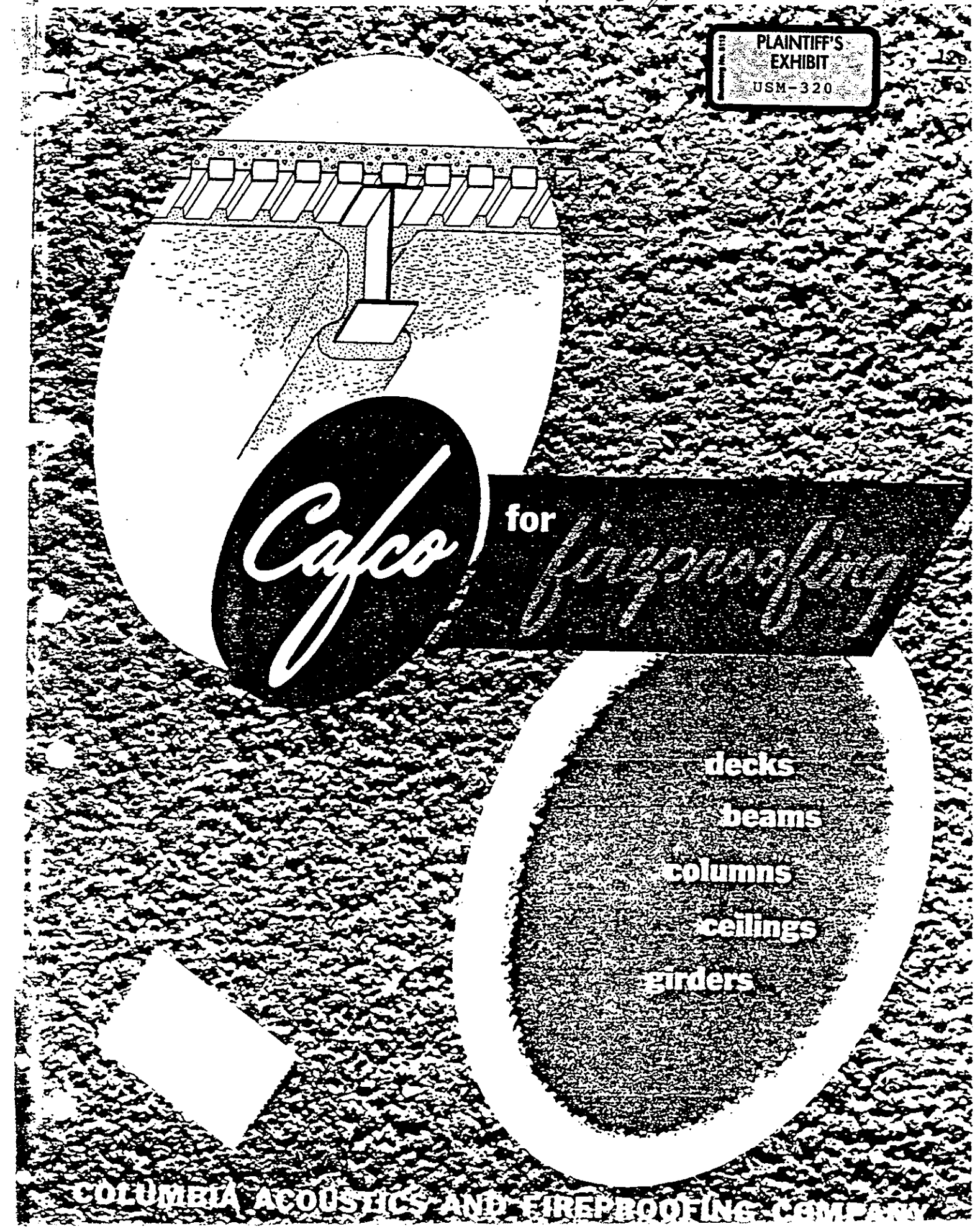
Frank Stumpf dep Pl ex #5a 1958

PLAINTIFF'S EXHIBIT
USM-320


Cafco for fireproofing
decks
beams
columns
ceilings
girders
COLUMBIA ACOUSTICS AND FIREPROOFING COMPANY

5b

Cafco® for fireproofing

CAFCO SPRAY FOR FIREPROOFING

CAFCO SPRAY FIREPROOFING is a special blend of highly refined mineral fibers and mineral binders applied mechanically in combination with a water mist to form a light density blanket from ¾" to 3" in thickness. It has a fissured, monolithic surface without seams, joints or cracks. CAFCO SPRAY FIREPROOFING may be applied to most types of clean surfaces.

CAFCO ADHESIVE is first sprayed over the surface to be treated. CAFCO SPRAY FIREPROOFING is, then, applied under pressure, to the desired thickness. A light tamping to obtain correct density results in a tightly bonded, compressible, functional coating.

CAFCO SPRAY FIREPROOFING is a highly efficient, fireproofing material. Its efficiency has been tested and proven by many laboratories and is recognized and accepted by municipal and state building departments. Test data are on file with Insurance Rating Boards throughout the United States. The drawing and data show in condensed form the results of such tests. Underwriters' Laboratories gives CAFCO SPRAY FIREPROOFING a 3-hour rating when applied directly to steel beams and to cellular steel deck. This method eliminates the necessity of suspending a fireproofing membrane.

Underwriters' Laboratories has conducted the Fire Hazard Classification tests and has rated CAFCO SPRAY FIREPROOFING 15 when applied ¾" thick to combustible materials. This is well below the 20 or more maximum set by most authorities.

Because it is composed only of mineral fibers and binders, CAFCO SPRAY FIREPROOFING cannot burn and is rated incombustible. Columbia Acoustics and Fireproofing Company has erected a fire test furnace at its plant for the further testing of CAFCO SPRAY FIREPROOFING applied to the latest types of construction. The results obtained can be correlated with those of Underwriters' Laboratories.

The common problem of high cost, difficult-to-apply, fireproofing is eliminated by CAFCO SPRAY FIREPROOFING. Simply applied onto the surface, it requires no clips, hampers, rods, channels, spacers, or metal lath regardless of the shape of the surface. Insurance savings often result from the application of CAFCO SPRAY FIREPROOFING.

CAFCO SPRAY FIREPROOFING is a durable, lightweight cover, and may be textured and colored . . . Where Appearance counts. Water soluble latex-based type colors may be sprayed onto the CAFCO SPRAY FIREPROOFING.

Where CAFCO SPRAY FIREPROOFING is used as exposed acoustical finish, a textured, more decorative finish may be desired. A finishing coat of hardened CAFCO SPRAY (Type 1) may be applied to effect a smooth, or course travertine, or nap surface. CAFCO SPRAY (Type 1) is a new formulation which embodies the characteristics and appearance of CAFCO SPRAY FIREPROOFING but has the added features of setting up harder with a high light reflectance.

Type 1 in combination with CAFCO SPRAY FIREPROOFING is commonly used on low ceilings and side walls where the softer CAFCO SPRAY FIREPROOFING might be damaged. A typical application is ½" of Type 1 over a base of CAFCO SPRAY FIREPROOFING.

CAFCO SPRAY used for acoustical treatment, insulation, condensation control and plaster base is described in detail in a separate catalog in Sweet's File, or is available on request.

physical properties and advantages

CAFCO SPRAY FIREPROOFING is:

PERMANENT	INCOMBUSTIBLE
INORGANIC	RUST-PROOF
LIGHT-WEIGHT	ROT-PROOF

ECONOMY—CAFCO SPRAY FIREPROOFING is applied directly to beam, deck or other surface in ONE application by ONE trade, in ONE coat and requires only a small rolling scaffold. No drying delays or multiple trades. New equipment and methods cut application costs 10 to 30%.

LIGHT WEIGHT—The weight of CAFCO SPRAY FIREPROOFING applied ¾" thick to metal deck is 1½ pounds per square foot of deck. This is a fraction of the weight of wet-mix materials. CAFCO SPRAY FIREPROOFING, compared with other fireproofing treatment, may cut the weight up to 80%.

CORROSION PREVENTIVE—As CAFCO SPRAY FIREPROOFING is applied directly to the metal base, there is no air space in which corrosion can take place.

FAST DRYING—CAFCO SPRAY FIREPROOFING cures and dries as much as six times faster than wet-mix plasters. Other construction such as suspended ceilings can follow without costly delay or expensive precautions for ventilating.

DUST CONTROLLED APPLICATION—Cleaner and faster modern equipment eliminates 90% of the dust formerly present during application, allowing other trades to work simultaneously. Only sweep-cleaning required.

WINTER APPLICATION—Weather precautions are simplified, application is possible under weather conditions which prohibit use of plasters for more favorable temperatures. Completion schedule is maintained; excessive heating is unnecessary.

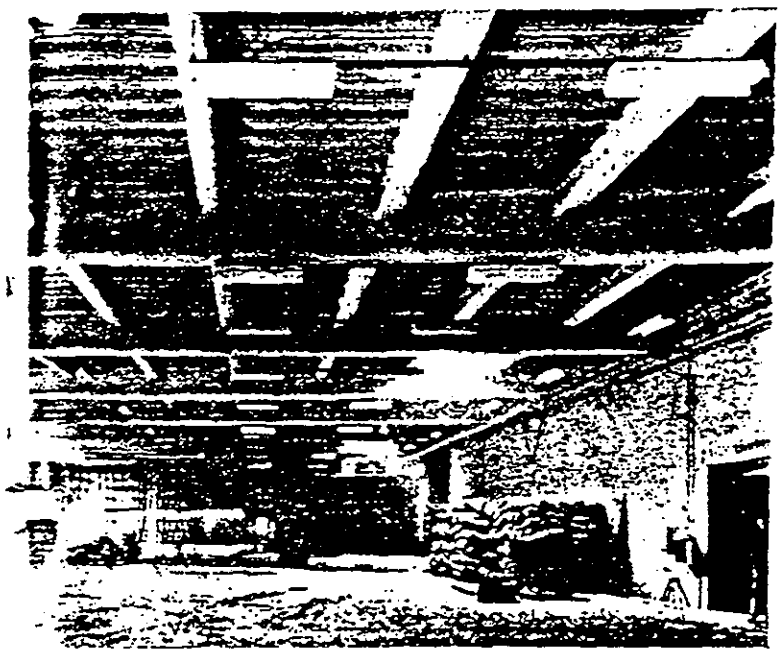
ACOUSTICS—CAFCO SPRAY FIREPROOFING provides "built-in" acoustical treatment. When a suspended acoustical metal pan ceiling is used, the acoustical pad can be eliminated.

INSULATION—CAFCO SPRAY FIREPROOFING with a low K-factor of .26 provides effective insulation.

APPEARANCE—Texture, hardness and high light reflectance provide an attractive finish . . . Where Appearance Counts.

ENGINEERING SERVICE

Columbia Acoustics and Fireproofing Company maintains an engineering and service staff ready to assist the architect and the building industry. Years of research and development experience have established a reputation reflected in every use of CAFCO products. Trained instructors are available.



SOUND ABSORPTION CHARACTERISTICS*

Thickness & Mounting	Coefficients at Frequencies Shown						Noise Reduction Coefficient
	125	250	500	1000	2000	4000	
1" Standard—Solid	.59	.50	.71	.91	.91	.88	.75
¾" Standard—Metal Lath	.49	.65	.88	.93	.90	.87	.85
¾" Type 1—Metal Lath	.46	.65	.75	.81	.89	.87	.80
¾" Type 1—Solid	.08	.19	.37	.61	.79	.78	.50

LIGHT REFLECTION CHARACTERISTICS*

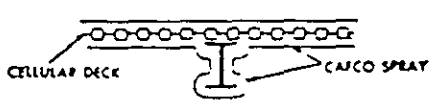
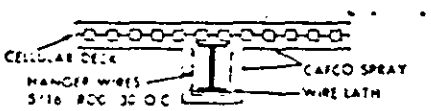
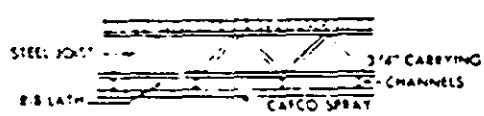
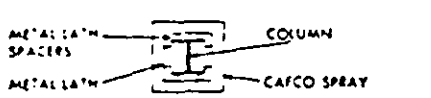
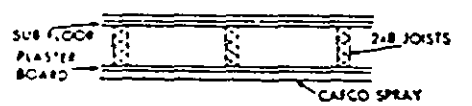
Material	Percentage of Reflection
Cafco Spray Fireproofing	53%
Cafco Spray Type 1	67%
Cafco Spray colored white	81%

*All Acoustical & Light Reflection Tests Conducted by Riverbank Laboratories

UNDERWRITERS' LABORATORIES FIRE HAZARD CLASSIFICATION

Material	Backing	Flame Spread	Fuel Contribution	Smoke Developed	Thickness
Cafco Spray	Metal lath	10-15	10-15	Negligible	1"
Cafco Spray	Cork	15	20	Negligible	½"
Cafco Spray	Cellulose board	15	10-15	Negligible	⅜"

fire retardant ratings

construction assembly	description	CAFCO thickness deck	CAFCO thickness beam	fire retardant rating	testing laboratory
	CAFCO SPRAY applied directly to the beam and the floor.	1" ¾" ⅜"	3" 2½" 1⅝" ⅞"	3 hr 4 hr 2 hr 1 hr	▲ UL ▲ ▲
	CAFCO SPRAY applied directly to the floor and to metal lath around the beam.	1¼"	1½"	4 hr	U.S.T. Co., Inc.
	Bar Joist Construction using metal lath and CAFCO SPRAY below.	1"		3 hrs— 40 min.	U.S.T. Co., Inc.
	Column covered by metal lath and CAFCO SPRAY.	1⅜" 1½"		2 hr 3 hr	UL ▲
	Wood Joist Construction using plasterboard and CAFCO SPRAY below.	¾" CAFCO SPRAY plus ⅜" plasterboard ¾" CAFCO SPRAY plus ⅜" plasterboard		1½ hr 2 hr	Cafco Laboratory

▲extrapolation by Thulin, Woods and Isensee, consulting engineers

To afford the General Contractor the opportunity to compare quotations on Fireproofing, the specification writer is advised to put this work under a separate section. This may eliminate the added expense of bidding through a subcontractor. Delete irrelevant paragraphs.

FIBROUS FIREPROOFING

general

general conditions. The Conditions of the General Contract are considered a part of these specifications.

contractor's qualifications. The Contractor shall be franchised and shall use materials and equipment approved by the manufacturer under the supervision of a manufacturer-trained or approved foreman. All work shall be in accordance with the instructions of the manufacturer of the materials.

samples. Two samples shall be submitted. Where the surface is to be exposed, texture and color are to be selected in advance.

guarantee. The Contractor shall guarantee all material and workmanship for the period of one year from completion of installation.

examination of existing work. The Contractor shall examine all work prepared by others which is to receive the work of this Section, and report in writing to the General Contractor all conditions not acceptable for installation. Commencement of work constitutes acceptance of all surface bases and preparations for this work.

work included

The work covered by this Section shall include the furnishing of all material, labor, equipment, transportation and other necessary items to complete the application of Fibrous Fireproofing on ceilings, walls, beams, purlins and all other areas as indicated in the Schedule of Interior Finishes and Drawings.

work by others

The following work relating to this Section is specified under separate Sections.

surface—bases. See Sections on concrete, structural steel, metal deck, plaster, plaster lath, contact ceilings, furred ceilings, and metal or wood moldings.

lathing. Clips, hangers, supports, sleeves, and other attachments to the bases to be placed before commencement of work of this Section.

miscellaneous. Plumbing, lighting fixtures, ducts and other mechanical work to be installed by cooperating with other trades or after completion of work of this Section. Adequate ventilation, heat, light, electric power and water shall be supplied by others.

material

priming adhesive. Shall be CAFCO ADHESIVE or approved equal, this shall be a milky white, latex-type emulsion adhesive which shall be unaffected by water, water vapor, condensation, or freezing, once it has set up.

fiber. Shall consist of white virgin Crysotile asbestos and small pellet white mineral fiber, combined with inorganic binders, equal to CAFCO SPRAY FIREPROOFING as manufactured by Columbia Acoustics and Fireproofing Company, Stanhope, New Jersey. The fiber shall be inorganic, shall have a "k"-factor not greater than .26, shall have a Noise Reduction Coefficient of .75 on solid backing as tested by Riverbank Acoustical Laboratories; shall have a light reflectance of not less than 53% as tested by Riverbank, shall have an Underwriters' Laboratories Fire Hazard Classification, rating it non-combustible with a flame-spread of 15 or less, shall have a fire retardant rating as required by pertinent building codes. Fiber shall be in sealed bags properly marked and labeled.

abrasion-resistant material. Where so indicated CAFCO SPRAY Type 1, or approved equal, shall be used, and shall have a light reflectance of not less than 67%, as tested by Riverbank.

transparent overspray. Shall be CAFCO SEALER or equal; shall be transparent, and not affected by wetting.

installation

weather. Areas to be treated shall be protected from outside weather. When the temperature is below freezing, application shall follow manufacturer's recommendations. Installation shall be started only if Contractor is satisfied that the weather conditions will not damage the application.

surface conditions. Surfaces being treated shall be clean and free of dirt, grease, oil, loose plaster, rust, paint, or any other condition which would tend to prevent good adhesion.

equipment. Fibers shall be applied with manufacturer-approved equipment. Equipment shall incorporate the Dust-Control System, as furnished by Columbia Acoustics and Fireproofing Company, Stanhope, New Jersey, or approved equal.

procedure. The Priming Adhesive is sprayed to the base. Fibers are then applied and tamped to the thickness specified. Where fireproofing fiber is to be the finished surface in an interior acoustical application, the fiber shall be applied in two coats. The first shall be the base coat of ½" less than the desired finished thickness; the second shall be the texture coat of approximately ½" thickness. The finished surface shall be either colored or sprayed with CAFCO SEALER. Where fireproofing fiber is to be unexposed, application of fiber shall be in one coat.

cleaning. After completion of work, Contractor shall sweep clean all adjoining walls and floors.