Results ... Impressive ROI
- Made In The USA
- * A Coating That Insulates
- * 10-20 Year Factory Warranty
- * Always Low VOC
- * In Service For 25 Years
- * Energy Star Compliant



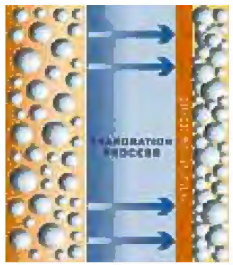
Ceramics are a well known non-conductor of heat, as shown in this remarkable picture where the ceramic cube glows from an interior temperature of 2200 degrees f, yet can be safely held by a bare hand. Space Shuttle science use's a ceramic composite tile system that is over 90% void. These voids contain a complete vacuum. In Physics Law it states that nothing can move by conduction through a vacuum. In the late 1970's General Industries Corp, a specialty chemical company, along with Rohm and Haas, who developed the special resins and polymers and the 3-M Company, who developed a practical way to use this Space Shuttle technology here on Earth in the form of vacuumed ceramic micro-spheres (less than 100 microns). These spheres are 60% void and in that void there is a complete vacuum. This picture shows just a thin layer of the vacuum ceramic micro- spheres protecting a hand from the incredible heat of this propane torch. This heat blocking protection can now be applied in a practical long lasting system to just about any substrate or surface, as a complete stand alone roof system, top coat, or repair.



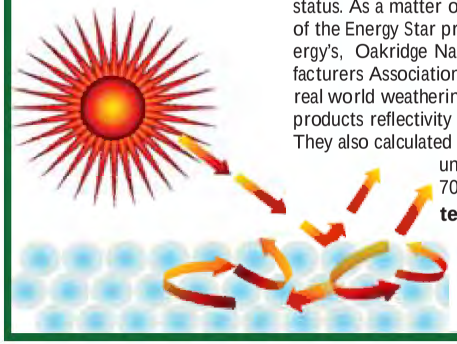
Thermo-shield Fluid Applied Ceramic Roof System contains over 50% by volume of these special vacuum ceramic micro-spheres.

Thermo-shield formula's are complex combinations of Acrylics, Elastomerics, Mastics, Weather-proofers, Dispensers, Reflector Materials, Mildew Inhibitors, Fungicides, Bonding Resins, Anti-shrink Materials, and other Materials Heretofore Unavailable. The resins are made up of very complex polymers that can hold onto huge amounts of solid particles and still have great adhesion. Normal resins loose much of their adhesion as solids are added. We add huge amounts of our vacuum ceramic micro-spheres, which should float to the surface, but are held in fluid suspension by the polymers. When applied, and the coating has cured, (water evaporates) these micro-spheres pack closely together forming a very effective heat blocking micro-structure. Special polymers also allow the substrate to breath. Under wet conditions they swell allowing no moisture to penetrate, but when dry, the substrate is allowed to vent off any trapped or built up moisture with an impressive 8.8 perm rating. Thermo-shield Roof forms a solidly bonded, seam free, highly flexible system that has an effective use range of

–50 degrees f to +400 degrees f .



Hemispherical Spectral Reflectance testing shows excellent reflectivity in the spectrums that account for heat transfer by radiation: 88% in the Visible Light spectrum, and 84% in the Infrared Light (hot) spectrum. It also directly reflects 16% of the harmful UV radiation. Independent Lab tests show UV exposure actually makes the coating stronger and more flexible. This high overall reflectance qualifies Thermo-shield Roof System for Energy Star status. As a matter of fact, Thermo-shield Roof is a charter member of the Energy Star program. In testing performed at the Dept. of Energy's, Oakridge National Laboratory along with the National Roof Coating Manufacturers Association, over 25 leading white and silver coatings where exposed to real world weathering for 3 years. The Oakridge scientists determined that a products reflectivity can drop as much as 50% during this relatively short time. They also calculated that, after the 3 years, reflectivity levels will remain the same until failure of the coating system. Thermo-shield Roof maintains 70% reflectance, the **best performance of any product tested,** beating the next closest competitor by14%.



Thermo-shield's high emmitance means that 90% of the radiation not directly reflected is emitted back into the atmosphere as infrared energy, not heat in roof. This leaves less than 2% radiant energy to be absorbed as heat.

Thermo-shield Roof also has a very low conductivity value. To put it in perspective, let's look at the conductivity or K-value of other common building materials.

(Taken from the 2005 ASHRAE Standards Handbook)

Clay Fired Brick 2.50-10.20,....Stucco 9.70, ...Hardwood, Oak 1.25, Wafer Board 0.63,... Fiberboard Acoustical Tile 0.42, ...Loose Fill Cellulose 0.27...

Thermo-shield Roof has a K Value of 0.05

This radiant barrier technology can even cut heating costs during cold weather, keeping more heat in your home, building, or facility.

As a stand alone Roof

On OSB Wafer Board...

... On Rigid Fiberboard Insulation/Taper System

...On Concrete. ..

As a top coat or repair over an existing system

Steel, Wood, Galvanized, Shingles, Aluminum, EPDM, Composition, Tile, Modified Bitumen, Fiberglass, Urethane Foam, Canvas, Stone, Etc, Etc.

At 33.3 sq. ft. per gallon coverage (27 mils DFT) Thermo-shield Roof is guaranteed not to leak, even with ponding water, 100% for a full 10 years.

Thermo-shield is being used in fountains and water features for a remarkable non-toxic waterproof liner.

After !0 years apply 1/2 the amount of original application and qualify for extended 10 year factory warrantee.

LOW VOC, Non-Toxic in liquid or cured state. No noxious fumes. Water based, easy clean up.

Incredible Fire Resistance with Type 1 Rating. UL Class A Type 1 Fire Resistance Rating is also available.

Completely Washable. Resists many harsh chemicals including oils, gasoline and acids.

Energy Star Charter Member. Qualifies for LEED points. Qualifies for State, Local, and Utility rebates.

Vacuum Ceramic Microspheres block sound transfer and add improved acoustics.

HEAT BLOCKING PERFORMANCE EQUIVILENT TO AN R-22 !

Thermo-shield Roof can be tinted to any color you choose!

EXHIBIT I

WATER-BASED
NON-HAZARDOUS

THERMO-SHIELD®

FLUID APPLIED CERAMIC COATINGS

SAVE ON ENERGY COSTS
RESTORES • INSULATES

WATERPROOF • FIRE RETARDANT
UV & HAIL RESISTANT

COLOR: THERMO-SHIELD® Roof-Coat is available in many colors.
SURFACE PREPARATION: Remove all loose materials. Surfaces must be clean, dry and free of dirt, wax, grease, loose or peeling paint and other foreign material. Repair cracks and other holes with spackling compound. Spot prime all patching work.
APPLICATION: Apply by spray or roller. Do not apply at temperatures below 40°F (5°C). Stirring may be required.
COVERAGE: Minimum 3.5 gallons / 100 square feet (1.4 Liters / Square Meter) for Flat Roofs, applied in 2-3 coats with a total dry film thickness of 27 mills (700 microns). Minimum 2.0 gallons/ 100 square feet (0.8 Liters/ Square Meter) for Sloped Roofs, applied in 2-3 coats with a total dry film thickness of 15 mills (380 microns).
CLEAN-UP: Clean all application equipment with warm soap and water.

CUSTOM-MIX COLORS MAY NOT DRY TO AN EXACT MATCH TO THE SAMPLE CHIP. CHECK THE COLOR BEFORE PAINTING TO DETERMINE IF IT IS YOUR CHOICE BY APPLYING THE PAINT TO A SMALL TEST AREA.

WARNING: If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear approved respirator to control lead exposure. Clean up carefully with a vacuum and **a wet mop.** Use only with adequate ventilation. To avoid overexposure, open windows and **doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air or wear respiratory** protection or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. FIRST AID: In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed get medical attention immediately.
Do not take internally. KEEP OUT OF REACH OF CHILDREN.
DO NOT FREEZE. Close container after each use.

MANUFACTURED BY:

SPM THERMO-SHIELD, INC.
Naples, Florida U.S.A

Tel.: 239-234-5832 Fax: 239-236-6767
www.thermoshield.com

This product contains less than 39.5 Grams / Liter VOC

ROOF COAT

THERMO-SHIELD®
Genuine, Made in USA.

5962

White

5 Gallons (US) **19 LITERS**

Product Warranty 5 Year Extendable Limited Warranty (Extendable to 10 or 15 Years)

SPM THERMO-SHIELD® (Hereinafter called SPM) warrants that the THERMO-SHIELD® ROOFING PRODUCTS, when properly applied, will retain their water tight integrity from the date of validation on the face thereof for a period of 5 years. This Extendable Limited Warranty may be extended for up to 15 years from the date of validation by proper re-application of the ROOF Coat at 5 year intervals commencing with the validation date. SPM SHALL HAVE NO OBLIGATIONS UNDER THIS Extendable Limited Warranty and such shall be of no force of effect, unless and until validated by an SPM distributor after the THERMO-SHIELD® ROOF PRODUCTS are applied. Such validation shall be evidenced by a document, signed and dated by an authorized representative of SPM THERMO-SHIELD®. This Extendable Limited Warranty does not apply to failure due to improper application or reapplication. Proper application or reapplication includes, but is not limited to, the requirement that the THERMO-SHIELD® ROOFING PRODUCTS be applied (a) according to the SPM Application Manual; (b) By an SPM Authorized Representation; (c) To a clean, dry, sound surface. Dirt or other substances found on the back side of failed product shall be deemed conclusive as to the fact that the THERMO-SHIELD® ROOFING PRODUCTS were improperly applied to an unsound or unsuitable surface, free from cracking, chipping or peeling paint that is compatible to THERMO-SHIELD® ROOF COATINGS. It shall be the responsibility of the applicator to do a test patch to determine that the COATINGS are compatible. Dirt, old paint, petroleum products or other substances found on the back side of failed product shall be deemed conclusive as to the fact that the THERMO-SHIELD® ROOF COATINGS were improperly applied to an unsound or unsuitable surface. Applications during inclement weather, including, but not limited to precipitation, fog, dew, wet surfaces, cold temperatures, application in areas of ponding water, or applying additional coats before the previous coat or coats are thoroughly dry will be considered improper application. The obligation of SPM under this Extendible Limited Warranty shall be limited to the replacement (FOB factory) of that portion of the material which fails to retain its integrity. This Warranty applies to the ROOFING PRODUCTS material only. This shall be the exclusive remedy and SPM's sole liability on contract or under this Extendible Limited Warranty or otherwise for any THERMO-SHIELD® ROOFING PRODUCTS. In no event will SPM be liable for any lost profits or other consequential damage from any cause whatsoever, even if such damages were foreseeable. SPM shall not be liable for any loss resulting from natural disasters, including, but not limited to, lightning, hurricanes, tornadoes, hail, and earthquakes, any acts of negligence, accidents, or misuse with respect to the THERMO-SHIELD® ROOFING PRODUCTS or to the surface to which such products are applied, including but not limited to vandalism, civil disobedience or acts of war or negligence of owner or owner's agents or contractors, any alterations or modifications to the roof not approved by SPM in writing, or any failure in the structure to which the roofing system is attached. **THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND, OR LIABILITIES ON THE PART OF SPM OF ANY NATURE WHATSOEVER. SPM NEITHER ASSUMES NOR AUTHORIZES ANYONE TO ASSUME FOR IT ANY OBLIGATIONS OR LIABILITIES NOT EXPRESSLY STATED HEREIN. THIS EXTENDIBLE LIMITED WARRANTY IS MADE ONLY TO THE ORIGINAL PURCHASER OF THE THERMOSHIELD® ROOFING PRODUCTS AND CANNOT BE EXTENDED TO ANY OTHER ENTITY. PURCHASERS OF CONSUMER PRODUCTS SHOULD NOTE THAT SOME STATES DO NOT ALLOW FOR THE EXCLUSION OF CONSEQUENTIAL DAMAGES OR THE LIMITATIONS THE DURATION OF IMPLIED WARRANTIES, SO THE ABOVE EXCLUSION AND LIMITATIONS MAY NOT BE APPLICABLE. THIS WARRANTY GIVES THE ORIGINAL PURCHASER SPECIFIC LEGAL RIGHTS AND THE PURCHASER MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE. ANY ADDITIONAL WARRANTY GIVEN BY THE APPLICATOR/DEALER IS SOLELY THE RESPONSIBILITY OF THE PERSON DOING THE WORK.**

Exhibit I

EXHIBIT J

WATER-BASED
NON-HAZARDOUS

THERMO-SHIELD®

FLUID APPLIED CERAMIC COATINGS

SAVE ON ENERGY COSTS
RESTORES • INSULATES

WATERPROOF • FIRE RETARDANT
UV & HAIL RESISTANT

COLOR: ***THERMO-SHIELD***® Exterior is available in many colors.

SURFACE PREPARATION: Remove all loose materials. Surfaces must be clean, dry and free of dirt, wax, grease, loose or peeling paint and other foreign material. Repair cracks and other holes with spackling compound. Spot prime all patching work.

APPLICATION: Apply by spray or roller. Do not apply at temperatures below 40°F (5°C). Stirring may be required.

COVERAGE: 1 gallon / 100 square feet (0.4 Liter / square meter) per coat. Two coats required. A total dry film application thickness of 8 mills (190 microns).

CLEAN-UP: Clean all application equipment with warm soap and water.

CUSTOM-MIX COLORS MAY NOT DRY TO AN EXACT MATCH TO THE SAMPLE CHIP. CHECK THE COLOR BEFORE PAINTING TO DETERMINE IF IT IS YOUR CHOICE BY APPLYING THE PAINT TO A SMALL TEST AREA.

MANUFACTURED BY:

SPM THERMO-SHIELD, INC.
Naples, Florida U.S.A

Tel.: 239-234-5832 Fax: 239-236-6767

www.thermoshield.com

This product contains less than 39.5 grams/Liter VOC (0.33 lbs / gal)

EXTERIOR WALL COATING

THERMO-SHIELD®
Genuine, Made in USA.

5961

White

5 Gallons (US) **19 LITERS**

WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air or wear respiratory protection or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. FIRST AID: In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed get medical attention immediately.

DO NOT FREEZE. Do not take internally.
KEEP OUT OF REACH OF CHILDREN

First Aid: If swallowed, DO NOT induce vomiting. Contains acrylic latex and silica. Give milk or water and call a doctor or Poison Control Center immediately. In case of contact with eyes, flush thoroughly with water. Call a doctor.

Close container after each use.

LIMITED WARRANTY & DISCLAIMER:

This product is believed to be of good quality. If the product proves to be defective within 90 days from the date of sale, the product will be replaced in accordance with manufacturer's warranties. Such replacement is and shall be the only liability of the manufacturer. The manufacturer shall not be responsible for labor costs of any kind or any other costs relating to installation, application or reapplication or of any damages resulting there from. THIS WARRANTY IS EXCLUSIVE AND THERE ARE NO OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED INCLUDING WARRANTIES OF FITNESS OR MERCHANTABILITY. FOR DETAILS PLEASE REFER TO THE MANUFACTURER'S LIMITED WARRANTY.

Exhibit J

EXHIBIT K

WATER-BASED
NON-HAZARDOUS

THERMO-SHIELD®

FLUID APPLIED CERAMIC COATINGS

SAVE ON ENERGY COSTS
BEAUTIFIES • RESTORES

INSULATES • FIRE RETARDANT
WASHABLE • DURABLE

INTERIOR WALL COATING

COLOR: ***THERMO-SHIELD***® Interior is available in many colors.

SURFACE PREPARATION: Remove all loose materials. Surfaces must be clean, dry and free of dirt, wax, grease, loose or peeling paint and other foreign material. Repair cracks and other holes with spackling compound. Spot prime all patching work.

APPLICATION: Apply by spray or roller. Do not apply at temperatures below 40°F (5°C). Stirring may be required.

COVERAGE: 1 gallon / 100 square feet (0.4 Liter / square meter) per coat. Two coats required. A total dry film application thickness of 8 mills (190 microns).

CLEAN-UP: Clean all application equipment with warm soap and water.

CUSTOM-MIX COLORS MAY NOT DRY TO AN EXACT MATCH TO THE SAMPLE CHIP. CHECK THE COLOR BEFORE PAINTING TO DETERMINE IF IT IS YOUR CHOICE BY APPLYING THE PAINT TO A SMALL TEST AREA.

MANUFACTURED BY:

SPM THERMO-SHIELD, INC.
Naples, Florida U.S.A

Tel.: 239-234-5832 Fax: 239-236-6767

www.thermoshield.com

This product contains less than
39.5 grams / L VOC (0.33 lbs / gal)

THERMO-SHIELD®
Genuine, Made in USA.

5977
White

5 Gallons (US) **19 LITERS**

WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Use only with adequate ventilation. To avoid overexposure, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness, increase fresh air or wear respiratory protection or leave the area. Avoid contact with eyes and skin. Wash hands after using. Keep container closed when not in use. FIRST AID: In case of eye contact, flush thoroughly with large amounts of water. Get medical attention if irritation persists. If swallowed get medical attention immediately.

DO NOT FREEZE. Do not take internally.
KEEP OUT OF REACH OF CHILDREN

First Aid: If swallowed, DO NOT induce vomiting. Contains acrylic latex and silica. Give milk or water and call a doctor or Poison Control Center immediately. In case of contact with eyes, flush thoroughly with water. Call a doctor.

Close container after each use.

LIMITED WARRANTY & DISCLAIMER:

This product is believed to be of good quality. If the product proves to be defective within 90 days from the date of sale, the product will be replaced in accordance with manufacturer's warranties. Such replacement is and shall be the only liability of the manufacturer. The manufacturer shall not be responsible for labor costs of any kind or any other costs relating to installation, application or reapplication or of any damages resulting therefrom. THIS WARRANTY IS EXCLUSIVE AND THERE ARE NO OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED INCLUDING WARRANTIES OF FITNESS OR MERCHANTABILITY. FOR DETAILS PLEASE REFER TO THE MANUFACTURER'S LIMITED WARRANTY.

Exhibit K

EXHIBIT L

THERMO-SHIELD®

Genuine, Made in USA.

THERMO-SHIELD® COOL ROOF

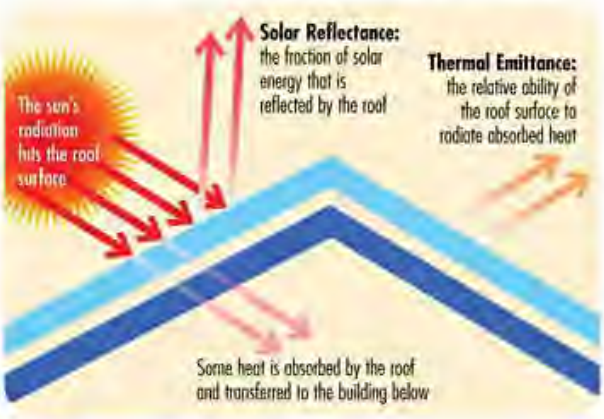
CALL US NOW!

239-234-5832

THERMO-SHIELD ROOF COAT

- ✔ **WATERPROOF 100%**
- ✔ **REDUCE HVAC LOAD**
- ✔ **SAVE ENERGY ➡ 30%**

Thermo-Shield Roof Coats are highly efficient, energy-saving, flexible coatings, made from a water-based pure acrylic resin system filled with hollow ceramic micro spheres. Each micro sphere acts as a sealed cell and the entire mastic acts as a thermally efficient blanket covering the entire structure. They are completely washable and resist many harsh chemicals. Thermo-Shield Roof Coats have high reflectance and high emittance as well as a very low conductivity value. Thermo-Shield Roof Coats greatly reduce thermal shock and heat penetration by keeping roof surfaces much cooler in hot summer weather. They offer UV protection, low VOC's, and excellent dirt pick-up resistance and retain their flexibility long after aging.



- Solar Reflective Index: 110
- Reduction of energy used and cooling costs
- Downsizing of air-conditioning equipment

CRRC COOL ROOF RATING COUNCIL®

energy

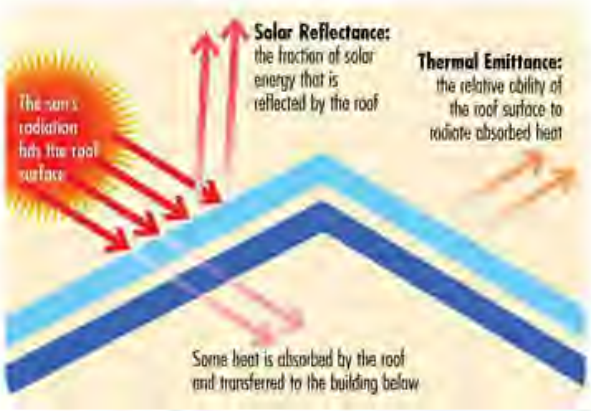
THERMO-SHIELD®
Genuine, Made in USA.

THERMO-SHIELD® COOL WALL

CALL US NOW!
239-234-5832

THERMO-SHIELD EXTERIOR

Thermo-Shield Exterior Wall Coats are highly efficient, energy-saving, flexible coatings designed to insulate and waterproof exterior walls. They are non-toxic, friendly to the environment, and form a seamless membrane that bridges hairline cracks. They are completely washable and resist many harsh chemicals and dirt pick-up. These water-based coatings are made from an acrylic resin system filled with vacuumed ceramic micro spheres that acts as a thermally efficient blanket. Thermo-Shield Exterior Wall Coats put a stop to the "frequent painting cycle" – they outlast other paints several times over.



- Solar Reflective Index: 110 *
- Reduction of energy used and cooling costs
- Downsizing of air-conditioning equipment

* WHITE COLOUR

CRRC COOL ROOF RATING COUNCIL ®

energy star

EXHIBIT M

THERMO-SHIELD®

A different kind of roof system for a tougher kind of environment.

THERMO-SHIELD®
Genuine, Made in USA.

energy

When installed properly, this product can help reduce energy costs. Actual savings will vary based on geographic location and individual building characteristics. Consult your product manufacturer, roofing contractor, or call EPA's Energy Star® hotline at 1-888-STAR-YES (1-888-782-7937) for more information.

THERMO-SHIELD® FLUID APPLIED CERAMIC ROOF SYSTEM

Space shuttle technology offering...
Tough Seamless Membrane A Lightweight System Variable Permeability
Energy-Efficiency Cost-Effectiveness Long-Lasting Protection

PRODUCT PRESENTATION

An innovative roofing technology combining strength, lightweight protection and integral insulation.

The THERMO-SHIELD® Roof System consists of fluid-applied Acrylic elastometric coatings which contain Ceramic Microspheres.

Once in place, the THERMO-SHIELD Roof System becomes a seamless, continuous monolithic membrane impervious to adverse weather conditions, airborne contaminants, and extreme temperature fluctuations.

As shown by accelerated ageing tests, the THERMO-SHIELD system lasts longer than conventional roofs. It is cold-applied, so it's safer going on. It is non-toxic in liquid or cured form, environmentally cleaner, eliminating noxious fumes.

Other important THERMO-SHIELD Roof System benefits include:

Waterproofs roofs, even low sloped

A high degree of puncture-resistance due to its outstanding tensile strength

Exceptional elongation characteristics

Absolute bondability to a wide variety of substrates

Stability under an extreme range of temperature fluctuations

High resistance to atmospheric pollution

High resistance to UV degradation

Space Age technology that stays on top.

The THERMO-SHIELD Roof System offers an exclusive roofing formula featuring hollow ceramic borosilicate microspheres. These microspheres are similar to those used in the insulating and reflective ceramic tiles used on the NASA space shuttle.

These unique fluid applied ceramic coatings can be sprayed or rolled on to form a seamless monolithic seal over any size or shape roof. The THERMO-SHIELD Roof System effectively dissipates and reflects solar radiation back into the atmosphere, resulting in an impressive reduction of solar loading.

Broadmoor Convention Center, Colorado Springs, CO. Since 1986, THERMO-SHIELD Roofing System has cured the constant cracking and leaking problems due to lots of movement and thermal shock in this open-span, concrete roof... supported by cables.

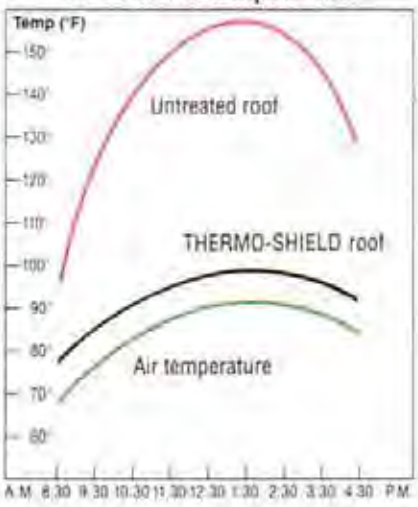
The THERMO-SHIELD Roof System can be applied directly to most clean, dry, sound substrates, including metal, concrete, wood, asphalt shingles, tile, asbestos, urethane foam, and EPDM.

Variable permeability. The polymers used in the THERMO-SHIELD Roof System expand when wet, offering unexcelled protection against damaging moisture penetration. The polymers shrink when dry, allowing any trapped moisture buildup to safely escape to the atmosphere, this helps prevent blistering.

Temperatures on the roof stay within 4° C of ambient air. This lowers temperatures under the roof by as much as 25°C. Reports from customers of energy savings up to 40% are not unusual with an application of THERMO-SHIELD Roof System. A THERMO-SHIELD roof can pay for itself through energy savings by drastically reducing solar loading, a critical factor in lowering air conditioning costs.

*A THERMO-SHIELD roofing expert can help you determine the best type of THERMO-SHIELD application for your particular project.

Effect of THERMO-SHIELD on surface temperature



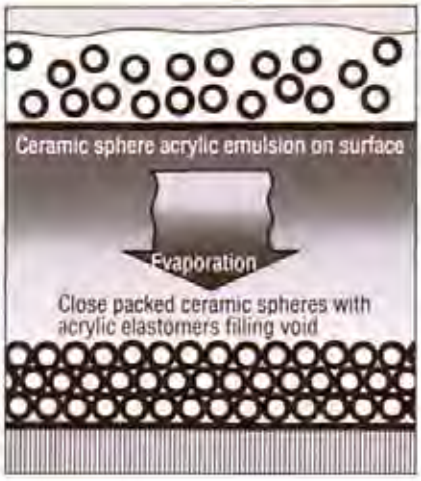
Testing at OAKRIDGE NATIONAL LABORATORIES, Tennessee, Thermo-Shield Roof Coating reduced average weekly heat flux through their APP Bitumen roofing system by 78 to 86% during summer days.

Hollow glass borosilicate microspheres: The secret behind THERMO-SHIELD INSULATION

The hollow glass microspheres in THERMO-SHIELD coatings are pure sodium borosilicate, and are less than 100 micron in diameter. Each closed cell acts as an efficient insulator.

Once applied, water evaporates from the THERMO-SHIELD aqueous acrylic emulsion and the hollow ceramic spheres approach each other, eventually touch, then fuse into a continuous membrane.

And since the microspheres are over sixty percent void, the entire THERMO-SHIELD Roof System weights about 0.75 kg per sq. meter.



Integral insulation: borosilicates at work

Ceramic is a poor conductor of heat and is a far more effective insulator than the bulky materials generally used for this purpose. The THERMO-SHIELD Roof System is unsurpassed in its ability to dissipate heat. It reflects most solar energy so it never gets into the structure to become a heat problem, there is no heat storage build up as with bulk insulation.

The high performance THERMO-SHIELD ceramic coatings also insulate against roof expansion and contraction. This drastically reduces the possibility of roof leaks caused by thermal shock and reduces maintenance costs accordingly.

USES, APPLICATIONS

THERMO-SHIELD can be used for virtually any roof application

The THERMO-SHIELD Roof System is an ideal choice for both new construction and retrofit applications. THERMO-SHIELD is easy to apply and can be used with confidence over most substrates.

THERMO-SHIELD has superb adhesion to concrete — unprimed or galvanized metal — wood — asphalt shingles — tile — urethane foam — EPDM — asbestos.

Bituminous/fiberglass felt roofs or asphalt composition roofs require the Flex Tac and polyester bonding coat.

Apply directly...no mechanical fasteners or heat needed.

The THERMO-SHIELD Roof System is fluid-applied, creating a seamless, leak-proof monolithic membrane. There are no mechanical fasteners that can come loose over time. This eliminates a major potential for roof failure.

More THERMO-SHIELD benefits...

Labor savings. As advanced as the THERMO-SHIELD Roof System is, it is also one of the easiest and most cost-effective to apply. Only a three-man crew is needed for a typical THERMO-SHIELD application, as opposed to the nine to twelve man crew used for a conventional hot roof project. Time and labor savings can translate into the lowest cost per square meter applied.

The THERMO-SHIELD Roof System develops a protective surface film within 45 minutes of application on average. Wind-blown dust will not adhere to the surface, nor will a light rain shower compromise the coating's integrity.

Noise Reduction **The resins and ceramics make a noticeable reduction from outside noise, especially on metal buildings.**

Lightweight The THERMO-SHIELD Roof System eliminates the need for ballast, reducing structural deflection, a major cause of ponding. At only 0.75 kg. per square meter, the weight factor on a new roof design is minimal.

Superior flexibility at extremely low temperatures. THERMO-SHIELD mastics retain their properties at temperatures below -40°C and as high as 150°C.

Excellent elongation and recovery properties. The THERMO-SHIELD Roof System creates a protective barrier with proven high resistance to hail and wind damage. The elastic coating moves with building movement, sealing hairline cracks and preventing new cracks.

Professional application by certified and trained THERMO-SHIELD experts.

THERMO-SHIELD trained and certified contractors are available to work on your roof...your assurance of a professional, THERMO-SHIELD approved job. Add the THERMO-SHIELD Warranty, and you have a water-tight case for using the best: THERMO-SHIELD.

The THERMO-SHIELD Roof System excels in creating a tight, weather-proof seal around all types of roof protrusions.

Performance Data

Flexibility:	Will pass 180° bend at -37° after 6 months exposure	
ASTM Codes:	THERMO-SHIELD Roof Coat tested as follows:	
K-Value	K=0.054 at 127 micron thickness	ASTM 177 - C1045
Tensile Strength	4.33 kg/mm2 at break elongation 70% at break	ASTM D-412
Water Vapor permeability	At 720 micron thickness 50.6 grains per sq. meter per hour	ASTM 1653
Water Absorption	Long-term 5 week saturation Water absorbed 34%	ASTM D-570
Brittleness at -37°C	No damage from striking device	ASTM D-746
Surface Ozone Cracking	Time to failure ... none observed in duration of test	ASTM D-1149
Heat Aging Test	(21 days at 150°C) Maintained 80 to 85% of tensile strength and elasticity	ASTM D-865
Accelerated Weathering	No evidence of cracking, deterioration of loss of flexibility	ASTM G-53, Q-uv 3000+ hours
Resistance to Ultra Violet Light	Inherent in the acrylic polymeric resin used in THERMO-SHIELD strengthened by uv resistant titanium dioxide pigment and ceramic fillers.	
Resistance to Ponding	Excellent resistance to ponded water Passage of bulk water at 50 hours 40-55 mg / m²	

(THERMO-SHIELD Top Coat displays variable permeability. When wet, polymers swell up and become water tight. When dry, pores open up and trapped water vapor can breath out, preventing blistering.)

Chemical Resistance	Resistant to very harsh and corrosive chemicals including battery acid, brake fluid, blood, diesel fuel, gasoline, anti-freeze, 35% hydrochloric acid, 10% nitric acid, 40% sodium chloride, and animal urine.	ASMT-1308

Other Tests

Environmental Leaching	No volatile organics were detected Leachables are non-toxic.	Calcoast Test
REDUCTION OF HEAT TRANSFER TESTS		By Hauser Labs

Heat transfer of Galvanized steel vs Galvanized steel coated with 127 micron thickness of THERMO-SHIELD

Results THERMO-SHIELD sample had 64% less heat transfer

Comparison of asphalt coated fiberboard vs THERMO-SHIELD

Results THERMO-SHIELD sample had 84% less heat transfer

THERMO-SHIELD Top Coat roofing is also available in a Class A fire resistant rating as per UL Listing #12543 ASTM E-108

OTHER THERMO-SHIELD PRODUCTS AVAILABLE

THERMO-SHIELD LIQUID EXTERIOR WALL COATING: Water based, elastomeric, ceramic filled coatings, dry to beautiful, much longer lasting finish on all types of surfaces. Insulating properties pay for the application in energy savings.

THERMO-SHIELD INTERIOR WALL COATINGS: Water based elastomeric, ceramic filled coatings, dry to a satin finish that changes tones with change of light. Seals hairline cracks and helps prevent new ones. Reduces echoes and sound between rooms. Ceramics reduce heat loss, keeps temperatures more even ceiling to floor, and make a room more comfortable.

THERMO-SHIELD STUCCO: An elastomeric stucco that looks great, is easy to apply, and resists cracking, while providing energy savings.

All THERMO-SHIELD coatings are available in a wide range of colors.

ASSEMBLY, INSTALLATION

Four easy steps to a perfect THERMO-SHIELD roof

Applying a THERMO-SHIELD roof is simplicity in itself. Here's all that needs to be done:

1. Make sure all flashings and/or fasteners are installed and properly secured.
2. Sweep, clean, and prepare surface.
3. Reinforce all cracks and joints with caulk and polyester fabric strips (brand name of Pol-E-Force), embedded in THERMO-SHIELD.
4. Apply the THERMO-SHIELD Roof Coating with an airless sprayer or roller at a rate of 1.22 liters / m² in two coats of 0.671 liter / m². Allow 24 hours between coats or until the first coat is completely dry to the touch. After first coat has cured, apply a second coat at the same rate of application.

TECHNICAL SUPPORT

Tests prove THERMO-SHIELD superior

Independent lab tests and measurements show the effectiveness of THERMO-SHIELD in reducing interior temperatures. Copies are available on request.

DEVELOPMENT

The THERMO-SHIELD Roof System was the development of GENERAL INDUSTRIES CORP., Colorado Springs, CO, a chemical specialty company of over 25 years experience. They spent seven years developing THERMO-SHIELD into a roof coating that would solve ALL the problems common to roofing systems. Since 1984, THERMO-SHIELD ROOF COAT has been successfully solving our customer's roofing problems, on a long term basis, in all types of climate, all around the world.

Distributed by:

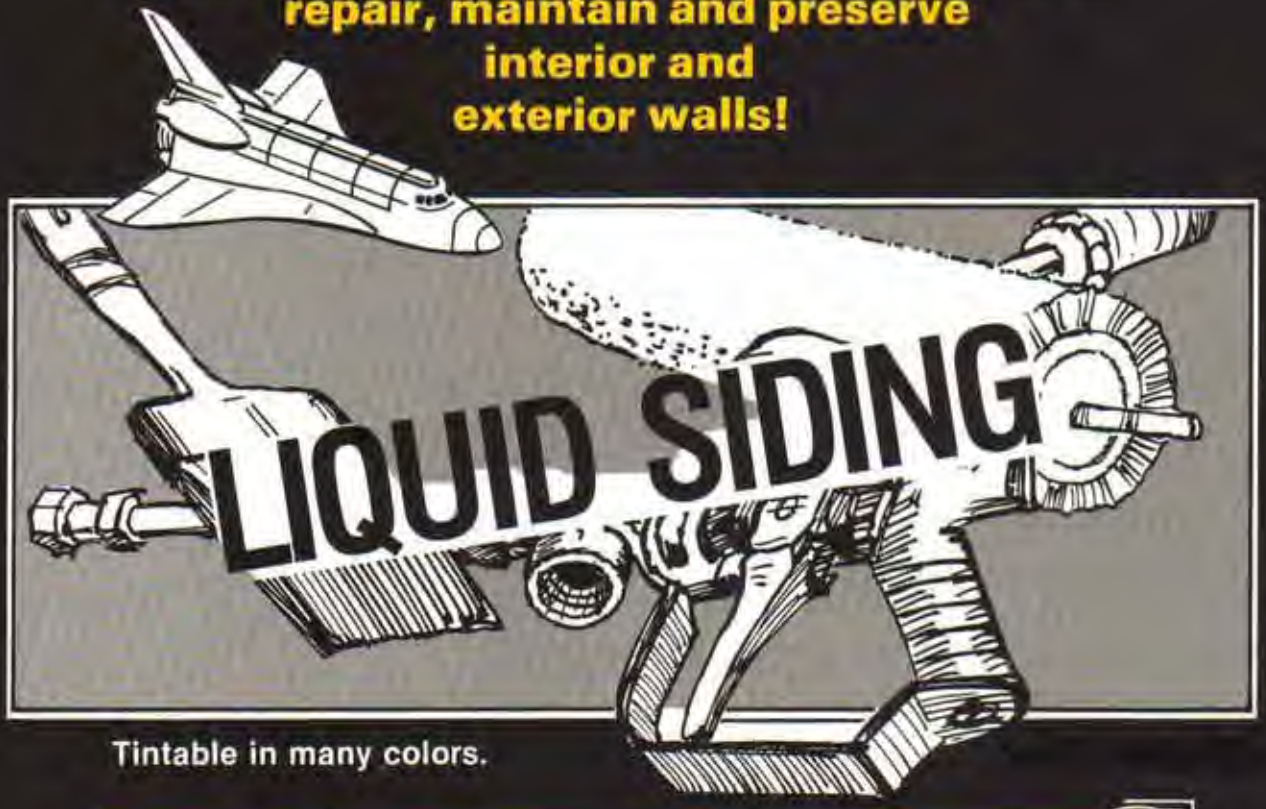
THERMO-SHIELD®

FLUID APPLIED CERAMIC ROOF AND WALL COATINGS

SPM THERMO-SHIELD, INC.
4915 Rattlesnake Hammock Road #266, Naples, Florida 34113 USA
Tel.: 239-234-5832 Fax: 239-236-6767
spm@thermoshield.com www.thermoshield.com

EXHIBIT N

Space Age Technology provides A revolutionary new way to INSULATE, repair, maintain and preserve interior and exterior walls!



Tintable in many colors.

THERMO-SHIELD®

Genuine, Made in USA.

For industrial, commercial, agricultural, and residential use. On interior or exterior surfaces, including unprimed and galvanized metal, in any climate. A coat of THERMO-SHIELD® LIQUID SIDING applied no thicker than a fingernail can give savings equal to inches of other types of insulation.

Unlike some paints that make minor insulation claims based solely on reflectivity, THERMO-SHIELD® LIQUID SIDING creates a thermal barrier and dissipates heat.

THERMO-SHIELD® LIQUID SIDING bonds to surfaces other products cannot, such as unprimed or galvanized metal, tile, asphalt, bituminous or composition roofs, and wood that is subject to swelling and shrinking.

THERMO-SHIELD® LIQUID SIDING insulates itself as well as the surface it protects from weather damage, and it can last 2 to 3 times longer than conventional products.

The temperature insulation properties unique to THERMO-SHIELD® LIQUID SIDING also makes it a noise insulator.

SPM THERMO-SHIELD, INC.: 4915 Rattlesnake Hammock Road #266, Naples, Florida 34113 USA
Tel.: 239-234-5832 Fax: 239-236-6767 spm@thermoshield.com www.thermoshield.com

HOW THERMO-SHIELD® LIQUID SIDING WORKS

THERMO-SHIELD® LIQUID SIDING
Thermal Control

THERMO-SHIELD® is a proven superior insulating material. Key among the advanced features of THERMO-SHIELD® is the placement of a newly developed hollow ceramic micro-sphere as a component specially formulated with a acrylic mastic that keeps the borosilicate ceramic spheres in uniform suspension. Surfaces that are coated with THERMO-SHIELD® are reluctant to conduct heat and refract as well as dissipate heat away from the surface. Because it is fluid applied, it forms a seamless monolithis seal, eliminating virtually all air infiltration which can be a major source of heat transfer in buildings. These factors equate to substantial reductions in energy usage and costs.

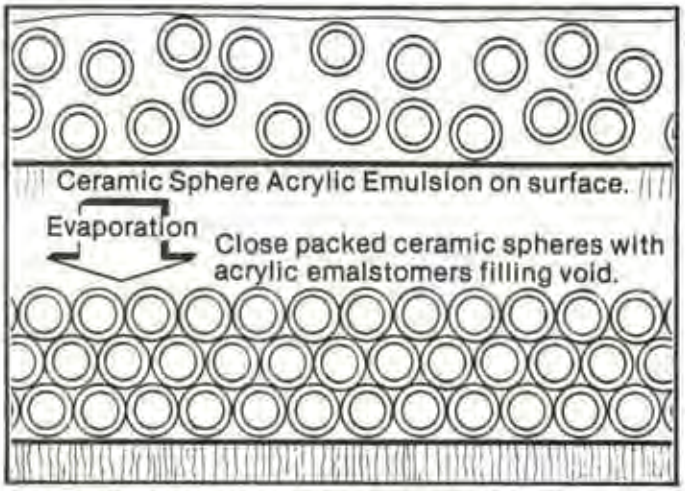
THERMO-SHIELD® LIQUID SIDING
Noise Control

THERMO-SHIELD® is ideal wherever sound level reductions are required. Unlike other products that absorb sound and thereby transmit noise, THERMO-SHIELD® reflects sound back to the source, not allowing the surface to conduct sound. This makes the product an excellent choice for some applications such as motel and hotel rooms and other public buildings where excessive noise levels occur.

THERMO-SHIELD® LIQUID SIDING
Condensation and Water Penetration Control

THERMOSHIELD® has excellent elongation and recovery properties. This property yields a protective barrier resistant to hail, water and wind damage. The hollow ceramic microspheres used in THERMO-SHIELD® are over 60 percent void. They are bonded directly to the surface forming a seamless blanket. This eliminates any warm air to cold surface contact and reduces the temperature differential thereby reducing or eliminating condensation. In areas where excessive moisture is present it is necessary to provide adequate ventilation.

Contact Your Local Dealer



In an acrylic elastomeric emulsion systems, as the water evaporates the hollow ceramic spheres approach each other, eventually touch and fuse into a continuous film.

Thermo-Shield® wall coatings provide an excellent sound control when used on condos, motels, any area where excessive noice levels can occur, and at the same time beautifies and protects.

The product is excellent for insulating from the outside while at the same time stopping moisture penetration and the resulting cracking that takes place. Surface cracks are completely hidden.

THERMO-SHIELD®

Genuine, Made in USA.

EXHIBIT O

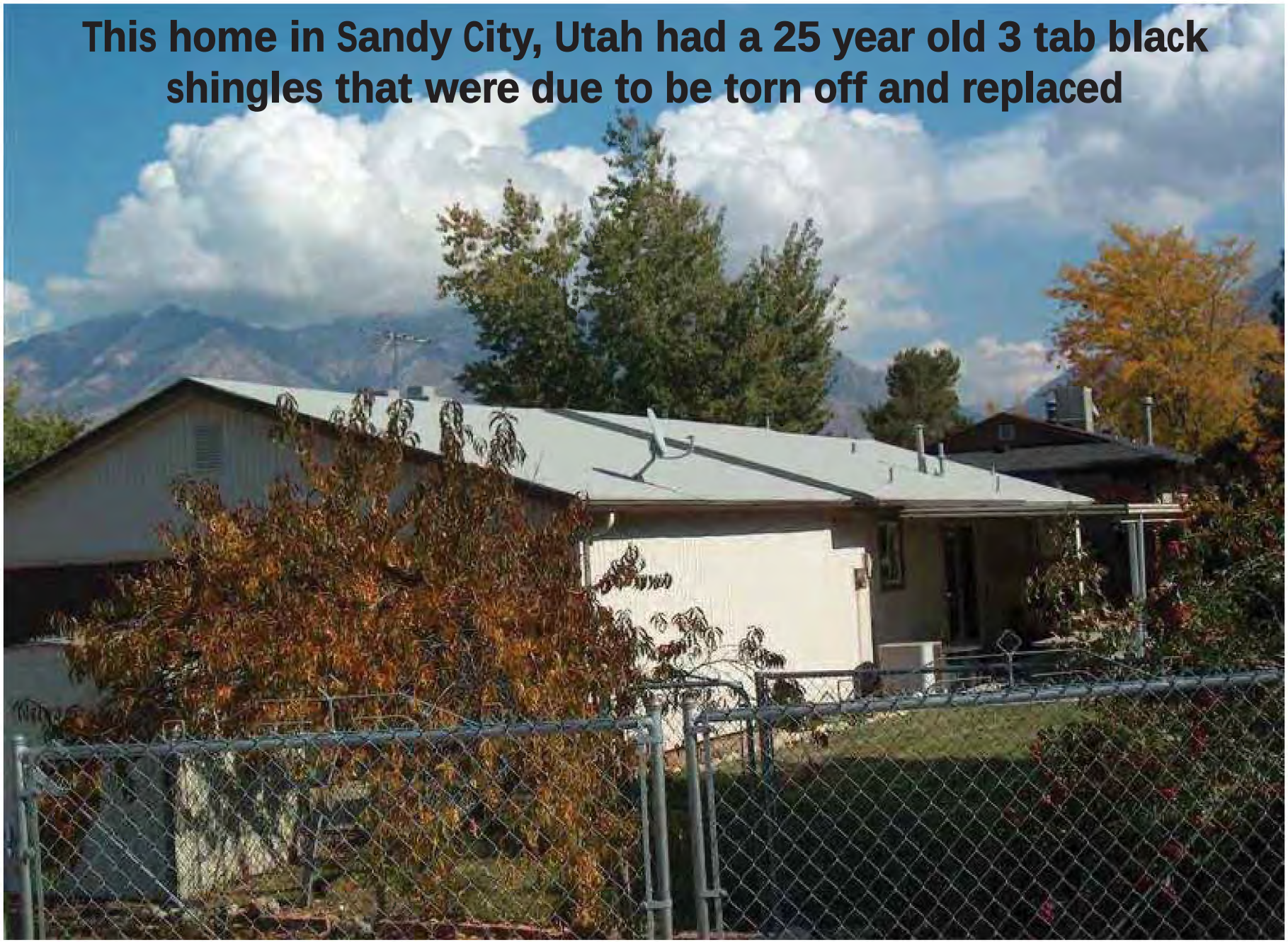
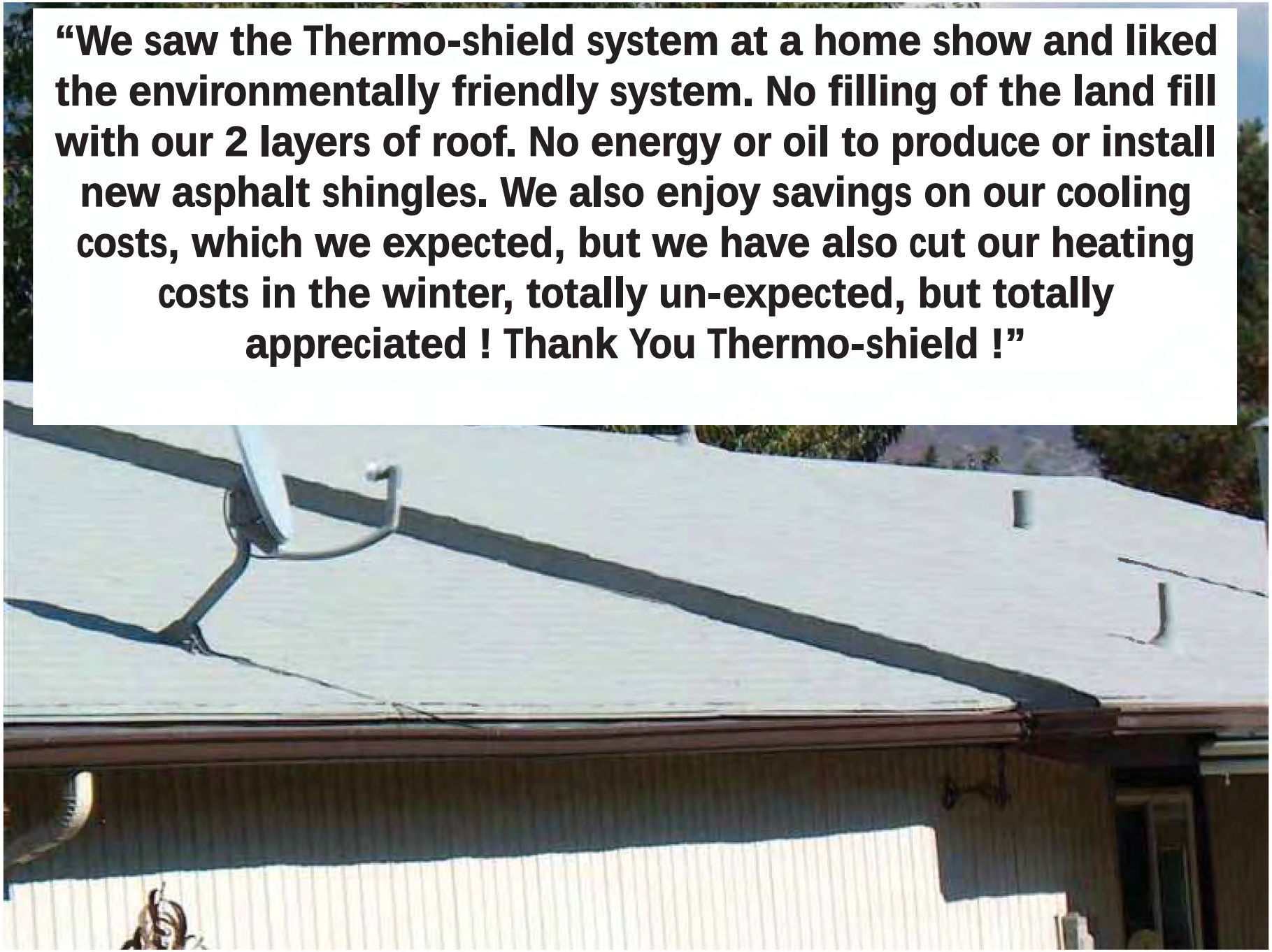


Exhibit O



April 13, 2006

Dear Stu,

We would like to take a moment and express our happiness with the new coating of Thermo-Shield that we had put on our roof in April of 2005.

Our roof has a 12 foot pitch in our dinning room and in our living room. Both of these rooms were very cold during the winter and hot in the summer. The air-conditioner usually turned on by 10:00 A.M. and ran until late in the evening on a hot day.

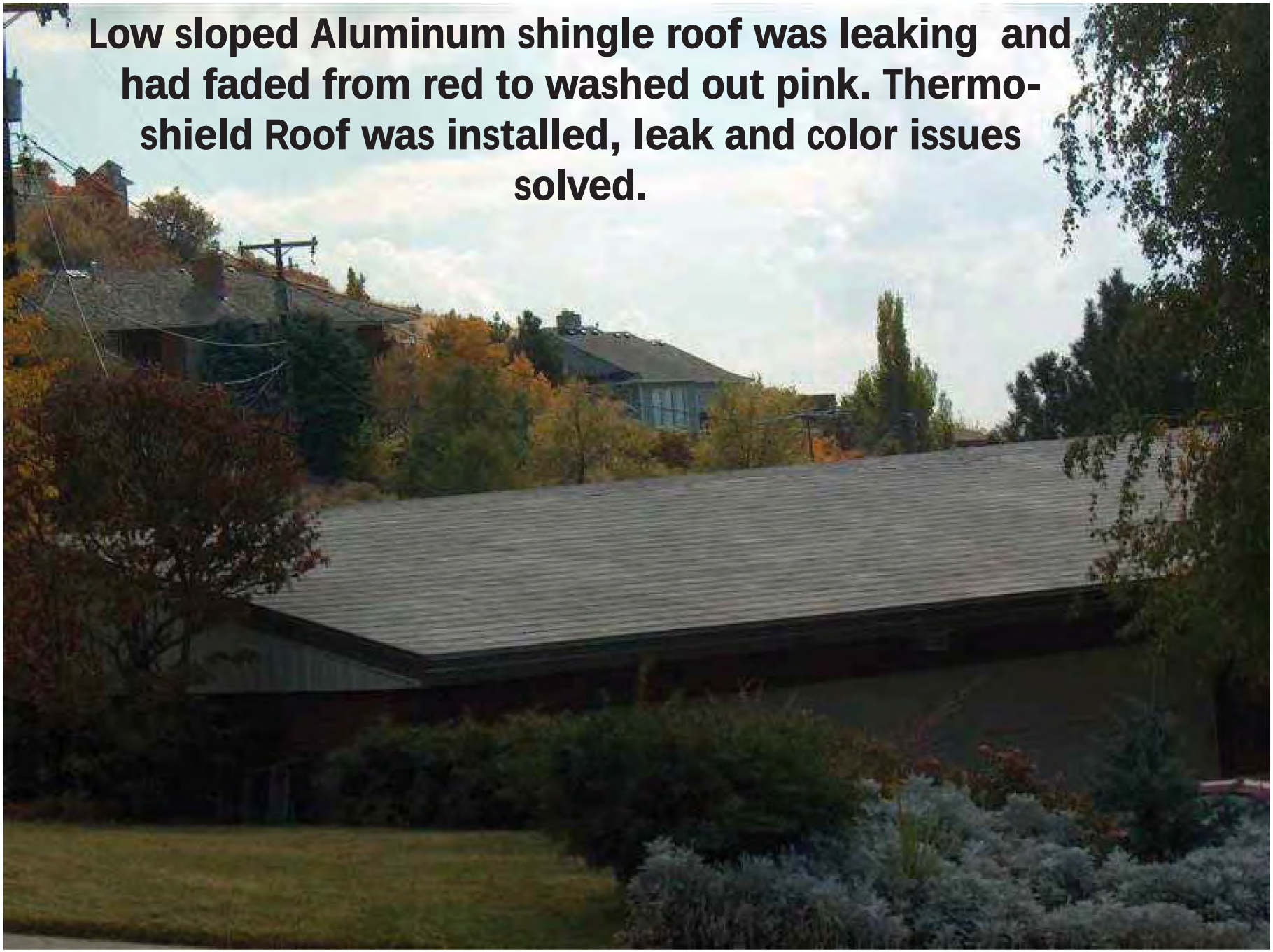
We have had the coating on our roof for a year now and we are able to make a good comparison to the changes. We have found that during the winter and the summer, that all rooms are now comfortable.

In the summer we found a wonderful change as the air-conditioner did not turn on some days until 3:00 P.M. The house stayed cool. We were amazed at how much difference it made. Our power bill went down, as we were using less power to stay cool. And on cold days the rooms were no longer cool like they use to be.

The workers did an excellent job with their work and left our yard clean. If we had any problems, they were fixed at once. The roof is attractive. It seems to be far better than shingles. We are very happy that we chose Thermo-Shield. We are glad to recommend this product to others.

Sincerely,
Stu and Ellie [redacted]

Exhibit O



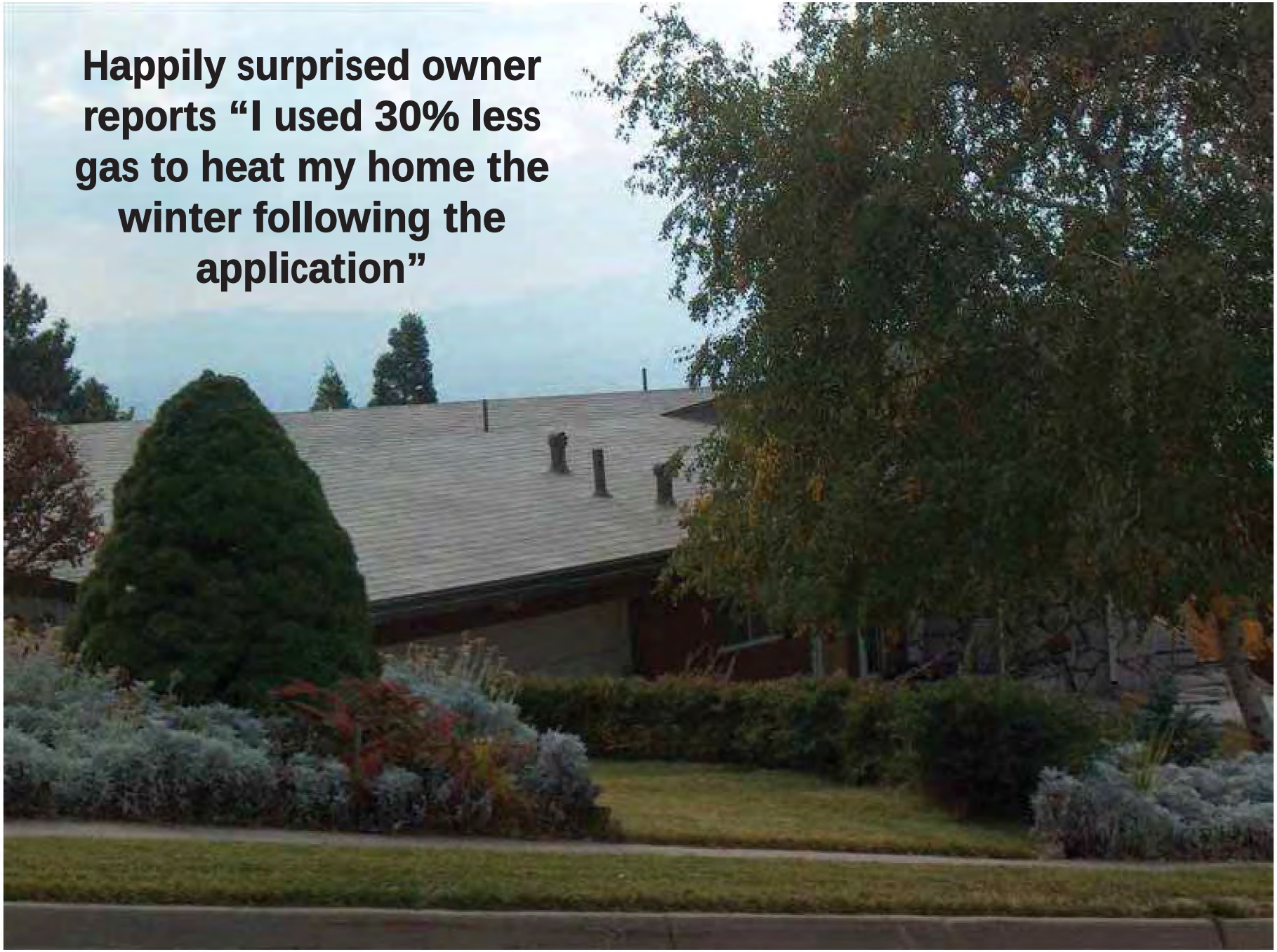
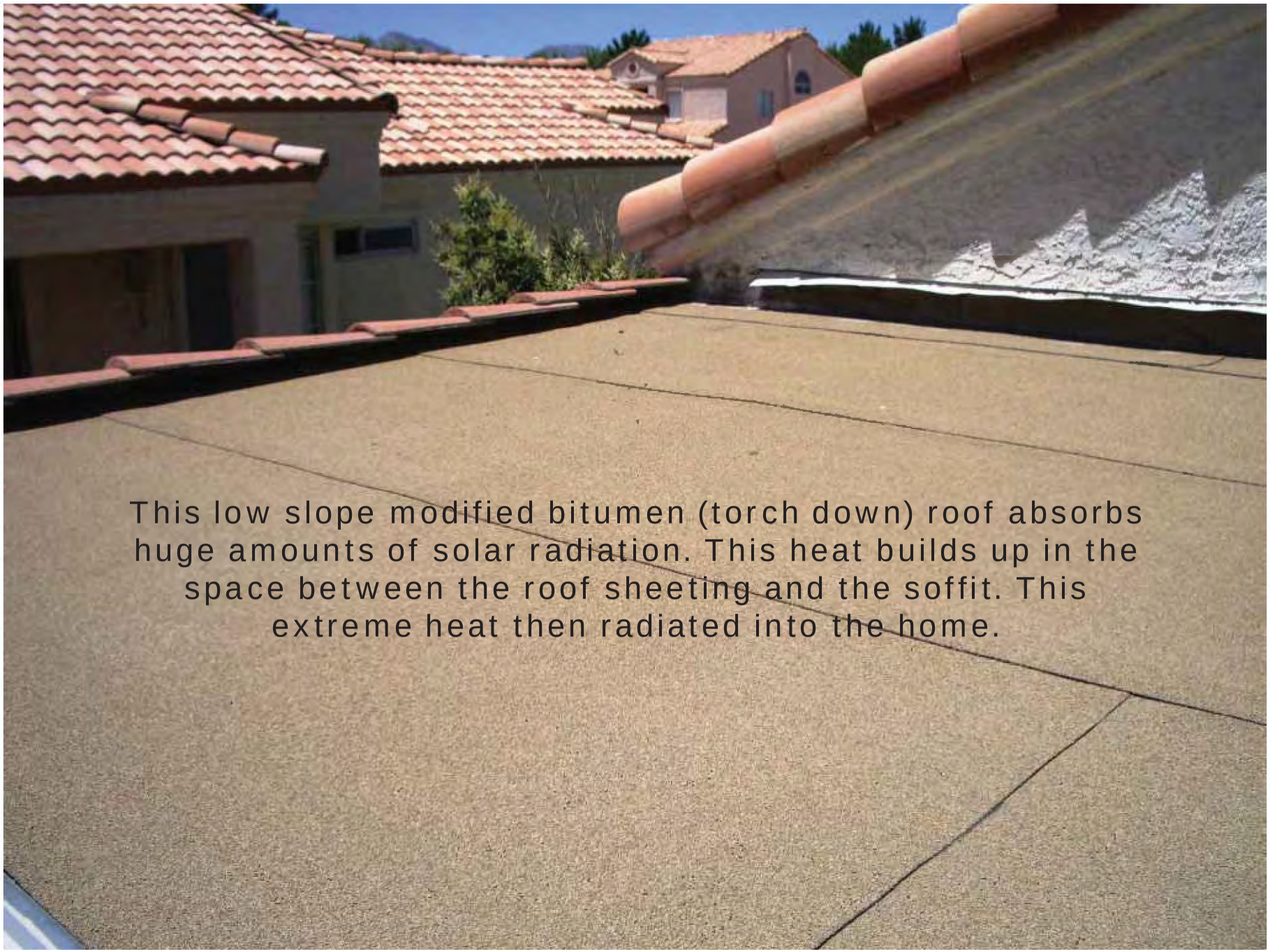


EXHIBIT P

Patio roof on this Las Vegas home runs entire length of the house. It is framed in such a way that the heat that developed inside this shell was being transferred to the living space inside.

Exhibit P



This low slope modified bitumen (torch down) roof absorbs huge amounts of solar radiation. This heat builds up in the space between the roof sheeting and the soffit. This extreme heat then radiated into the home.

Exhibit P

Here temperature of the roof coated with Thermo-shield is taken on day with 109 degree temps. Its within degrees of the air temperature, reducing previous heat build up of 60-80 degrees over outside air temp. The owner of this home says “her cooling bills have been reduced 25% just by painting my patio roof.”

EXHIBIT Q

Subject: **Re: Airport**
Date: 10/18/2017 9:21:26 AM Eastern Standard Time
From: TShieldExport@[redacted]
To: [redacted]
Cc: [redacted], thermoshield.george@[redacted], tshieldexport@[redacted]

Dear Shahrukh,
1.
DURING SUMMER high Solar Reflectivity Index of SRI 110 to SRI 99, which functions on the basis of "Reflectivity of the best white surface and Thermal Emittance of the best black surface", prevents the exterior wall substrate from heating up. This prevents excessive Heat Built Up around the building, ensuring lower temperature of air that is taken in. **SRI value of 100 means ZERO Solar Heat gain**.
The High Emissivity of Thermo-Shield will also mean faster dissipation of heat, reducing the tendency for the unit to be a "Hot Lunch Box".
According to the ASTM C1371 test performed by the Cool Roof Rating Council, Thermo-Shield will emit away 90% of the 12% of the sun's energy that was not reflected away already. This means that an additional 10.8% of the sun's energy, on top of the 88% that was reflected, is no longer being absorbed by the structure as heat.

So basically, an astounding 98.8% of the sun's energy is not allowed to become heat in the building. This is why Thermo-Shield's surface is cool to touch on extremely hot, sunny days.
It is like having a R 40 insulation during the summer.

DURING WINTER:
If wind driven rain hits the exterior wall and roof protected by Thermo-Shield, polymers swell and become watertight (Variable Permeability - coating membrane breathing when dry). **With ordinary paint, which does not prevent moisture to penetrate the exterior wall** - even 1.5% moisture content in the wall with ordinary insulation (Styrofoam, rock wool etc), can reduce the "R" value by as much as whopping 38%!
With a complete Thermo-Shield protection, Roof, Exterior and Interior you can expect 20% - 40% reduction on heating expense
It is like having a R 21 insulation in winter.

In general, Thermo-Shield is not intended to replace the current insulation that these buildings have, but rather to compliment what is existing and make the building much, much more efficient. This in turn will allows your client to significantly reduce the kilowatts consumed to keep the buildings in the temperature range required.

2. see above...
3. you must apply a spot primer to the rusted area - otherwise rust may "bleed thru" at some point later and becomes a "cosmetic issue". Priming the entire substrate is a way to go , otherwise the "bleed thru" may happen on missed spots. Our Metal Primer or Rust Converter would do the job.
4. depends what TS product on what substrate is intent to apply...

It sounds like this is under our trade name Thermo-Shield !!??
br
Peter

In a message dated 10/17/2017 3:03:02 P.M. Eastern Daylight Time, [redacted] writes:

> Dear Peter
>
> Hope you and the family are well. I had a very productive meeting with Boston Logan International Airport who are interested to move with us on testing and hopefully blanket PO
>
> They had a few technical questions which I could not answer but wanted to field to you:

1. What is the the indicated R- Value 22? Does it mean R22 is per coat? Per 3 coats or per inch?
2. Can the product replace Insulation?
3. Can there be small traces of Rust left on the surface after it has been prepped?
4. Is primer required for all prepping prior to painting?

I know many of these are indicated in the installation and summary of tests but they were digging a bit deeper.

Also we could like to register Massport, Government of the State of Massachusetts. They are going to start inputting our specs into their procurement and likely contact you, Thermacote, Truco etc and the top management wants to make sure we are covered before proceeding.

My best,

Shahrukh [redacted]

[redacted]

ription: cid:image001.jpg@01C8E0F2.86E87D70

[redacted]

[redacted]

1Attached Images

[redacted]

EXHIBIT R

Subject: **Re: Lambda, R and U**
Date: 3/8/2016 7:55:35 AM Eastern Standard Time
From: TShieldExport@[redacted]
To: [redacted]
Cc: thermoshield.george@[redacted], [redacted], spm@thermoshield.com

Hi Omar,
1) Lambda is provided to us by California Institute of Electronics and Material Science, testing 4 samples (Exterior, Interior and 2 samples of Roof Coat). The samples specifies the thickness in mills DFT (1 mil = 25.4 microns)
For your handy reference, attached is the Test Report.
2) R Value is listed on the Test Report from Calcoast Analytical for Roof Coating, Exterior and Interior.
For your handy reference, attached is the Test Report.

I am also attaching our SUMMARY OF OFICIAL TEST REPORTS. Pertinent tests are under Item 5 and 6.
We are always depending on the accredited testing institutions, therefore I have no comment to Aytac calculations.
Best Regards,
Peter

Note: Omar, I have noted on my Skype that you called last Friday at 2:39 AM my time, and today at 2:56 AM my time. Please remember that I am minus 6 hours from German time.

In a message dated 3/8/2016 2:31:12 A.M. Eastern Standard Time, [redacted] writes:

> Hi Peter,
>
> thanks for the valuable explanations. I understand now more about the theory. Now it should be easy to answer the following questions:
>
> 1) What is our Lambda λ Value (W/mK) for Exterior, Interior and Roof Coat?
> 2) What is our R Value (m2K/W) for Exterior, Interior and Roof Coat?
>
> In the a. ached file (Aytac) you will see some calculaons of these V alues (Lambda and R), can you put our figures in this attached calculaons and send me an example. People here are meanwhile very familiar with the seng of this c alculaon, so if w e can put our own figures inside this calculaons we might end up with better results, thus better arguments.
>
> Br
>
> Omar
>
> > TShieldExport@[redacted] hat am 8. März 2016 um 04:02 geschrieben:
> >
> > Dear Omar, your question: I am still looking forward of your the Lambda Value explanations
> > Answer: Thermal conductivity, also known as Lambda (denoted by the Greek symbol), is the measure of how easily heat flows through a specific type of material, **independent** of the thickness of the material in question. It is measured in Watts per Metre Kelvin (W/mk).
> > Our California test shows the Lambda for our Exterior, Interior and Roof Coat.
> >
> > R-Value is a measure of resistance to heat flow through a given thickness of material. Higher the R-Value, the more thermal resistance the material has and therefore the better its insulating properties.
> > R= L : Lambda
> > L is the thickness of the material in metres and Lambda is the thermal conductivity in W/mK
> > The R-value is measured in metres squared Kelvin per Watt (m2K/W)

The U-Value of a building element is the inverse of the total thermal resistance of that element. The U-Value is a measure of how much heat is lost through a given thickness of a particular material, but includes the three major ways in which heat loss occurs - conduction, convection and radiation. The lower the U-Value is, the better the material is as a heat insulator.

Here are some explanations which will make it easier for you to understand how the technology works.

You could read through the blog, http://blog.coolroof.me/ - which explains the science behind Cool Roofs. SRI (Solar Reflectance Index) is explained in clear terms. ***Play the video with this blog.*** http://coolroofs.org is the official website of the organisation (in tandem with Energy Star) that rates Cool Roof products like Thermo-Shield - through actual field Tests run over three years.

All Resistance of heat (in conduction) is proportional to the thickness of the resistance barrier.

With high SRI coating like Thermo-Shield, we are not dealing with Conductance of heat. The surface doesn't become that hot with the Sun's rays, by negating the UV and IR.
Sunlight by itself is not hot; heat is generated when UV and IR gets absorbed. Thermo-Shield reflects it.

I am also attaching a document, Cool Roof Analysis, which will give you a better picture of how SRI works.

Please read again the earlier emails below, as well the Polish Study provided earlier...

From: TShieldExport@[redacted]
To: [redacted], spm@thermoshield.com
CC: thermoshield.george@[redacted], tshieldexport@[redacted]
Sent: 12/1/2015 7:29:56 A.M. Eastern Standard Time
Subj: Re: R Value/ K Value and thermal conductivity

Dear Omar,
here is some more "analysis". (**Thermo-Shield works summer / winter**)
DURING SUMMER:
Thermo-Shield due to high Solar Reflectivity Index of SRI 110 to SRI 99, which functions on the basis of "Reflectivity of the best white surface and Thermal Emittance of the best black surface", prevents the exterior wall substrate from heating up. This prevents excessive Heat Built Up around the building, ensuring lower temperature of air that is taken in. **SRI value of 100 means ZERO Solar Heat gain**.
The High Emissivity of Thermo-Shield will also mean faster dissipation of heat, reducing the tendency for the unit to be a "Hot Lunch Box".
DURING WINTER:
If wind driven rain hits the exterior wall Thermo-Shield, polymers swell and become watertight (Variable Permeability - coating membrane breading when dry). **With ordinary paint, which does not prevent moisture to penetrate the exterior wall** - even 1.5% moisture content in the wall with ordinary insulation (Styrofoam, rock wool etc), can reduce the "R" value by as much as whopping 38%!
I hope this helps.
My Best,
Peter

In a message dated 12/1/2015 2:45:54 A.M. Eastern Standard Time,
[redacted] writes:

Hi Peter,

many thanks for the detailed explanation, it was very helpful.

a) Could we say that Thermo Shield products can be mostly sold in warmer and humid areas (west and south coast) in Turkey rather than the cold areas (middle, north and east) because of its superior properties regarding reflectance and emmitance.

As you know we want to make a prospect targeting the most appropriate customers where the difference of the Thermo Shield is undisputable.

This does not mean that we completely leave out middle, north and east Turkey out of the equation but rather concentrating on the main target.

Please let me know if my approach is wrong ?

b) Just out of a technical curiosity: don't you think that in a direct comparison Thermo Shield can have better K Value than Styrofoam (EPS) ? Cause this material is just to bed. If yes, can we somehow prove it in a direct comparison ? Could you please give me a hint ?

Br

Omar

TShieldExport@[redacted] hat am 30. November 2015 um 19:50 geschrieben:

Thermo-Shield is not intended to replace the current insulation buildings have, but rather to compliment what is existing and make the building much, much more efficient by reflecting and dissipating over 98% of the sun's energy back into the atmosphere rather than have it absorbed by the structure. This in turn will allow your client to significantly reduce the kilowatts consumed to keep the buildings in the temperature range required.

FYI: Below I have provided an explanation of how Thermo-Shield works and how it is different from other products. IT IS IMPORTANT THAT EVERYONE

UNDERSTANDS THE CONCEPT OF HOW THERMO-SHIELD PRODUCES THE TREMENDOUS ENERGY SAVINGS THAT IT DOES IN ADDITION TO THE MANY OTHER BENEFITS (See "THE THERMO-SHIELD DIFFERENCE" on our website).

One of the key ingredients in Thermo-Shield is our proprietary blend of hollow ceramic microspheres and hollow glass bubbles. The reason these are such key ingredients is that they have a vacuumed center surrounded by a nonconductive material which ultimately doesn't allow heat to penetrate.

When trying to understand Thermo-Shield, there are two properties that one must understand. The first is that of solar reflectance and the second is thermal emittance. These are the two properties that allow Thermo-Shield to reflect and emit the sun's heat back to the sky instead of transferring it into the building below. Reflectance is an easy concept to understand. Basically, the sun's radiation hits the surface of the building and reflectance is the percentage of the solar energy that is reflected away.

According to ASTM test C1549 performed by R & D Services for the Cool Roof Rating Council, Thermo-Shield reflects 89% of the sun's radiation. This leaves only 11% of the sun's energy that could be absorbed by the building.

However, here is where thermal emittance comes into play. This is a concept that's a little harder to understand, but extremely important because it truly separates Thermo-Shield from products on the market that only deal with solar reflectance.

Basically, emittance is the relative ability of the surface to radiate away absorbed heat. So in the case of Thermo-Shield, it would be the ability to radiate away the 11% of the sun's energy that wasn't reflected away already.

According to the ASTM C1371 test performed by the R & D Services for Cool Roof Rating Council, Thermo-Shield will emit away 84% of the 11% of the sun's energy that was not reflected away already. This means that an additional 9.2% of the sun's energy, on top of the 89%, is no longer being absorbed by the structure as heat.

So basically, an astounding 98.2% of the sun's energy is not allowed to become heat in the building. This is why Thermo-Shield's surface is cool to the touch on extremely hot, sunny days.

The fact that Thermo-Shield incorporates enough of these hollow ceramic microspheres and glass bubbles to become 50% of the finished product when cured is where Thermo-Shield is truly a superior product as far as energy savings and protection.

In a message dated 11/30/2015 1:14:02 P.M. Eastern Standard Time, [redacted] writes:

Hi Peter,

I understand the studies but what can I say to the simple people about the K Value etc. Not all the turkish people can understand english very well, neither the very technical studies with different approaches on the topic.

Do you have more simple and practical answer to the topics:

a) R value or K value

b) Thermal conductivity provided and need to be used for calculation...

in comparison between Thermo Shield products and following insulation products such as: Styrofoam (EPS), glass wool and rock wool. no direct comparison, that is why I give you the Polish Study to further understand, beside my explanation above. If wind driven rain hits the exterior wall Thermo-Shield, polymers swell and become watertight. With ordinary paint - even 1.5% moisture content in the wall with ordinary insulation (rock wool etc), can reduce the "R" value by as much as whopping 38%!

So during the summer heat, much as 50% can be saved on AC, during the winter the Thermo-Shield Interior with combination of Exterior can save 20 - 30 % of energy Attache is a practical study of two identical houses (see below) for a 12 months year round KW consumption.

Attached is also Field test report comparing two identical houses built, one coated with TS Exterior (T) and the other one with a commercial paint(C). Table II showing energy expended in KW between house "C" and house "T". (electrically heated / AC houses). The house "C" used a total of 30,768 KW / year, and house "T" used a 17,966 KW / year. The simple calculation between the KW expended between two houses for the 12 months period showing the total savings of 12,802 KW, equal to 41.6% of energy savings for the year.
Best Regards,
Peter

Your answer is much appreciated.

Br

Omar

EXHIBIT S

A revolutionary new way to insulate, repair, maintain and preserve roofs, ceilings, interior and exterior walls!

For industrial, commercial, agricultural, and residential use. On interior or exterior surfaces, including unprimed and galvanized metal, in any climate. A coat of THERMO-SHIELD® (a Fluid Applied Ceramic Roof and Wall Coating System) can give savings equal to inches of other type of insulation as well as stopping air infiltration.

Unlike some coatings that make minor insulation claims based solely on reflectivity, THERMO-SHIELD® creates a thermal barrier that is reluctant to conduct heat and readily dissipates heat.

THERMO-SHIELD® bonds to surfaces other products cannot, such as unprimed or galvanized metal, tile, asphalt, bituminous or composition and metal roofs, and wood that is subject to swelling and shrinking.

THERMO-SHIELD® insulates the substrate as well as the surface from weather and ultraviolet damage, and lasts 2 to 3 times longer than conventional products.

The insulation properties unique to THERMO-SHIELD® makes the system an effective noise barrier.

Based on these comments — imagine what THERMO-SHIELD® Fluid Applied Ceramic Coatings will do for you:

"We have raised rabbits for the past six years and heat inside the hutches has always been a problem. We applied THERMO-SHIELD® to the hutches and within fifteen minutes the inside temperature dropped from 102 to 74 degrees F. Needless to say, we are impressed." —Marilyn C., Denver, Colorado

"We have always had to repair our building's roof every year and still the leaks would come back. Our tenants were becoming very irritated and threatening to move out. Your product has totally stopped all our problems, which is quite an amazing feat." —J.W.H., Aberdeen, South Dakota

"As you know, we had a number of flat roof buildings with severe, constant leaking problems. We had tried everything and our next step was to build pitched roofs over them. About that time we became aware of THERMO-SHIELD® and I am pleased to say — it has solved all our problems, cooled the buildings, and saved the city a significant amount of money." —Dale O., City of Colorado Springs

"Thank you for your technical and practical support. I am pleased with the ease of application without having to rent any expensive equipment. Our energy research building is a polyurethane dome shaped building and coating it with THERMO-SHIELD® couldn't have been easier. I will be happy to inform anyone about your very fine product." —Leonard G., Physics Dept., Univ. of Colorado

"I have just finished painting the exterior walls of my house and I am very impressed as to how much cooler the inside of our house is. Friends comment that they are amazed how cool it is and can hardly believe we don't have an air conditioner. Outside temperatures can be in the 90's and 100's and our house stays in the 70's." —Larry K., Eureka, South Dakota

"Our Arizona weather gets very hot and we just had a chance to see immediately what your product would do in turning back heat. I must say, it did a powerful job. Our THERMO-SHIELD® roof seems destined to help solve a big heat problem. We will keep you informed." —Robert S., Mesa, Arizona

THERMO-SHIELD® means Thermal Control

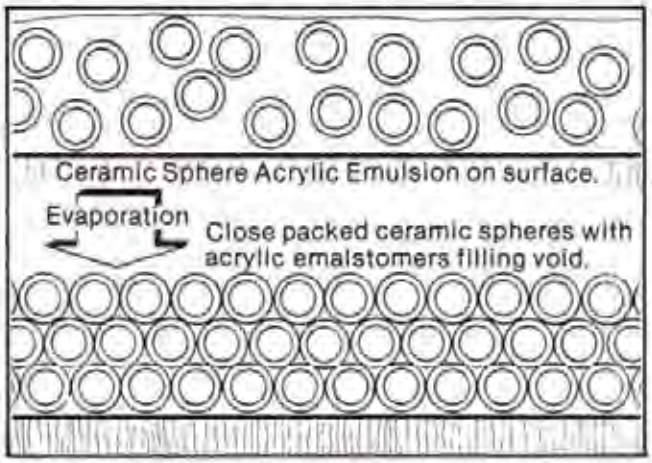
THERMO-SHIELD® is a proven superior insulating material. Key among the advanced features of THERMO-SHIELD® is the placement of a newly developed hollow ceramic micro-sphere as a component specially formulated with a acrylic mastic that keeps the borosilicate ceramic spheres in uniform suspension. Surfaces that are coated with THERMO-SHIELD® are reluctant to conduct heat and refract as well as dissipate heat away from the surface. Because it is fluid applied, it forms a seamless monolithis seal, eliminating virtually all air infiltration which can be a major source of heat transfer in buildings. These factors equate to substantial reductions in energy usage and costs.

THERMO-SHIELD® means Noise Control

THERMO-SHIELD® is ideal wherever sound level reductions are required. Unlike other products that absorb sound and thereby transmit noise, THERMO-SHIELD® reflects sound back to the source, not allowing the surface to conduct sound. This makes the product an excellent choice for some applications such as motel and hotel rooms and other public buildings where excessive noise levels occur.

THERMO-SHIELD® means Condensation and Water Penentration Control

THERMO-SHIELD® has excellent elongation and recovery properties. This property yields a protective barrier resistant to hail, water and wind damage. The hollow ceramic microspheres used in THERMOSHIELD® are over 60 percent void. They are bonded directly to the surface forming a seamless blanket. This eliminates any warm air to cold surface contact and reduces the temperature differential thereby reducing or eliminating condensation. In areas where excessive moisture is present it is necessary to provide adequate ventilation.



In an acrylic elastomeric emulsion systems, as the water evaporates the hollow ceramic spheres approach each other, eventually touch and fuse into a continuous film.

Thermo-Shield® wall coatings provide an excellent sound control when used on condos, motels, any area where excessive noise levels can occur, and at the same time - beautifies and protects.

The product is excellent for insulating from the outside while at the same time stopping moisture penetration and the resulting cracking that takes place. Surface cracks are completely hidden.

THERMO-SHIELD®
Genuine, Made in USA.

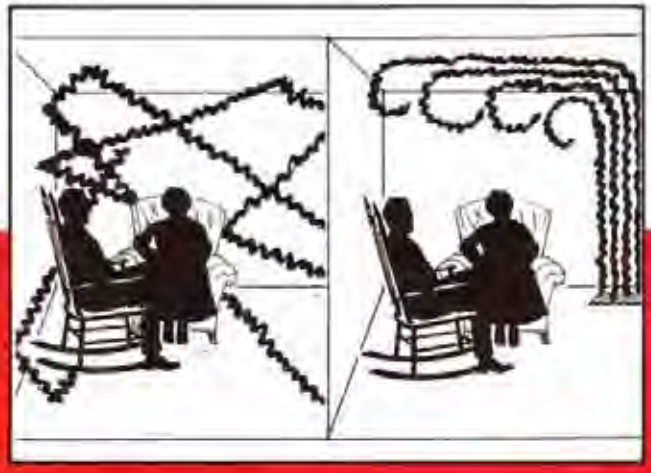
SPM THERMO-SHIELD, INC.
4915 Rattlesnake Hammock Road #266
Naples, Florida 34113 USA
Tel.: 239-234-5832 Fax: 239-236-6767
spm@thermoshield.com www.thermoshield.com

THERMO-SHIELD®
Genuine, Made in USA.

Exhibit S

Thermo-Shield ® roof coatings provide a fire and weather resistant, flexible coating that can reduce energy costs up to 40%.

Thermo-Shield ® roof coatings are waterproof, deaden sound, prevents roof movement and are hail and fire resistant.



How the Fluid Applied Ceramic Coating System Works

THERMO-SHIELD ® differs from other methods of insulation because of it's unique formula that takes advantage of **3 LAWS OF PHYSICS:**

1. THERMO-SHIELD ® provides a durable thermal barrier. The insulating hollow ceramic beads incorporated in the THERMOSHIELD ® formula behave much like glass but even more efficient. Glass can be heated by a torch until it melts and yet it can be safely held in hand at the same time.

2. THERMO-SHIELD ® dissipates heat. Within 10 seconds of removing a blowtorch flame from a glass rod or the hollow ceramic beads, they can be safely handed from one hand to another. That means that over 2000 degrees of heat have been dissipated in less than 10 seconds.

3. The hollow ceramic microspheres reflective quality affects the warming phenomenon called "Mean Radiant Temperature," where heat waves from a source such as direct sunlight cause a person to feel warmer even though the actual air temperature is no different between a shady and a sunny location. It is the molecular friction within the skin which makes the body feel warmer. So the surrounding air can be cooler but the body will feel warmer in the presence of THERMO-SHIELD ®, meaning thermostats can be set lower for the same degree of comfort.

THERMO-SHIELD
Genuine, Made in USA.

Heat kept out of the building doesn't have to be removed!

Fluid Applied Ceramic Roof and Wall Coatings

SPM THERMO-SHIELD, INC.
4915 Rattlesnake Hammock Road #266
Naples, Florida 34113 USA
Tel.: 239-234-5832 Fax: 239-236-6767
spm@thermoshield.com www.thermoshield.com

THERMO-SHIELD®
Genuine, Made in USA.

Fluid Applied Ceramic Roof and Wall Coatings

Heat Loss or Gain
Reduce Noise Levels
Condensation Control

- Insulates with a beautiful finish
- Repairs Interior and Exterior Surface Cracks
- Restores Appearance of Old Surfaces
- Protects Substrate from Sun's Ultraviolet Rays
- Excellent Adhesion to a Variety of Substrates
- Superior Flexibility at Extremely Low Temperatures