

PRODUCT DESCRIPTION

CAFCO SOUND-SHIELD 40 is a spray applied high density acoustical treatment that provides high levels of acoustical control on walls and ceilings. Its unique blend of Portland cement and vermiculite delivers excellent physical property performance and unsurpassed noise reduction efficiency.

CAFCO SOUND SHIELD 40 requires no hand finishing and is ideally suited for a variety of acoustical applications, including complex contoured surfaces. This non-combustible acoustical material is an excellent product for both retrofit and new projects such as schools, churches, libraries and other public buildings, where acoustical control is required.

Its aesthetically pleasing architectural finish makes it ideal for use in areas such as transportation centers, hotels/resorts, entertainment arenas, etc. that require an exposed, durable, abuse resistant sound absorbing treatment.

PRODUCT ADVANTAGES

- High density (40 pcf) material with NRC ratings up to 0.75
- Exceptional physical property performance
- Ideal for contoured surfaces
- No hand finishing required
- Aesthetically pleasing architectural finish

TESTED PERFORMANCE

CAFCO SOUND-SHIELD 40 has been tested for surface burning characteristics in accordance with ASTM E84 and is rated Class A.

Flame Spread0 Smoke Developed10

Acoustical Performance

		Frequency (Hz)						
		125	250	500	1000	2000	4000	
THICKNESS	SUBSTRATE	COEFFICIENT RATING						NRC
3/8"	Solid Base	0.01	0.11	0.34	0.49	0.67	0.86	0.40
1/2"	Solid Base	0.24	0.32	0.44	0.51	0.71	0.96	0.50
1"	Solid Base	0.24	0.41	0.50	0.65	0.85	0.98	0.60
1 1/2"	Solid Base	0.29	0.40	0.61	0.89	1.00	1.05	0.70
1 7/8"	Solid Base	0.36	0.52	0.64	0.85	0.98	0.99	0.75

The above values represent independent laboratory tests under controlled conditions. Sound absorption performance of building materials is dependent on thickness, density, surface texture and other factors. Lower density and rougher surface texture significantly contribute to optimum performance.

Physical Performance

Characteristic	ASTM Method	Tested Performance*
Density**	E605	40 pcf (640.7 kg/m ³)
Combustibility	E136	Noncombustible
Cohesion/Adhesion	E736	5,000 psf (239.4 kPa)
Compressive Strength	E761	43,200 psf (2,068.4 kPa)
Corrosion Resistance	E937	Does Not Promote Corrosion of Steel
Toxicity	University of Pittsburgh - Toxicity Test	LC (50)>400 grams
Fungal Resistance	G21	Passed

* Values represent independent laboratory tests under controlled conditions.

** In-place density of CAFCO SOUND-SHIELD 40 may range from the mid 30s to nominally 40 pcf by design. Refer to the CAFCO SOUND-SHIELD 40 Application and Installation Manual for guidelines to control density and for application technique.

CAFCO® SOUND-SHIELD® 40 Guide Specification

PART 1 - GENERAL

1.1 WORK INCLUDED

1.1.1 Provide all labor, materials, equipment and services necessary for, and incidental to, the complete and proper installation of all sprayed acoustical treatment and related work as shown on the drawings or where specified herein, and in accordance with all applicable requirements of the Contract Documents.

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

1.2 QUALITY ASSURANCE

1.2.1 Provide a Portland cement-vermiculite based material which has been tested and meets the following physical performance properties.

TEST METHOD	PROPERTY	TESTED PERFORMANCE
ASTM E605	Density	40 lbs/ft ³
ASTM E761	Compressive Strength	300psi
ASTM E736	Bond Strength	5000 psf
ASTM E84	Surface Burning Characteristics	Flame: 0 Smoke: 0
ASTM C423	Sound Absorption	NRC: 0.40 @ 3/8" NRC: 0.50 @ 1/2" NRC: 0.60 @ 1" NRC: 0.70 @ 1 1/2" NRC: 0.75 @ 1 7/8"
ASTM E136 University of Pittsburgh Toxicity Test	Combustibility Toxicity	Non-combustible LC 50>400 Grams

1.2.2 Work shall be performed by a firm with expertise in the installation of sprayed acoustical materials or similar products. The firm shall be recognized or otherwise approved by the acoustical material manufacturer.

1.2.3 Provide test results from an NVLAP accredited testing laboratory. Thickness of test sample and density must be determined and reported by the acoustical laboratory.

1.2.3.1 NRC not less than 0.60 at one (1) inch thickness and coefficient not less than 0.35 (+ or - 0.01) at 250 Hz. Conduct testing on solid backing with no air gap unless otherwise specified.

1.2.4 Control Sample: Prior to installation of the final finish coat, apply an area of 50ft² in the presence of the architect, for approval of finish texture, as selected from samples.

1.3 RELATED SECTIONS

1.3.1. Section 034100 - PRECAST STRUCTURAL CONCRETE

1.3.2. Section 092400 - CEMENT PLASTERING

1.3.3. Section 092900 - GYPSUM BOARD

1.3.4. Section 099123 - INTERIOR PAINTING

1.4 REFERENCES

- A. ASTM E84 (UL 723, CAN/ULC - S102) – Surface Burning Characteristics of Building Materials. Class A Rating. Flame: 0 Smoke: 0
- B. ASTM E136 (CAN4 - S114) - (Non-combustibility) Behavior of Materials in a Vertical Tube Furnace at 1382° F (750°C).
- C. ASTM C423 – Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
- D. ASTM E605 - Density.
- E. ASTM E736 - Bond Strength.
- F. ASTM E761 - Compressive Strength.
- G. Toxicity Test (University of Pittsburgh)

1.5 SUBMITTALS

1.5.1 Manufacturer's Data: Submit Manufacturer's specifications, including certification as may be required to show material compliance with Contract Documents and quality assurance performance minimums.

1.5.2 Test Data: Provide test results. Independent laboratory test results shall be submitted for all specified performance criteria

1.5.3 Submit samples of sprayed on insulation showing texture variations for approval.

1.5.4 Submit certification from all suppliers indicating no detectable asbestos content in materials and materials are free of polystyrene and cellulose.

1.5.5 Submit certification of applicator recognition.

1.6 DELIVERY, STORAGE AND HANDLING

1.6.1 Deliver materials to the project in manufacturer's unopened packages, fully identified as to trade name, type and other identifying data.

1.6.2. Store materials above ground, in a dry location, protected from the weather. Damaged packages found unsuitable for use should be rejected and removed from the project.

1.7 PROJECT CONDITIONS

1.7.1 When the prevailing outdoor temperature at the building is less than 40° F (4° C), a minimum substrate and ambient temperature of 40°F (4° C) shall be maintained prior to, during, and 24 hours after application of sprayed acoustical material. If necessary for job progress, General Contractor shall provide enclosures and heat to maintain proper temperatures and humidity levels.

1.7.2. General Contractor shall provide ventilation to allow proper drying of the sprayed acoustical material during and subsequent to its application.

1.7.2.1 Ventilation must not be less than 4 complete air exchanges per hour until the material is dry. When spraying in enclosed areas such as basements, stairwells, shafts, and small rooms, additional air exchanges may be necessary.

1.8 SEQUENCING/SCHEDULING

1.8.1 All sprayed acoustical treatment work on a floor shall be completed before proceeding to the next floor.

1.8.2. The Contractor shall cooperate in the coordination and scheduling of acoustical work to avoid delays in job progress.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

2.1.1 The sprayed acoustical material shall be manufactured under the CAFCO® brand name by authorized producers. Where decorative/acoustical insulation is required, material shall be CAFCO SOUND-SHIELD 40. Where bonding adhesive is required, material shall be CAFCO® BOND-SEAL.

2.2 MATERIALS

2.2.1 Material shall be CAFCO SOUND-SHIELD 40 applied to conform to the drawings, specifications and quality assurance physical performance minimums.

2.2.2 Color shall be white or grey or finish as selected by the architect, engineer or building owner.

2.2.3 Texture shall be a standard spray-applied or a semi-smooth troweled finish as selected by the architect, engineer or building owner.

2.2.4 Thickness shall be _____.

2.2.5 Potable water shall be used for the application of sprayed acoustical material.

PART 3 - EXECUTION

3.1 PREPARATION

3.1.1 Examine all substrates and conditions where the acoustical treatment is to be applied.

3.1.2 All surfaces to receive acoustical treatment shall be free of oil, grease, loose mill scale, dirt, paints/primers or other foreign materials which would impair satisfactory bonding to the surface. Any cleaning of surfaces to receive sprayed acoustical material shall be the responsibility of the General Contractor.

3.1.3 Clips, hangers, supports, sleeves and other attachments to the substrate are to be placed by others prior to the application of sprayed acoustical material.

3.1.4 The installation of ducts, piping, conduit or other suspended equipment shall not take place until the application of sprayed acoustical material is complete in an area.

3.1.5 The sprayed acoustical material shall only be applied to substrates which have been approved and/or tested by the sprayed acoustical material manufacturer.

3.1.6 Do not proceed until the referenced substrate(s) and conditions are acceptable.

3.1.7 Prepare the substrate by filling voids, cracks and/or offsets. Remove projections that result in telegraphing through the finish.

3.1.8 Prime substrate with CAFCO BOND-SEAL (Type EBS) or manufacturer approved bonding agent.

3.1.9 Do not apply acoustical insulation material when material temperature is below 44° F (7° C), or substrate temperature is below 40° F (5° C).

3.1.10 Mask all adjoining surfaces in order to minimize damage from overspray.

3.1.11 Ventilation must not be less than four (4) complete air exchanges per hour.

3.1.12 Provide tarps and/or temporary enclosures as necessary to confirm proper application.

3.1.13 Perform all patching and/or repairs of acoustical treatment as needed.

3.2 APPLICATION

3.2.1 Equipment, mixing and application shall be in accordance with the manufacturer's written application instructions.

3.2.2 The application of the sprayed acoustical material shall not commence until certification has been received by the General Contractor that surfaces to receive the sprayed acoustical treatment have been inspected by the applicator and are acceptable to receive the material.

3.2.3 All unsuitable substrates must be identified and made known to the General Contractor and corrected prior to the application of the sprayed acoustical material.

3.2.4 Install to thickness specified or thickness required to achieve desired NRC.

3.2.5 Sprayed acoustical material shall be applied to an overall nominal thickness not to exceed 1 - 7/8" (47.6mm). Individual build-up coats shall not exceed 1/4" (6.5 mm) and shall be allowed to dry 12 to 24 hours prior to applying additional thickness of material.

3.2.6 Proper temperature and ventilation shall be maintained as specified in 1.7.1, 1.7.2 and 1.7.2.1.

3.2.7 Provide masking, drop cloths or other suitable coverings to prevent overspray from coming in contact with surfaces not intended to receive sprayed acoustical material.

3.2.8 Protect finished walls, windows, doors and trim with plastic film secured with moisture resistant tape. Protect all floors with plastic film, or other suitable drop cloths.

3.2.9 The application of sprayed acoustical insulation to the underside of roof deck shall not commence until the roofing is completely installed and tight, all penthouses are complete, all mechanical units have been placed, and after construction roof traffic has ceased.

3.2.10 The sprayed acoustical material shall not be directly applied to cellular or fluted steel decking or to any painted surfaces.

3.2.11 The application of the sprayed acoustical material to any smooth, dense surface requires the application of an adhesive prior to the application of the material. The adhesive shall be mixed in accordance with the manufacturer's written instructions.

3.2.12 Ensure that the texture and finish are as per the approved control sample.

3.3 REPAIRING AND CLEANING

3.3.1 All patching of and repair of damaged sprayed acoustical material, shall be performed under this section and paid for by the trade responsible for the damage.

3.3.2 After the completion of the work in this section, equipment shall be removed and all surfaces not to be sprayed shall be cleaned to the extent previously agreed to by applicator and General Contractor.

Product Availability
Isolatek International Spray-Applied Fire Resistive Materials and acoustical treatments are available to trained, recognized applicators around the world from strategically located production and distribution points in the U.S., Canada, Mexico, Europe and the Pacific Basin.



ISOLATEK INTERNATIONAL is registered with the
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We support our customers with unsurpassed technical expertise and customer service, complemented by an extensive global network of experienced sales representatives and recognized applicators. For detailed product information or for the name of the sales representative in your area please contact us.

The performance data herein reflect our expectations based on tests conducted in accordance with recognized standard methods under controlled conditions. The applicator, general contractor, property owner and/or user MUST read, understand and follow the directions, specifications and/or recommendations set forth in Isolatek International's publications concerning use and application of these products, and should not rely merely on the information contained in this Technical Data Sheet. Isolatek International is not responsible for property damage, bodily injuries, consequential damages, or losses of any kind that arise from or are related to the applicator's general contractor's, or property owner's failure to follow the recommendations set forth in Isolatek International's publications. The sale of these products shall be subject to the Terms and Conditions set forth in the Company's invoices.



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