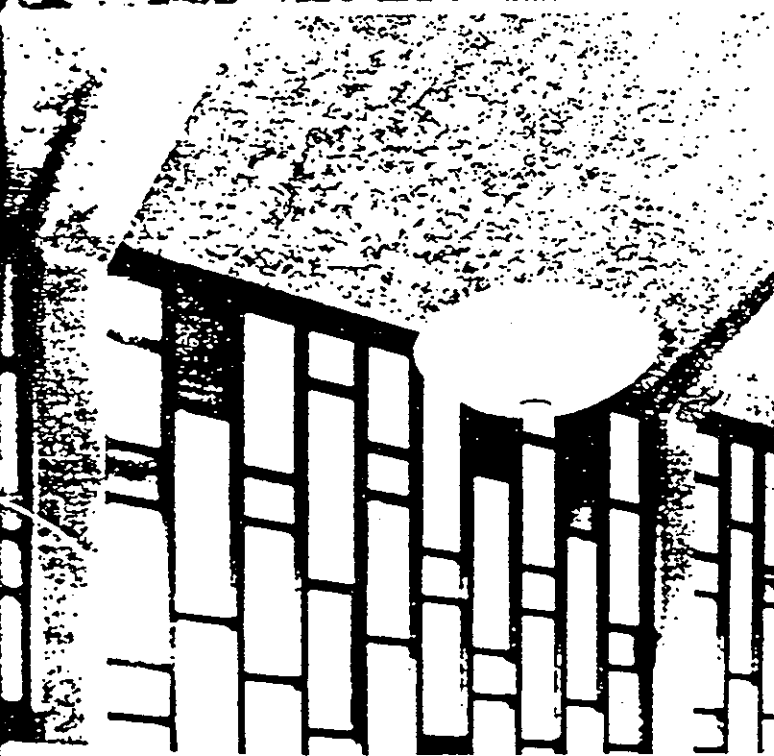


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PLAINTIFF'S
EXHIBIT
USM-322

Cafco SOUND-SHIELD



ACOUSTICAL
TREATMENT
*where
appearance
counts*

ACOUSTICS
ENGINEERING Company
subsidiary of
UNITED STATES MINERAL WOOL COMPANY
Stanhope, New Jersey
NEtcong 2-1200

1959



CAFCO SOUND-SHIELD

CAFCO® SOUND-SHIELD, designed to provide exceptionally high sound absorption at all frequencies, is a scientifically proportioned blend of highly refined mineral fibers and inorganic binders. Machine applied in 1" to 3" thicknesses, it forms a fissured, level, continuous blanket which may be textured or colored as desired.

APPLICATION

CAFCO SOUND-SHIELD is applied to most types of clean surfaces without the use of supplementary bases, such as metal lath, for mechanical key. Upon job application of CAFCO ADHESIVE to the base surface, a one or two coat application of SOUND-SHIELD, followed by light tamping and sealing, results in a tightly bonded, abrasion resistant surface.

ADVANTAGES

CAFCO SOUND-SHIELD offers the architect, contractor, and owner these major advantages—

flexibility of design Unlike preformed acoustical materials, CAFCO SOUND-SHIELD permits the designer to vary thicknesses within critical areas for desired sound reduction. This can be done without sacrificing aesthetic requirements.

continuity of surface The monolithic application provides a surface uninterrupted by joint patterns, dropped corners, and grid systems.

texture selection Application techniques permit the designer to select a texture best suited for each area to be treated. Smooth, fine, medium or coarse travertine textures may be specified.

color selection Natural CAFCO SOUND-SHIELD has a pleasing off-white color. On new work, sealing with transparent overspray may be replaced by application of color. Recoloring has virtually no effect on the sound absorption characteristics.

incombustible Applied to either combustible or noncombustible bases, SOUND-SHIELD received a flame spread classification of 15 when tested in accordance with ASTM E84-50T by Underwriters Laboratories, Inc. It also conforms to paragraph F2.1.1.1 of Federal Specification SS-A-111.

cleaner, faster application Efficient, modern equipment incorporating a patented Dust-Control system, permits contractors to work during application. One trade moves through a job site only once on a small rolling scaffold. Factory trained or approved personnel, employed by experienced, franchised contractors, supervise the installation.

low thermal conductivity In many applications, the low thermal conductivity of CAFCO SOUND-SHIELD affords a desirable extra.

permanence Once set, SOUND-SHIELD is unaffected by water or water vapor. Permanence of installation is assured because the inorganic fibers and binders are rot-proof, vermin-proof, and pest-proof. Normal structural movement is absorbed without cracking or spalling of the surface.

CAFCO RESEARCH FACILITIES

Columbian Acoustics and Engineering Company maintains test and research facilities designed to assist the building industry. Years of research and development have established an enviable reputation which is reflected in every application of CAFCO products.

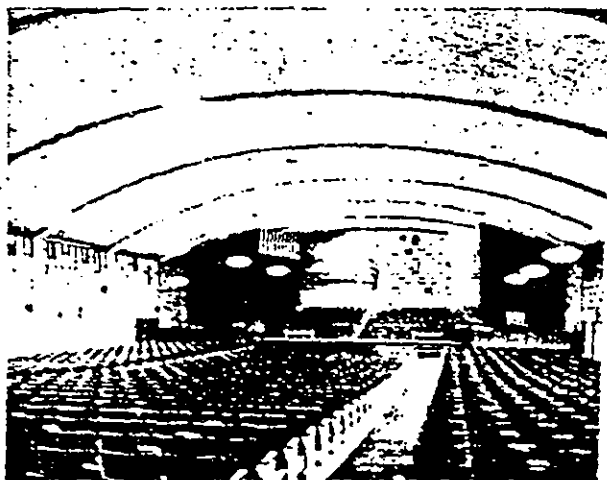
CAFCO SOUND-SHIELD CONTRACTORS

Factory trained or approved franchised contractors are located throughout the United States and Canada. They are equipped to assist architects, general contractors and owners through all stages of job design and installation.

TYPICAL INSTALLATIONS

the versatility of use and adaptability of design of CAFCO SOUND-SHIELD are exemplified by these installations . . .

SCHOOLS and CHURCHES



High absorption at "auditorium" frequencies makes SOUND-SHIELD treatment ideal for large assemblage areas. Irregular shaped surfaces may be easily covered without expensive cutting and seaming.

TEST DATA

α sound absorption

thickness	base	coefficients					
		125	250	500	1000	2000	4000
3/4"	metal lath	.46	.65	.75	.81	.89	.87
3/4"	solid	.08	.19	.37	.61	.79	.78

Test values by Riverbank Laboratories, Armour Research Institute, Illinois.



FLOORS



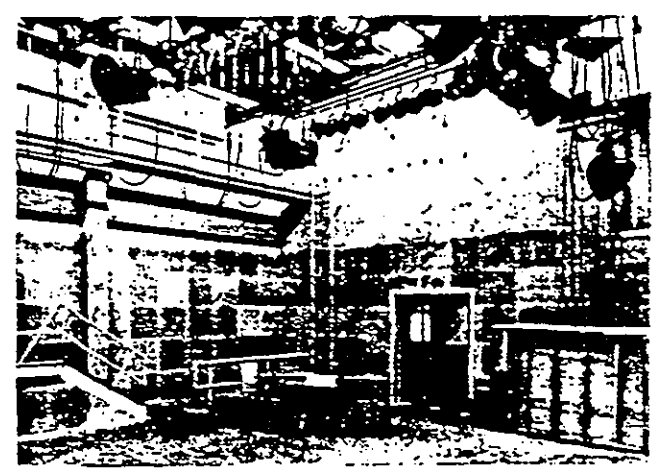
CAFCO SOUND-SHIELD is designed not only for use on new construction, but for remodeling and modernization work also. It is readily applied to most types of existing surfaces and, because of minimum drying time, permits early occupancy.

WALLS



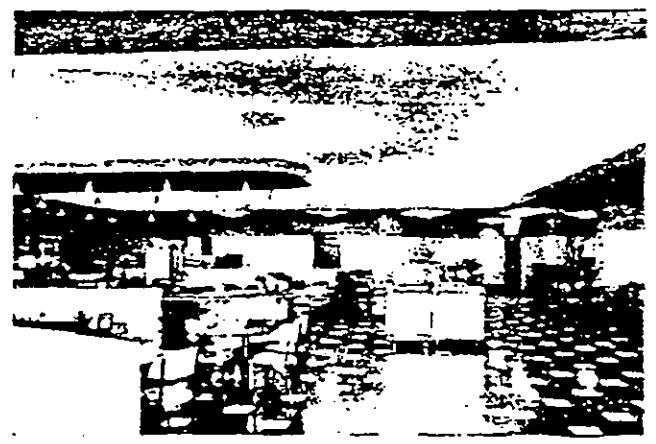
The range and flexibility of texture selection meets the requirements of other design factors. Lighting and partitioning can be planned without consideration of grid or tile pattern. Color can be selected to meet aesthetic requirements.

TELEVISION and RADIO STATIONS



The precise acoustical engineering required in these facilities demands flexibility in design. The thickness of SOUND-SHIELD may be easily varied to eliminate potential "dead" areas and meet critical "live" area conditioning.

RESTAURANTS



In business establishments where success is dependent upon customer comfort, sound conditioning is a necessity. SOUND-SHIELD is readily adapted to recessed or cove lighting detail and may be used over areas of high relative humidity without danger of warping, rotting or cracking.

Light reflectivity

	percent reflectivity
Color-Fissured	71%
White-Trowelled Smooth	81%

Test values by Riverbank Laboratories, Armour Research Institute, Geneva, Illinois. Light reflectance is increased by a smoothness of finish and quality of color.

Fire hazard classification

	combustible surfaces	noncombustible surfaces
Flame spread	15	10-15
Fuel contributed	10-20	10-15
Smoke developed	0	0

Tests performed by Underwriters' Laboratories, Inc., UL-R3754
Guide #40 U 8.6

SPECIFICATIONS

for acoustical treatment

GENERAL

scope

This section shall include all materials, equipment and labor necessary for the application of acoustical fiber to areas indicated on drawings or specified in this section.

contractor's qualifications

The Contractor shall be franchised for this work by the manufacturer of the materials; he shall use manufacturer-approved application and Dust-Control equipment; he shall make the application of this work under the supervision of a manufacturer-trained or approved foreman; he shall execute the work in strict accordance to manufacturer's recommendations.

samples

The Contractor shall submit samples to the architect prior to the commencement of work for selection of texture and color.

examination of existing work

The Contractor shall examine all work prepared by others which is to receive the work of this section. Commencement of work constitutes acceptance of all surface bases and preparations for his work.

work by others

Surfaces for application of acoustical fiber and base attachments for the suspension of pipes, ducts, lights and other mechanical devices shall be installed by others prior to commencement of work covered by this section.

MATERIALS

bonding adhesive

Shall be latex-type water emulsion which shall be unaffected by water, water vapor, condensation, aging or freezing once it has set. Bonding adhesive to be CAFCO ADHESIVE as supplied by Columbia Acoustics and Fireproofing Company, Stanhope, New Jersey, or approved equal.

fiber

The fiber shall consist of inorganic virgin Crystofite asbestos fibers and small pellet, white mineral fiber, combined with inorganic

binders. The fiber shall have an Underwriters' Laboratories Fire Hazard Classification rating of incombustible with a flame-spread of 15 or less; and shall have a Noise Reduction Coefficient of _____ (see table). Fiber shall be CAFCO SOUND-SHIELD or approved equal, and shall be supplied to the job site in sealed paper bags, properly marked and labeled to show the approval of Underwriters' Laboratories, Inc.

transparent overspray

Shall be CAFCO SEALER, or approved equal; shall be unaffected by moisture.

INSTALLATION

job conditions

Application shall be started only after the Contractor is satisfied surface and weather conditions are acceptable. Surfaces shall be reasonably clean and free of dirt, grease, oil, loose plaster, rust, paint or other conditions which would tend to prevent good adhesion. Cold weather application shall follow the manufacturer's recommendations.

procedure

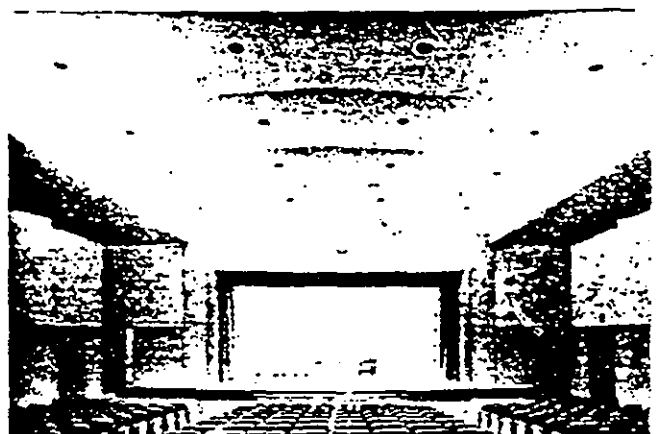
All surfaces to be covered shall be primed with bonding adhesive. For interior finish applications of more than 1/2" thickness, the fiber shall be applied in two coats. The second shall be a (smooth, fine, medium, coarse) travertine texture coat of not less than 1/2" thickness. Each coat shall be tamped. Finished surface shall be sealed with transparent overspray or latex-base color.

CAFCO FOR FIREPROOFING AND INSULATION

While CAFCO SOUND-SHIELD has valuable fireproofing and thermal insulation properties, it has been designed primarily for efficient, economical, acoustical treatment. Technical information covering CAFCO BLAZE-SHIELD, for fireproofing, and CAFCO HEAT-SHIELD, for thermal insulation, can be found in Sweet's Architectural 12e Co and Plant Engineering 6a Co. Files respectively.



Large open ceiling areas are uninterrupted by tile and grid patterns. Continuity of surface and low thermal conductivity increase plenum efficiency.



Adaptability to any contour gives the acoustical engineer the flexibility required for proper design. No restriction is placed on radii of curved surfaces.

COLUMBIA ACOUSTICS
and FIREPROOFING Company