

PLAINTIFF'S
EXHIBIT
USM-323

Calco

FLAME-SHIELD

FIREPROOFING

for

DECKS

CEILINGS

BEAMS

GIRDERS

COLUMNS

COLUMBIA ACOUSTICS and FIREPROOFING Company

(CANADA) Limited
Montreal, Canada

Exclusive Canadian Distributors
E. T. SAMPSON and COMPANY
Limited

Montreal
HU 1-0183

Toronto
HU 7-2141

1960

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CAFCO BLAZE-SHIELD

CAFCO* BLAZE-SHIELD, designed for fireproofing beams, girders, columns, decks and ceilings, is a scientifically proportioned blend of virgin asbestos fibers, refined white mineral fibers, and 100% inorganic binders. Mechanically applied with patented, CAFCO-designed equipment, it forms a lightweight, fissured, continuous blanket without seams, joints or cracks.

APPLICATION

CAFCO BLAZE-SHIELD is applied direct 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, ONE application of BLAZE-SHIELD by ONE trade in ONE coat, followed by light tamping results in a tightly bonded, compressible coating.

ADVANTAGES

CAFCO BLAZE-SHIELD offers the architect, engineer and contractor these major advantages—

labor savings Specially designed equipment provides maximum production from a small rolling scaffold. An experienced crew can apply up to 7,000 board feet per machine-day.

material savings In many cases savings can be effected through elimination of clips, hangers, rods, channels, spacers, and lath.

weight savings CAFCO BLAZE-SHIELD applied 1" thick to cellular deck weighs less than 1 pound per square foot. It is lighter than "lightweight" fireproofing materials.

space savings Direct application to structural elements reduces the volume of normally wasted space.

permanence Permanence of protection is assured because inorganic BLAZE-SHIELD is rot-proof, vermin-proof, and rust-proof. Normal structural movement is absorbed without surface cracking and spalling.

clean application Patented, CAFCO-designed equipment incorporating a special Dust Control system permits other trades to work during fireproofing application.

high light reflection BLAZE-SHIELD has a higher light reflection than wet mix plasters. In many cases, the fireproofing medium may be used as the reflective surface above luminous ceilings.

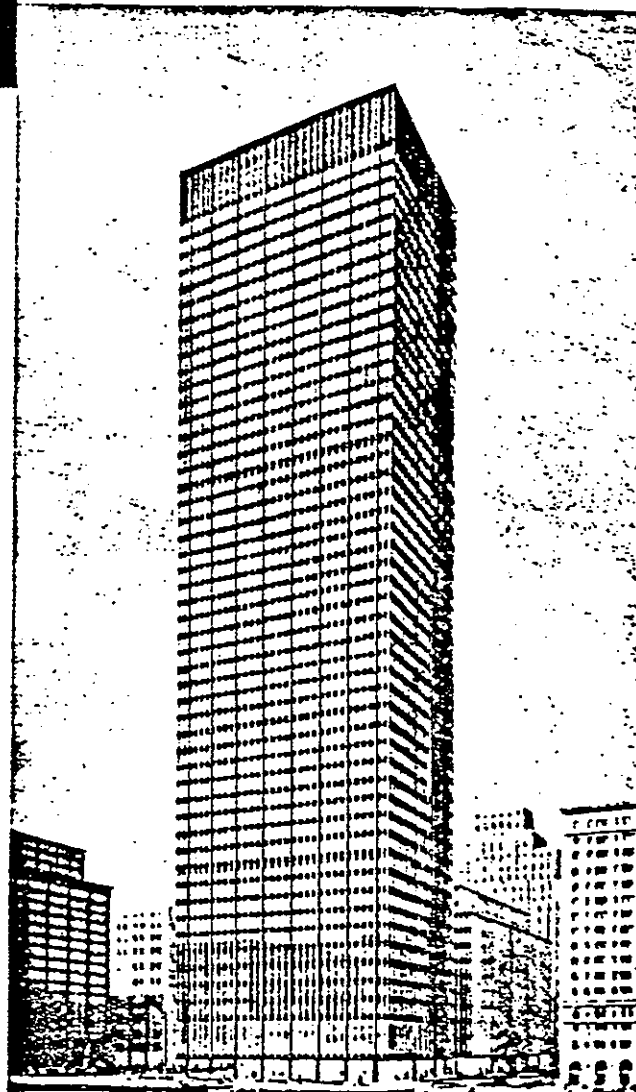
high acoustical absorption When tested by Riverbank Laboratories, CAFCO BLAZE-SHIELD applied direct to deck and beams for three hour retardancy provided an NRC of .90. The fireproofing fiber can replace the sound absorbent pad in perforated metal pan systems or may be used as a finished acoustical ceiling.

high thermal insulation A K-factor of .28 allows effective insulation of spandrel members and roof undersides.

winter application With simple precautions, application is possible under many temperature conditions which delay the use of other fireproofing materials. Schedules are maintained; job heating costs are reduced.

corrosion preventive CAFCO ADHESIVE applied directly to steel leaves no space in which corrosion can take place. Job prime coating may often be eliminated.

*T.M. Reg. U.S. Pat. Off.



Union Carbide Building—New York City
Architect: Skidmore, Owings and Merrill
General Contractor: George A. Fuller Company

The 1½ million square foot cellular steel floor system on this 52 story skyscraper is protected for 3 hour fire retardancy by CAFCO BLAZE-SHIELD.

fire tests prove efficiency

CAFCO BLAZE-SHIELD is a highly efficient fireproofing material, tested and proved by Underwriters' Laboratories Inc. and Factory Mutual Engineering Division and accepted by Building Departments. Test data are filed with Insurance Rating Bureaus throughout the United States and Canada. Data on the facing page show fire test results.

calco test facilities

Columbia Acoustics and Fireproofing Company maintains a test furnace for evaluating CAFCO BLAZE-SHIELD applied to existing and new construction systems. New uses and systems are constantly under study. Test results can be correlated with those obtained at Underwriters' Laboratories, Inc.

calco engineering service

An engineering and service staff is available to assist the building industry. Years of research and development have established an enviable reputation which is reflected in every application of CAFCO products.

FIRE RETARDANT RATINGS

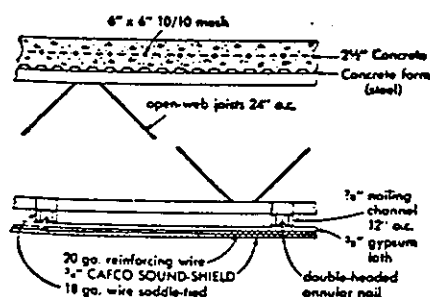


FLOORS and CEILINGS

	description	rating	CAFCO thickness	authority
	CAFCO applied directly to cellular steel floor units.	2 hrs. 3 hrs. 4 hrs.	3/8" 3/4" 1"	EXTR. BMS-92 U.L. TEST #CR193-2 EXTR. BMS-92
	CAFCO applied directly to cellular steel floor units.	2 hrs. 3 hrs. 4 hrs.	1/2" 3/4" 1"	U.L. TEST #CR193-3 U.L. TEST #R3749-3 EXTR. BMS-92
	CAFCO applied directly to fluted steel floor units.	2 hrs. 3 hrs. 4 hrs.	3/8" 3/4" 1"	EXTR. BMS-92 U.L. TEST #R3749-3 EXTR. BMS-92
BEAMS				
	CAFCO applied directly to beam.	1 hr. 2 hrs. 3 hrs. 4 hrs.	3/4" 1 1/2" 1 3/4" 2 1/8"	EXTR. BMS-92 U.L. TEST #CR193-3 U.L. TEST #CR193-2 U.L. TEST #R3749-3
	CAFCO applied to contact wrap-beam.	1 hr. 2 hrs. 3 hrs. 4 hrs.	1/2" 3/8" 1 1/4" 1 1/2"	EXTR. BMS-92 EXTR. BMS-92 EXTR. BMS-92 U.L. TEST #R3749-3
COLUMNS				
	CAFCO applied directly to column surfaces above hung ceiling.	2 hrs. 3 hrs. 4 hrs. 5 hrs.	1 1/8" 1 1/4" 2 1/8" 2 1/2"	U.L. TEST #CR193-3 U.L. TEST #CR193-2 U.L. TEST #R3749-3 U.L. TEST #R3749-4

note: Tests conducted in accordance with ASTM E-119. Extrapolations based on formulae contained in National Bureau of Standards Report BMS-92.

3-HOUR ACOUSTICAL CEILING



description

A rated acoustical system providing 3-hour protection to open-web joists. CAFCO SOUND-SHIELD, applied 1/2" thick to gypsum lath, provides an NRC of .60 and reduces sound transmission over ceiling high partition systems.

authority

Underwriters' Laboratories, Inc. R3749-5.

information

Refer to CAFCO SOUND-SHIELD Bulletin S-10, AIA File No. 39-B-1, Sweets Architectural File 13e/Co, or call your CAFCO technical representative.

BLAZE-SHIELD SPECIFICATIONS

NOTE: To permit a comparison of quotations on fireproofing, we recommend this work be awarded a separate section in the specifications. This will permit immediate analysis without breaking down possible combination bids. Delete irrelevant paragraphs.

FIBROUS FIREPROOFING GENERAL

scope

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

product qualifications

The manufacturer of the fireproofing material shall have the approval for the application specified. Such approvals are to include those of the pertinent municipal authorities and insurance rating boards, including (list code municipal and insurance authorities). The manufacturer shall provide acceptable laboratory test data to these authorities for approval.

contractor's qualifications

The Contractor shall be franchised for this type of work by the manufacturer of the materials; he shall use materials and application and Dust Control equipment approved by the manufacturer; 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 specifications and instructions.

samples

The Contractor shall submit two samples to the architect prior to commencement of work.

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

MATERIALS

bonding adhesive

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

fiber

The fiber shall be a factory quality-controlled and formulated mix consisting of inorganic virgin Crysofile asbestos fibers and small pellet, white mineral fiber, combined with inorganic binders. The materials shall have the approvals required in "product qualifications" above. The fiber shall have a thermal conductivity (k) factor of not greater than 0.28; shall have a Noise Reduction Coefficient of 0.90 when applied in thicknesses of 7/16" and 1-7/16" to a test assembly composed of cellular steel deck and steel beams, respectively, as tested by Riverbank Acoustical Laboratories. Fiber shall be CAFCO BLAZE-SHIELD as manufactured by Columbia Acoustics and Fireproofing Company, 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 transparent and unaffected by moisture.

INSTALLATION

job conditions

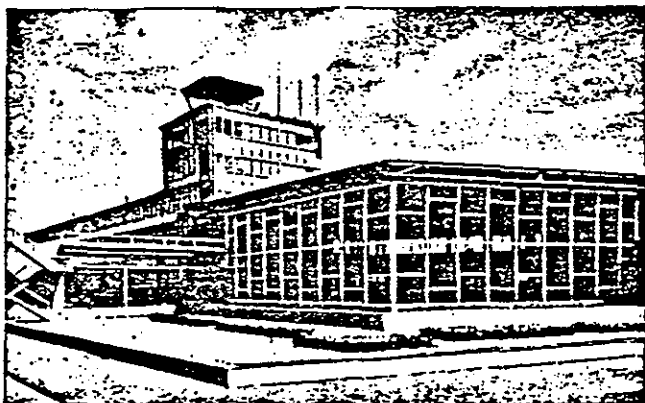
Application shall be started only after the contractor is satisfied surface and weather conditions are acceptable. Surfaces shall be reasonably clean and free of dirt, grease, oil, loose plaster, rust, paint, or other conditions which would tend to prevent good adhesion. Freezing weather application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

procedure

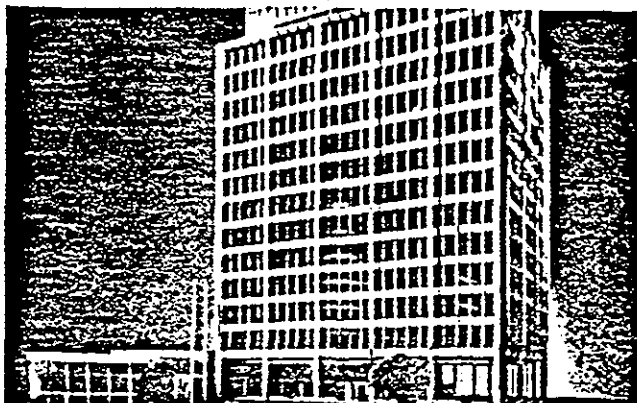
All surfaces to be covered shall be primed with bonding adhesive. Fiber shall be applied to required thickness, and then tamped and oversprayed with sealer.

CAFCO FOR ACOUSTICS AND INSULATION

While CAFCO BLAZE-SHIELD has valuable acoustical and insulating properties, it has been designed primarily for efficient, economical fireproofing. Technical information covering CAFCO SOUND-SHIELD, for acoustical absorption, and CAFCO HEAT-SHIELD, for thermal insulation, can be found in Sweets Architectural 11a/Co and Plant Engineering 6a/Co Files, respectively.



Air Terminal Bldg., Uplands Airport, Ottawa, Ont.
Dept. of Transport, W.A. Ramsay, Chief Architect
General Contractor: Perini Ltd., Ottawa
Architects: Gilleland and Strutt, Ottawa



Sun Life Assurance Company of Canada, limited, Toronto
Architects and Engineers: John B. Parkin Associates
Consulting Architect: A.A.C. Parkin, PPRAC
General Contractor: Perini, Ltd.

**COLUMBIA ACOUSTICS
and FIREPROOFING Company**
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