

Thermal-Pruf™ Guide Specifications

PART 1 - GENERAL

1.1 WORK INCLUDED

1.1.1 Work under this section includes the furnishing of all labor, materials, equipment, and services necessary to and incidental to, the complete and proper installation of all spray applied acoustic insulation material and related work as specified herein, and in accordance with all requirements of contract documents.

1.1.2 The material and installation shall conform to the applicable building code requirements of all authorities having jurisdiction.

1.2 RELATED WORK

(See section 3.1)

1.3 QUALITY ASSURANCE

1.3.1 Acoustic/insulation work shall be performed by a firm acceptable to the sprayed acoustical/insulation material manufacturer.

1.3.2 Acoustical/insulation material shall be applied by factory trained applicators only.

1.3.3 Products, execution, and material thickness shall conform with the applicable code requirements for the acoustic performance or thermal insulation.

1.4 REFERENCES

1.4.1 ASTM STANDARDS

C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

E795 - Standard Practices for mounting Test Specimens During Sound Absorption Tests.

C413 - Standard Test Method for Absorption of Chemical Resistant Mortars, Grouts, and Monolithic Surfacing.

E90-85 - Standard Test Method for Laboratory Measurement of Air born Sound Transmission Loss of Building Partitions.

E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

E605 - Standard Test Methods for Thickness and Density of Sprayed Fire Resistive Materials Applied to Structural Members.

E736 - Standard Test Methods for Cohesion/Adhesion of Sprayed Fire Resistive Material Applied to Structural Members.

E759 - Standard Test Method for Effect of Deflection of Sprayed Fire Resistive Materials Applied to Structural Members.

E859 - Standard Test Method for Air Erosion of Sprayed Fire Resistive Materials Applied to Structural Members.

E937 - Standard Test Method for Corrosion of Sprayed Fire Resistive Materials Applied to Bare Steel, Shop Coated Steel, and Galvanized Steel.

C739 - Standard Test Method for Corrosion of Sprayed Fire Resistive Materials Applied to Copper, Steel, and Aluminum.

C739 - Standard Test Method for Fungus Resistance of Sprayed Fire Resistive Materials Applied to Structural Members.

C518 - (R-value) Standard Test Method for Steady State Heat Flux Measurements and Heat Transmission Properties by Means of the Heat Flow Apparatus.

C739 - Standard Test Method of Moisture Vapor Absorption of Sprayed Fire Resistive Materials.

E136 - Standard Test Method for Combustibility of Sprayed Fire Resistive Materials Applied to Structural Members.

1.5 DELIVERY, STORAGE, HANDLING

1.5.1 Delivery: Material shall be delivered to the site as follows:

(i) 30 lb. bags of fiber in original manufacturer's wrappings and clearly marked to identify contents.

(ii) 55 gallon steel drums of adhesive concentrate with original manufacturer's labels, bearing the SP-31 trademark, and clearly marked to identify contents.

1.5.2 Storage and Handling: SOUND-PRUF (TM)/THERMAL-PRUF (TM) fiber and SP-31 (TM) adhesive concentrate have unlimited shelf life and may be stored for prolonged periods of time. Bagged Material must be kept dry and protected from moisture. Any bags found to be wet shall be deemed unfit for use and discarded.

Barreled adhesive must be protected from damage, i.e. forklift forks. SP-31 (TM) adhesive concentrate is not affected by freezing, but must be thoroughly thawed and agitated before use if freezing should occur.

SP-31A (TM) adhesive has a limited shelf life, and will be permanently damaged if frozen. Any SP-31A (TM) adhesive found to be partially or totally frozen shall be deemed unfit for use and discarded.

PART 2 - PRODUCTS

2.1 MANUFACTURER

2.1.1 The acoustic material shall be blended sprayed fiber (multi-fiber) manufactured under the SOUND-PRUF (TM) brand name. The insulation material shall be blended fiber under the brand name THERMAL-PRUF (TM)

American Sprayed Fibers, Inc.

PO Box 1111, Fredericksburg, TX, 78624

Tel: (800) 824-2997

2.2 MATERIALS

2.2.1 Materials shall be asbestos-free SOUND-PRUF (TM)/THERMAL-PRUF (TM) Acoustical/Insulation System, SP-31 (TM) or SP-31A (TM) liquid adhesive concentrate. These materials shall conform to the drawings, specifications, and following test criteria:

2.2.2 Surface Burning Characteristics: When tested in accordance with ASTM E84, the material shall exhibit the following surface burning characteristics:

FLAME SPREAD.....0

SMOKE DEVELOPED.....0

FUEL CONTRIBUTED.....0

2.2.3 Thickness and Density: When tested in accordance with ASTM E605, the material shall meet the minimum individual and average density values, and minimum thickness values as listed for each assembly, or as required by the authority having jurisdiction.

2.2.4 Cohesion/Adhesion (Bond Strength): When tested in accordance with ASTM E736, the material shall have a minimum bond strength of 357 lbs./ft² applied over uncoated wood, steel, brick, block, concrete, glass, or galvanized steel.

2.2.5 Deflection: When tested in accordance with ASTM E759, the material shall not crack or delaminate from the surface to which was applied.

2.2.6 Air Erosion: When tested in accordance with ASTM E859 material loss from the finished application shall not exceed .025 g/ft².

2.2.7 Corrosion Resistance: When tested in accordance with ASTM E937, the material shall not promote corrosion of bare steel, shop coated steel, or galvanized steel.

2.2.8 Corrosion (Electrical Components): When tested in accordance with ASTM C739, the material shall not promote corrosion of copper, steel, or aluminum.

2.2.9 Fungus Resistance: When tested in accordance with ASTM C739, the material shall not support the growth of fungus.

2.2.10 Thermal Resistance: (R-value) When tested in accordance with ASTM C518, the material shall exhibit a thermal resistance related to its density. The manufacturer shall submit to the project architect a current R-value test report, conducted and prepared by the reputable NVLAP accredited testing laboratory.

2.2.11 Moisture Absorption: When tested in accordance with ASTM C739, moisture vapor absorption shall not exceed 8% by weight.

2.2.12 Odor Emission: When tested in accordance with ASTM C739, the material shall not give off a strong, or objectionable odor.

2.2.13 Sprayed acoustic/insulation material shall be free of asbestos, asbestos-contaminated vermiculite, amosite, tremolite, chrysotile, crocidolite, actinolite, or anthophyllite. Sprayed acoustic/insulation manufacturer shall provide written certification of no asbestos content upon request.

2.2.14 Sprayed acoustic/insulation material shall not promote corrosion of the substrate to which it is applied, and the material shall not contain corrosive acidic, or caustic fire retardant materials such as boric acid (crude or refined), ammonium sulfate, or aluminum trihydrate. Manufacturer shall submit written certification of no corrosive material content to the project architect, along with all corrosiveness test reports. (ASTM E937 and ASTM C739)

2.2.15 Combustibility: When tested in accordance with ASTM E-136, the material shall not be combustible.

PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 All surfaces to be insulated shall be free of dirt, oil, wax, rust, loose mill scale, paints/primers, or any other foreign matter that may impair adhesion of the acoustic/insulation material to the substrate. Where necessary, cleaning of the surfaces to be sprayed shall be the responsibility of the Structural Steel Erector of the General Contractor.

3.1.2 Compatibility of Surfaces: The project architect shall determine whether the painted/primed asbestos lock down substrates are compatible with the sprayed acoustic/insulation material and will facilitate complete and proper adhesion.

3.1.3 SOUND-PRUF™/THERMAL-PRUF™ will adhere to most clean structural surfaces, however, the use of a primer coat may be necessary on painted/primed asbestos lockdown surfaces. Contact manufacturer for further compatibility information.

3.1.4 Clips, hangers, support sleeves, and other attachments shall be in place before application of acoustic/insulation material.

3.1.5 Rolling compounds and lubricants used in the manufacture of steel deck and steel siding may impair adhesion of acoustic/insulation material to the substrate. Steel deck and steel siding specifications shall call for the deck/siding manufacturer to supply deck/siding free of such compounds of lubricants. Ducts, pipes, or other suspended matter shall not be installed until acoustic/insulation application is completed.

3.1.6 Metal siding use in the pre-engineered steel building industry are coated with a wide variety of interior (backer) finishes. Certain types of backer coatings may require the applications of a primer to ensure adhesion of sprayed acoustic/insulation material to the substrate. The project architect shall determine the type of backer coating used, and compatibility with the acoustic/insulation material. Contact American Sprayed Fibers, Inc. for complete information on backer coatings, compatibility, and acceptable acoustical/insulation primers.

3.1.7 The project architect shall call for a galvanized interior (backer) coating in steel siding specifications if possible.

3.1.8 All roofing applications shall be completed prior to application of acoustic/insulation material to the underside of roof decks. All roof traffic shall be prohibited upon beginning of acoustic/insulation applications, and until the acoustic/insulation material is fully cured and dried.

3.1.9 All concrete work shall be completed prior to application of acoustical/insulation to underside of steel deck.

3.1.10 The applicator shall provide all necessary drop cloths, masking, and coverings, to prevent acoustic/insulation over spray.

3.1.11 Application of acoustic/insulation material shall not begin until the applicator and general contractor have inspected the surfaces to be sprayed, and performed bond strength test necessary, to determine these surfaces acceptable to receive acoustic/insulation material.

3.1.12 When outdoor temperature is below 32° F, substrate and ambient temperatures of 35° F or higher must be maintained for 24 hours before, during, and 24 hours after application of the acoustic/insulation material. If necessary, the general contractor shall provide heated enclosures to maintain proper temperatures for job progress. Drying time for temperatures about 32° F depend on thickness sprayed.

3.1.13 Beginning of installation means applicator accepts existing substrate conditions, and environmental conditions.

3.1.14 Project Architect, Owner, General Contractor and applicator must agree on finish texture of material before commencement of work.

3.2 APPLICATION

3.2.1 Application procedures and equipment shall conform to the acoustic/insulation material manufacturer's application instructions.

3.2.2 The acoustical/insulation contractor shall cooperate with the other trades in coordination and scheduling of work to avoid impeding job progress.

3.2.3 Maintain proper temperature and ventilation necessary for application and curing/drying of sprayed acoustic/insulation material.

3.2.4 All patching and repairing of acoustic/insulation material due to damage by other trades shall be performed under this section and paid for by the trade(s) responsible for the damage.

3.3 FIELD QUALITY CONTROL

3.3.1 Acoustic/insulation material shall be installed by factory trained applicators only.

3.3.2 The project architect may select an independent testing laboratory to sample and verify the thickness and density of the acoustic/insulation material in accordance with ASTM E605, Standard Test Methods for Thickness and Density of Sprayed Fire Resistive Materials Applied to Structural Members.

3.4 CLEANING

3.4.1 Upon completion of insulation work, application equipment shall be removed and all surfaces not to be sprayed shall be cleaned of any material deposits.