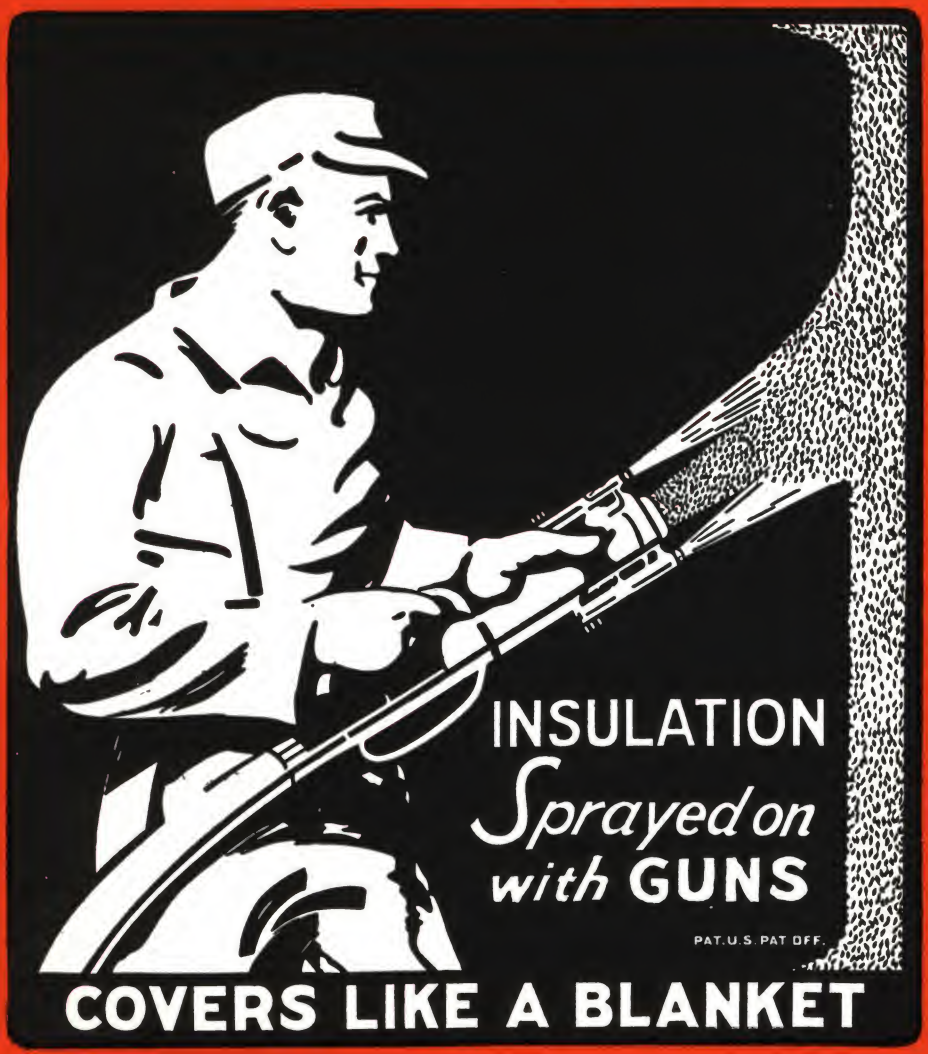
INSULATION

Sprayed On Process

HEAT-SOUND AND ACCOUSTICAL CORRECTION

TECHNICAL DATA and SPECIFICATIONS



LOCAL REPRESENTATIVE ~

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SPRAYO-FLAKE COMPANY

ADMINISTRATIVE OFFICES

56 SO. BAY STREET, MILWAUKEE, WISCONSIN

SPRAYO-FLAKE COMPANY

Manufacturers of Sprayo-Flake Insulating Materials and Equipment

ADMINISTRATIVE OFFICES
56 South Bay Street, MILWAUKEE, WIS.

LICENSED OPERATORS

NEW YORK, N. Y.	HARTFORD, CONN.	DAYTON, OHIO	INDIANAPOLIS, IND.	LINCOLN, NEB.
ROCHESTER, N. Y.	NEW HAVEN, CONN.	CINCINNATI, OHIO	CHICAGO, ILL.	OMAHA, NEB.
BUFFALO, N. Y.	BRIDGEPORT, CONN.	DETROIT, MICH.	MILWAUKEE, WIS.	DENVER, COLO.
BOSTON, MASS.	PROVIDENCE, R. I.	MINNEAPOLIS, MINN.	ST. LOUIS, MO.	LOS ANGELES, CAL.
WORCESTER, MASS.	CLEVELAND, OHIO	FORT WAYNE, IND.	SIOUX CITY, IOWA	SAN FRANCISCO, CAL.
	PITTSBURGH, PA.		KANSAS CITY, MO.	

Process

Sprayo-Flake insulating process consists of forcing dry flakes of fibrous material, previously impregnated with a fire resisting agent, by air through a specially constructed gun. As the fibrous flakes leave the gun they are coated with a spray of atomized adhesive agent or binder and projected to the surface to be insulated. The coated fibrous flakes form a thick blanket of insulation covering the surface and sealing all cracks and crevices. It can be applied to practically any surface in any desired thickness.

Development

Sprayo-Flake was conceived by a layman while observing the installation of insulating material in his own home under course of construction. Prompted by a desire to overcome the difficulties involved in installing other types of insulating materials, the spray gun method was evolved. Further development proved the soundness of this theory. Sprayo-Flake method in one operation does a most thorough job, it eliminates entirely the labor of cutting, fitting, and nailing.

Further development of the original idea dates back to the year of 1924 when specially designed equipment was perfected for applying Sprayo-Flake. The next step was adoption of an adhesive agent, addition of fire resisting qualities, and verminproofing which was perfected in laboratories and through practical usage in the building field.

Sprayo-Flake Insulation is available for insulating homes, factories or public buildings against heat, cold or sound.

Distribution and Service

To assure the highest return per dollar invested in insulation the SPRAYO-FLAKE COMPANY has adopted a modern economically sound plan of merchandising and distribution. Sprayo-Flake is supplied direct from factory to job through licensed operators. These licensed operators located in principal building centers are insulation specialists, financially responsible, and work on an exclusive franchise basis. Each installation is made by expertly trained mechanics under exacting supervision.

This advanced plan of distribution enables the architect, builder, or owner to know the exact cost of insulation. Sprayo-Flake is always quoted on a basis of unit price per square foot, or lump sum bid, installed including labor and material.

PHYSICAL CHARACTERISTICS OF SPRAYO-FLAKE

The fibrous cellular structure and method of application give Sprayo-Flake the desired characteristics of the ideal insulation material:

Note: *The binder or vehicle is emulsified asphalt. It is important that the inherent difference in quality and composition of this material is differentiated from ordinary or petroleum cut-back asphalt.*

(1) Low Thermal Conductivity—

.246 B.t.u. per hour per square foot per inch thickness per degree temperature differential.

(2) Practicability—

Can be applied to practically any surface in any desired thickness. Seals all cracks and crevices, calks around window and door frames.

(3) Fire Resistant—

Chemically pre-treated fibrous materials, plus the emulsified asphalt binder produce a highly fire resisting insulation.

(4) Verminproof—

Emulsified asphalt binder in conjunction with mineral admixtures render Sprayo-Flake insulation repellant to vermin.

(5) Light Weight—

Flakes of fibrous air cell structure weigh only 4.6 pounds per cubic foot installed.

(6) Permanency—

The fabricated blanket of Sprayo-Flake insulation is held in place permanently by employing an emulsified asphalt binder. This binder also preserves the fibrous flakes from deterioration.

The adhesive properties of emulsified asphalt have long been recognized. It does not deteriorate with age.

(7) Low Cost—

Sprayo-Flake insulation is manufactured and applied mechanically in one operation, eliminating costly labor involved in cutting and fitting prepared types of materials.

(8) Flexibility—

Sprayo-Flake is sufficiently flexible to allow for usual expansion and contraction of structural members to which it is applied without impairing its efficiency. This is emphasized by its excellent resistance to distortion by impact as installed on ceilings of box cars tested over a considerable period of time.

(9) Sound Absorbent—

The cellular structure and resiliency of Sprayo-Flake render it a highly sound absorbent material. It is ideal for sound deadening or accoustical treatments.

Continued on next page

TYPICAL CONSTRUCTION SHOWING APPLICATION OF SPRAYO-FLAKE HEAT INSULATION

Air Gun Application of Sprayo-Flake Assures Thorough Calking of Windows and Complete Covering of Walls and Ceiling



Insulated and Uninsulated Section of Wall, Showing How Thoroughly Sprayo-Flake Covers All Surfaces

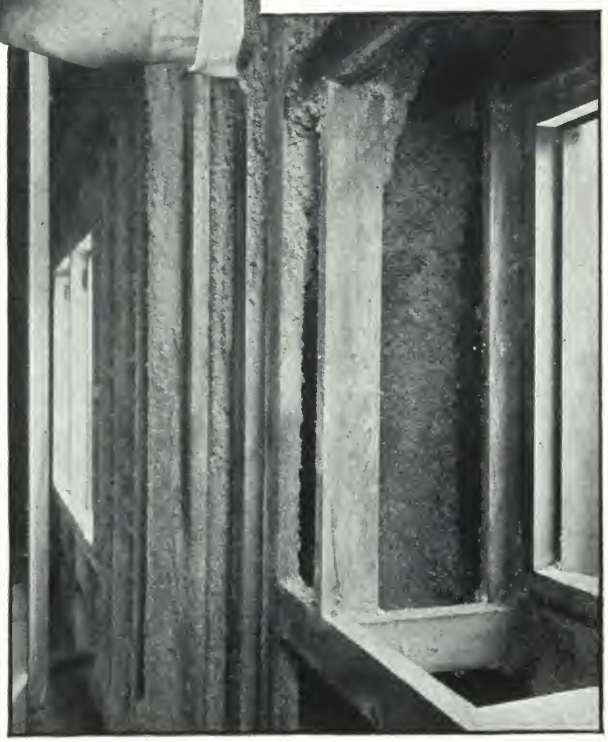


Right:
Section of Sprayo-Flake, Showing Cellular Structure





Roof Slopes and Attics Are Efficiently Insulated with Sprayo-Flake—No Nails, Seams or Laps

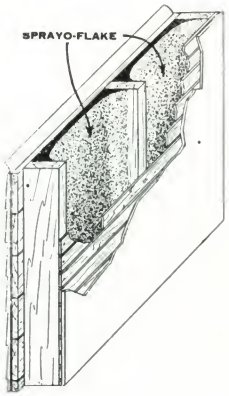


All Cracks, Crevices, Nooks and Inaccessible Places Are Easily Insulated by Air Gun Method

Continued on next page

SPRAYO-FLAKE HEAT INSULATION WALL COEFFICIENTS

Construction
4-in. lap siding
Building paper
¾-in. sheathing
Sprayo-Flake
⅜-in. lath
⅜-in. plaster

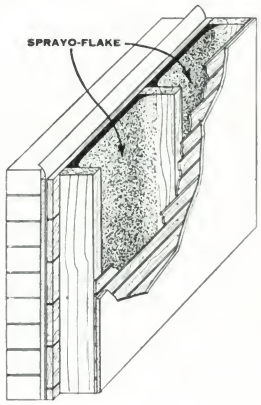


FRAME CONSTRUCTION

S-F thickness	Insulated with Sprayo-Flake 1 in.	1½ in.	2 in.	2½ in.	Uninsulated
U_s*	.119	.096	.081	.069	.227
Steam F	29	36	42	50	15
Hot water F	18	22	26	31	8

*See note Sprayo-Flake Page 4.
Note: In actual installations, a specified 1-in. thickness averages fully 1¼ in. thick.

Construction
4-in. brick
½-in. mortar
Building paper
¾-in sheathing
2x4-in. studs
Sprayo-Flake
⅜-in. lath
⅜-in. plaster

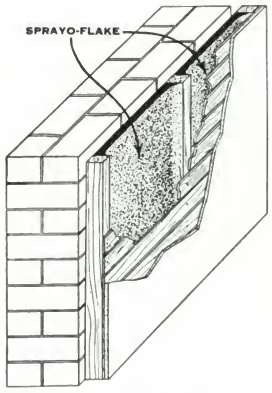


BRICK VENEER CONSTRUCTION

S-F thickness	Insulated with Sprayo-Flake 1 in.	1½ in.	2 in.	2½ in.	Uninsulated
U_s*	.116	.094	.079	.069	.216
Steam F	30	37	43	50	16
Hot water F	18	23	27	31	10

*See note Sprayo-Flake Page 4.
Note: In actual installations, a specified 1-in. thickness averages fully 1¼ in. thick.

Construction
8½-in. brick
Waterproofing
2x2-in. furring
Sprayo-Flake
⅜-in. lath
⅜-in. plaster

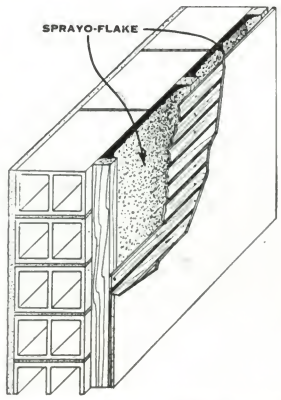


SOLID BRICK CONSTRUCTION

S-F thickness	Insulated with Sprayo-Flake ¾ in.	1 in.	Uninsulated
U_s*	128	.114	.209
Steam F	26	30	16
Hot water F	16	18	10

*See note Sprayo-Flake Page 4.
Note: In actual installations, a specified 1-in. thickness averages fully 1¼ in. thick.

Construction
¾-in. stucco
8-in. hollow tile
Waterproofing
2x2-in. furring
Sprayo-Flake
⅜-in. lath
⅜-in. plaster



TILE CONSTRUCTION

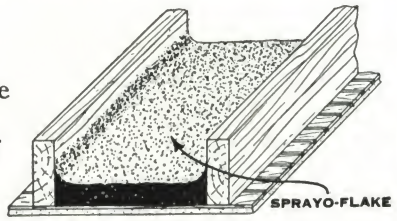
S-F thickness	Insulated with Sprayo-Flake 1 in.	1½ in.	Uninsulated
U_s	.108	.089	.191
Steam F	32	38	18
Hot water F	20	24	11

Note: In actual installations, a specified 1-in. thickness averages fully 1¼ in. thick.

Continued on next page

CEILING AND ROOF COEFFICIENTS (Heat Insulation)

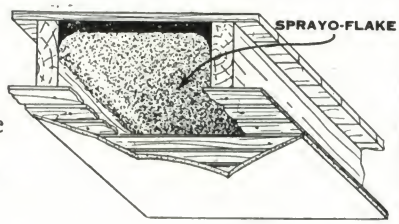
Construction
Joists
Sprayo-Flake
⅜-in. lath
⅜-in. plaster



CEILING WITH NO FLOORING

	Insulated with Sprayo-Flake				Uninsulated
S-F thickness	1½ in.	2 in.	2½ in.	3 in.	
U_s	.125	.10	.083	.07	.502
Steam F	38	44	53	62	14
Hot water F	24	27	33	40	9

Construction
¾-in. floor
Joists
Sprayo-Flake
⅜-in. lath
⅜-in. plaster

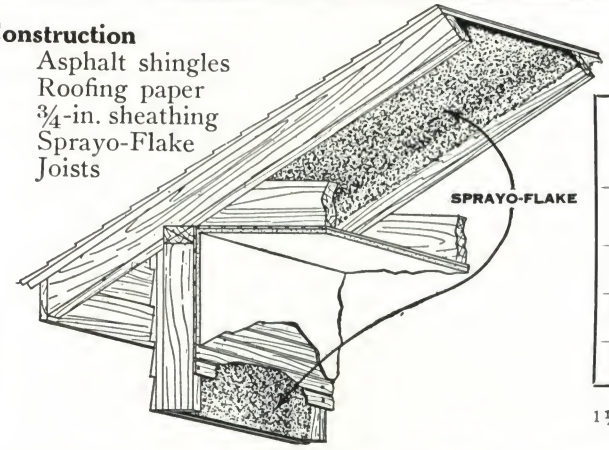


CEILING WITH FLOORING

	Insulated with Sprayo-Flake		Uninsulated
S-F thickness	1 in.	1½ in.	
U_s	.126	.097	.234
Steam F	38	46	23
Hot water F	24	29	14

Note: In actual installations, a specified 1-in. thickness averages fully 1¼ in. thick.

Construction
Asphalt shingles
Roofing paper
¾-in. sheathing
Sprayo-Flake
Joists



ROOF (Pitch 1 in 3)
Attic Unheated

	Insulated with Sprayo-Flake		No floor
	No flooring	¾ in. flooring	
S-F thickness	1 in.	1 in.	Uninsulated
U_s	.12	.09	.231
Steam F	28	38	21
Hot water F	18	24	15

Note: In actual installations, a specified 1-in. thickness averages fully 1¼ in. thick.

CALCULATION OF COEFFICIENT (U_s) FACTORS FOR SPRAYO-FLAKE HEAT INSULATION

The coefficient factors (U_s) for various thicknesses of Sprayo-Flake, shown in detail above, are calculated by using the overall heat transmission (U) factors as given in the 1929 Guide, A. S. H. & V. E. for the various types of wall, ceiling and roof constructions, uninsulated and adding to these factors the resistance of Sprayo-Flake ($R=\frac{X}{C}$).

Example: Wall, frame construction:
U—Uninsulated. =.227 B.t.u.
U_s—Insulated with 1-in. Sprayo-Flake =.119 B.t.u.
Calculated from the following accepted formula:

$$U_s=\frac{1}{\frac{1}{U}+\frac{X}{C}}=\frac{1}{\frac{1}{.227}+\frac{1.0}{.25}}=\frac{1}{4.4+4.0}=\frac{1}{8.4}=.119$$

X=thickness of Sprayo-Flake Insulation.
k=conductivity of Sprayo-Flake .25 B.t.u. per inch.

**Note:* In order to have a definite check for Sprayo-Flake calculated factors the three typical walls of standard construction insulated with Sprayo-Flake were tested by Professor Frank B. Rowley of the University of Minnesota. His large "Hot Box" method for testing over all-wall transmission, as approved by A. S. H. & V. E. code was utilized.*

Professor Rowley's Tests (copies gladly furnished upon request) prove the calculated coefficients correspond so closely with the actual test coefficients that the above factors are safe for estimating heat losses, radiation and fuel requirements for all ordinary construction. Use the above coefficients when estimating heat losses for Sprayo-Flake construction.

Industrial work or larger buildings requiring special engineering data will be analyzed upon request to the nearest Sprayo-Flake office.

Steam (F)$=\frac{240}{70°\times U}$ Hot water (F)$=\frac{150}{70°\times U}$

Continued on next page

MASTER SPECIFICATIONS FOR SPRAYO-FLAKE HEAT INSULATION

A. Preliminary Provisions

Note: Sprayo-Flake Insulation is always installed on a contract basis (labor and material included), by responsible operators employing trained mechanics. This assures thorough insulation under exacting supervision. No deviation from good standard construction practice is necessary when Sprayo-Flake Insulation is specified. The air-gun method of application permits applying the material to any surface in any desired thickness. All cracks, crevices and inaccessible places are automatically sealed.

The following specification suggestions are made to assure proper installation of Sprayo-Flake on the most satisfactory and economical basis:

A-1 Frame Construction—

A-1a—Follow ordinary standard construction practice.

A-2 Brick Veneer Construction—

A-2a—Follow ordinary standard construction practice.

A-3 Masonry Construction—

A-3a—Follow ordinary standard construction practice.

A-3b Waterproofing—All exterior walls shall be waterproofed on the inside with a good grade of waterproofing, Flintkote C-13 or equal.

A-3c Carpentry Work—Wall furring strips. When Sprayo-Flake Insulation is installed on the inside of exterior, waterproofed masonry walls, furnish and apply 2x2-in. furring strips spaced 16 in. on centers for receiving lath and plaster, or Sprayo-Flake Plaster-base (with asphalt binder) shall be applied directly to waterproofed masonry walls.

B. Work Included

The work included under this heading shall be the furnishing and installation of all Sprayo-Flake Insulation as follows:

B-1 Exterior Walls—

Note: *Where ceiling or roof is insulated, wall insulation shall be carried through to ceiling or roof insulation, so as to form continuous or unbroken insulation from foundation to roof peak or across ceiling. All dormer walls and other openings to or through roofs shall be insulated.*

B-2 Ceilings—

Top story ceilings shall be insulated when roof is not insulated. Insulation to be applied over lath and plaster when ceiling is not floored or to underside of rough flooring and between joists when ceiling is floored. Insulation shall continue to the wall sheathing and shall be applied between the ribbon, between joist ends and elsewhere to make a complete job.

B-3 Roofs—

When ceilings are not insulated or when attic is to be utilized for living quarters, the insulation shall be applied to the entire underside of the roof sheathing, between rafters, from peak to eaves, joining with the insulation in the sidewall construction.

B-4 Floors—

When specified, floors shall be insulated where and as indicated. (See page 8.)

B-5 Window and Door Frames—

All exterior window and door frames as well as all other cracks, crevices or inaccessible places shall be thoroughly sealed or calked with insulation.

C. Materials

C-1 Insulation—

Insulation shall be Sprayo-Flake Insulation as manufactured by the SPRAYO-FLAKE COMPANY of Milwaukee, Wisconsin.

C-2 Thickness—

Note: *Sprayo-Flake may be installed any desired thickness to any surface. Because of the economy and speed of applying Sprayo-Flake, plus the fact that efficient insulation should be applied reasonably thick, it is recommended that Sprayo-Flake be installed not less than 1 inch in thickness and thicker when or where required.*

C-2a Walls—(1) Frame construction: Insulation shall be installed [*1 inch*] [*1½ inches*] [*2 inches*] [*2½ inches*] thick between studding.

(2) Masonry construction: Insulation to be installed [*¾ inch*] [*1 inch*] thick between furring strips, leaving slight air space between finished surface of insulation and lathing.

Note: *Sprayo-Flake must not come in contact with wet plaster, unless Sprayo-Flake Plaster-base (with asphalt binder) is installed.*

C-2b Ceilings—Insulation shall be installed [*1½ inches*] [*2 inches*] [*2½ inches*] thick in ceilings when applied over the lath and plaster and [*1 inch*] [*1½ inches*] thick when applied to the underside of the rough flooring between joists.

C-2c Roofs—Insulation shall be installed 1 inch thick.

C-2d Floors—Insulation shall be installed [*1 inch*] [*1½ inches*] thick. (See page 8.)

C-2e Window and Door Frames—Insulation shall be installed around all door and window frames as calking. Sprayo-Flake shall be sprayed into all weight pockets allowing space for the proper operation of the weights.

D. Installation

All Sprayo-Flake Insulation shall be installed by licensed operators utilizing the Sprayo-Flake air-gun application method. Work to be done in a workmanlike manner by experienced mechanics.

Continued on next page

REPRESENTATIVE SPRAYO-FLAKE INSTALLATIONS



Apartment, Kew Gardens, L. I., N. Y.
EUGENE DEROSA, Architect,
New York, N. Y.
Sound insulation throughout



Apartment, Hartford, Conn.
BURNS & MOAES, Architects
Sound insulation—all floors



Left:
Lillian Oppa Residence, Kenilworth, L. I., N. Y.
THOMAS C. ROGERS, Architect
Great Neck, L. I.
Heat insulation

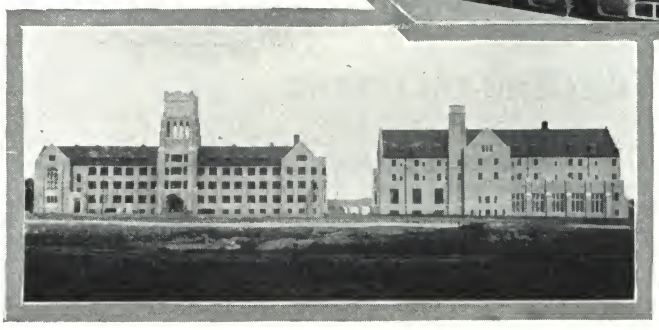


Center:
County Hospital, Milwaukee, Wis.
VANRYN & DEGELLEKE and ARMSTRONG & DEGELLEKE, Associated
Heat and sound insulation



Left:
City Auditorium, Minneapolis, Minn.
CROFT & BOERNER, Architects
Entire roof insulation

Below:
St. Mary's College, Milwaukee, Wis.
HERBST & KUENZLI, Architects
Acoustical correction



Below:
Richard H. Grant Residence, Dayton, Ohio
PEABODY, WILSON & BROWN, Architects, New York, N. Y.
EDWIN F. SIMPSON, Associate Architects, Dayton, Ohio
Heat and sound insulation



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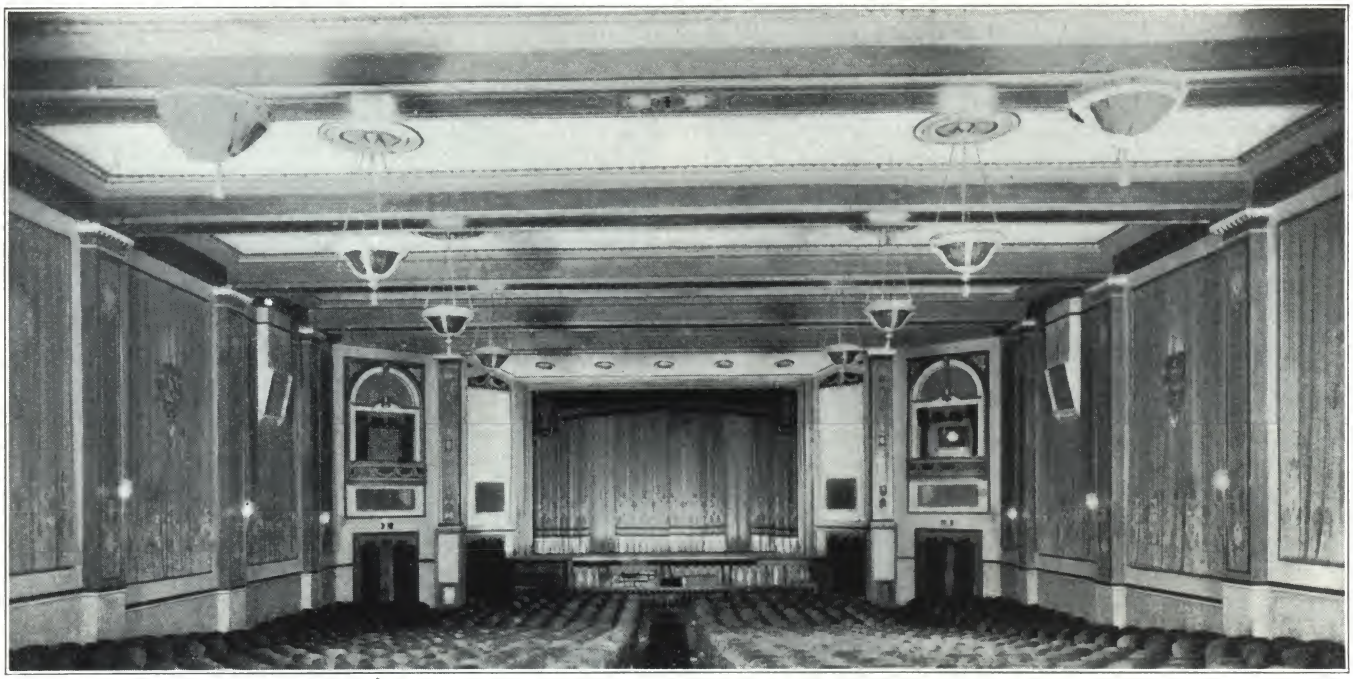
SPRAY-ACOUSTIC FOR ACOUSTICAL TREATMENT



Theatre Ceiling Treated with Spray-Acoustic

Adaptability

Subjugation of architecture to acoustics has at last been overcome by the SPRAYO-FLAKE COMPANY in submitting a material which does not in any way conflict with any architectural design. This particular factor has been a constant source of irritation to the profession, due to the fact that factory produced treatment will not readily lend itself to the various types or influences in architecture.

The church auditorium, like that of the school and theatre, needs a treatment whose color tones and versatility will enhance rather than detract from the intended effect.

Neutral tones of the same absorptive material should be used in school music and band practice rooms, not neglecting the library, cafeteria, natatorium, gymnasium and ventilating system.

It is well to note that fan rooms and ventilation ducts should be treated so that a shut-down of equipment is not necessary to enjoy the entertainment or instruction.

Banks and hotels find that Spray-Acoustic promotes the growth of business by its ability to kill those unnecessary and distracting reverberatory noises.

For hospital corridors, dining rooms, diet kitchens, labor and delivery rooms, the Spray-Acoustic treatment gives an ideal condition for the comfort of the patients.

Description

Spray-Acoustic, like Sprayo-Flake, is manufactured on the job utilizing the spray gun method described on page one under "Process." The same flexible material is applied for a base coat, but the firm absorbing surface is achieved by the introduction of pastel colors in the binder which tint the last fraction of an inch of the material to suit the general decorative scheme. Spray-Acoustic adheres to any surface and will positively conform to the angles and curves intended by the architect.

Test

Spray-Acoustic is figured on the following factors based on the standard frequency of 512.

Thickness	Coefficient
½″ Spray-Acoustic	.45
¾″ Spray-Acoustic	.61
1″ Spray-Acoustic	.70

It is further to be noted that Spray-Acoustic maintains an unusually even absorption value over the other pitch frequencies, which is important for the reception of various tone qualities.

Engineering Service

Due to the wide difference in acoustical problems, it is important to utilize the very efficient engineering service that may be found in the Sprayo-Flake offices in the principal cities. We deem it a privilege as well as a necessity to render an analysis on each problem.

SPECIFICATIONS FOR SPRAY-ACOUSTIC TREATMENT

(A) Treatment

Spray-Acoustic shall be applied over the surface to be treated to *(specify)* thickness.

Note: *Job analysis will be submitted by Spray-Acoustic engineers to establish thickness.*

(B) Tinting

The entire surface shall be tinted to the color selected by architect.

(C) Installation

The installation shall be made by a licensed Sprayo-Flake operator in accordance with the standard Sprayo-Flake Air Gun Method.

(D) Protection

Suitable protection shall be provided for existing construction, furniture, etc., and all refuse shall be removed and the premises left in suitable condition.

Continued on next page

SPRAYO-FLAKE SOUND INSULATION

WHY SOUND INSULATION

This increasingly noisy life of ours demands architectural and structural consideration for the stoppage of noise in the buildings in which we live and work.

Air-borne sounds from radios, musical instruments, conversation, etc., passing through walls or partitions in apartments, hotels and hospitals, cause the greatest amount of annoyance. Next in importance from the standpoint of retarding the passage of sound through partitions is stopping both air-borne sounds and impact sounds through floors.

Thus, we have two distinct problems:

(1) Stopping air-borne sounds through walls and partitions.

(2) Stopping air-borne and impact sounds through floors.

Sound is transmitted by the molecular vibration and the structural vibration of the partition (or floor) which acts like a drum head. This sound transmission can be retarded by mass, structural independence, breaks in density and the use of sound absorptive materials. To obtain sufficient mass for satisfactory sound insulation is excessively expensive and takes up too much valuable space.

It has been thought for some time that to secure sound-proofness which would be satisfactory for apartment purposes, a heavy and rigid wall was necessary. Recent tests have proved that this is not the case. By carefully following construction principles, using proper materials and treating pipes, conduits and ducts, it is possible to build comparatively inexpensive light partitions which are satisfactorily sound-proof for apartment house work.

Practical Test Data

Actual test data on sound insulation is today very limited. There are laboratory tests on various insulation materials in terms of sound absorption and transmission for such materials in themselves but the architect or builder is interested in knowing the final results when these materials are used in combination with practical wall or floor construction.

In order to obtain practical construction test data the Sprayo-Flake Company utilized the services of The C. F. Burgess Laboratories (under the personal supervision of Mr. R. F. Norris), recognized as authorities on this subject throughout the country. These scientific sound transmission tests of sound insulation methods in modern completed and occupied buildings are the most advanced data we are able to locate to date.

A summary of these tests, showing partition and floor constructions, with logarithmic reduction factors and comments are shown on the following pages. We quote as follows from the Burgess Laboratories' reports:

"A series of tests were made for the Sprayo-Flake Company on the dividing walls or partition walls in the Le Claire Apartments in Milwaukee, Wisconsin, and on the floors in the Milwaukee County Hospital.

"*Note:* All of the partition walls were exactly the same size and in the same location but on different floors, so that our tests on them may be strictly comparable. The terrazzo-concrete floors were typical one above the other and of the same construction, differing only in that one floor had ¾ in. of Sprayo-Flake Sound Insulation applied to the underside of the floor section and to the sides of the metal joists.

Method of Tests

"The apparatus used in making the tests consisted of an electric horn which generated a sound of definite intensity, the pitch varied continually between 500 and 525 cycles per second, this range being chosen because it is the average range of speech sounds. In conjunction with this instrument a second instrument which registered the sound intensity directly on a scale was employed. The method of testing was as follows:

"The sound producing instrument was set up in a room on one side of the wall to be tested. The sound was started and a measurement was taken of the intensity on that side of the test wall. The sound was allowed to continue at the same intensity and the measuring instrument was placed on the other side of the wall under test, care being taken to close off all direct passages through which the sound might travel from one room to the other. A measurement was then taken of the sound intensity on this side of the wall. The ratio of the sound intensity in the two rooms was obtained from a ratio of readings and from this value the sound reduction of the wall was determined. This reduction is reported in both logarithmic reduction factor and reduction in sensation units. An explanation of these units follows:

"When sound of a certain intensity is heard, its apparent loudness is roughly the logarithm to the base ten of the intensity of the sound. This logarithmic unit is called the audibility. Bell Telephone Company engineers have found that the least sound that could be detected by the average ear was approximately one-tenth of this logarithmic unit. This amount of sound was called by them one 'sensation unit.' Consequently ten sensation units equal one audibility unit.

Discussion

"It has been the experience of the B. F. Burgess Laboratories that a wall or floor section with the logarithm of reduction of between 4.1 and 4.2 is satisfactory for apartment house work since, while it does not make ordinary speech sounds absolutely inaudible, it makes them unintelligible and of such low intensity that they are easily masked by the occupational noises in the apartment. The higher the logarithm of reduction above 4.1 the greater the sound deadening efficiency. It will be noted in partition test series No. 1 that the walls in test A and test B were considerably above this value and that wall C dropped below considerably. The conclusion is that the construction in walls A and B is more suitable for apartment house work than that in wall C. Wall A is the most sound-proof partition wall that I have measured. Wall D had a logarithm of reduction which was slightly below the accepted value.

"In the Floor test, series No. 2, the wood constructed floor No. 1 had a logarithm of 4.08 which approaches very closely the ideal range. This same floor uninsulated has a logarithm of approximately 2.0. It is interesting and encouraging to find that with proper insulation it is possible to make a floor of standard wood construction which will be for all practical purposes, sound-proof.

"In floors No. 2 and No. 3, air-borne sounds did not register transmission through the concrete floors but the physical intensity of the sound being transmitted through the floor (impact sound) is reduced to about one-fifth by the addition of the sound absorbent material to the undersides of the concrete floor slab and to the sides of metal floor joists.

Conclusions

"The above tests indicate that it is possible to build a light and satisfactory sound-proof wall (or floor) for apartment work. It has been thought for some time that to secure sound-proofness which would be satisfactory for apartment purposes a rather heavy and rigid wall was necessary. The above tests, however, indicate that this is not the case and that with careful construction and proper application a light wall can be made which will be entirely satisfactory as a sound-proof dividing partition."

Continued on next page

SPRAYO-FLAKE SOUND INSULATION TEST DATA

ON WALLS OF LE CLAIRE APARTMENTS, MILWAUKEE BY C. F. BURGESS LABORATORIES, INC.

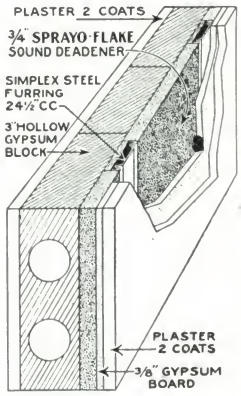
WALL—"A"

3" HOLLOW GYPSUM BLOCK SIMPLEX STEEL FURRING WITH SPRAYO-FLAKE INSULATION

LOGARITHM OF REDUCTION—6.27

REDUCTION IN SENSATION UNITS—62.7

Most Sound-proof



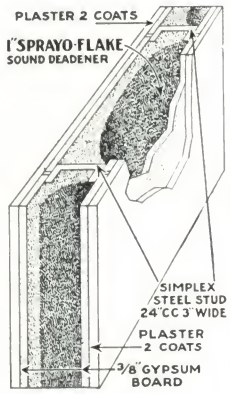
WALL—"B"

SIMPLEX STEEL STUD PARTITION INSULATED WITH 1" SPRAYO-FLAKE

LOGARITHM OF REDUCTION—4.75

REDUCTION IN SENSATION UNITS—47.5

Above Required Value



WALL—"C"

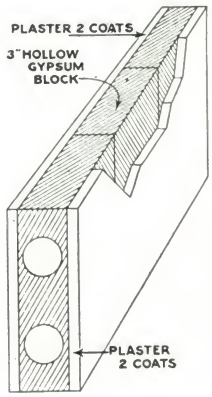
3" GYPSUM BLOCK

No Insulation

LOGARITHM OF REDUCTION—3.15

REDUCTION IN SENSATION UNITS—31.5

Considerably Below Value



WALL—"D"

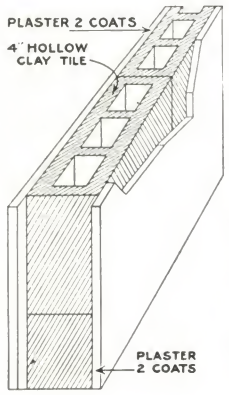
4" CLAY TILE

No Insulation

LOGARITHM OF REDUCTION—3.95

REDUCTION IN SENSATION UNITS—39.5

Slightly Below Value



SPECIFICATIONS—SOUND INSULATION WITH SPRAYO-FLAKE

SOUND INSULATION OF 3" GYPSUM HOLLOW PARTITION TILE

Furred One Side with Simplex Steel Furring

(A) Partition Construction

(A1) Gypsum Partition Tile—The gypsum tile partitions shall be built in accordance with the manufactured standard specifications.

(A2) Simplex Steel Furring—Fur one side of the gypsum tile partition with Simplex Steel Furring Channels. Channels shall be blocked out from the tile with ¾x2x2 in. wood blocking spaced not to exceed 36 in. on centers. After the insulation has been installed as in (B) apply the Gypsum Board to the Simplex Furring in accordance with the manufacturer's standard specifications and plaster both sides of the partition in the customary manner.

(B) Insulation

Sprayo-Flake Insulation shall be applied to the exposed furred surface of the gypsum tile to a minimum thickness of ¾ in. Carry insulation back of furring channels between blocking and feather insulation on the sides of the channels to the exposed front edges.

(C) Installation

Installation shall be by Licensed Sprayo-Flake Operators in accordance with the standard Sprayo-Flake air-gun method.

SOUND INSULATION OF SIMPLEX STEEL STUD PARTITION

(A) Partition Construction

Simplex Steel Stud Partitions shall be constructed in accordance with the manufacturer's standard specifications. After the Gypsum Board has been applied to one side of the partition the insulation shall be applied as in (B). After the insulation has been installed apply the Gypsum Board to the remaining side of the partition and plaster both sides of the partition in the customary manner.

(B) Insulation

Sprayo-Flake Insulation shall be applied to the exposed inner surface of the Gypsum Board to a minimum thickness of 1 in. Cover the exposed sides of the steel studs feathered to the exposed front edge.

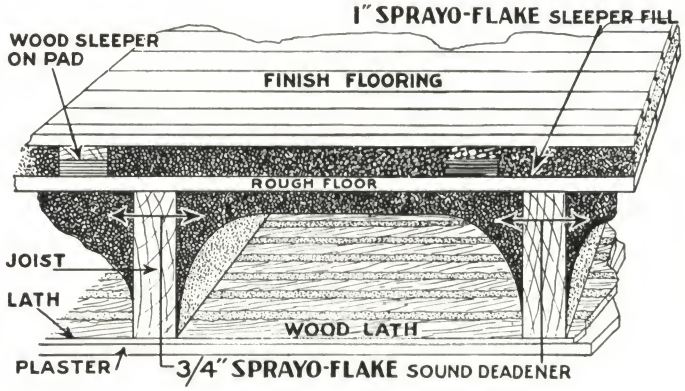
(C) Installation

Installation shall be by Licensed Sprayo-Flake Operators in accordance with the standard Sprayo-Flake air-gun method.

Continued on next page

SPRAYO-FLAKE SOUND INSULATION TEST DATA ON FLOORS

BY C. F. BURGESS LABORATORIES, INC.



FLOOR "NO. 1"

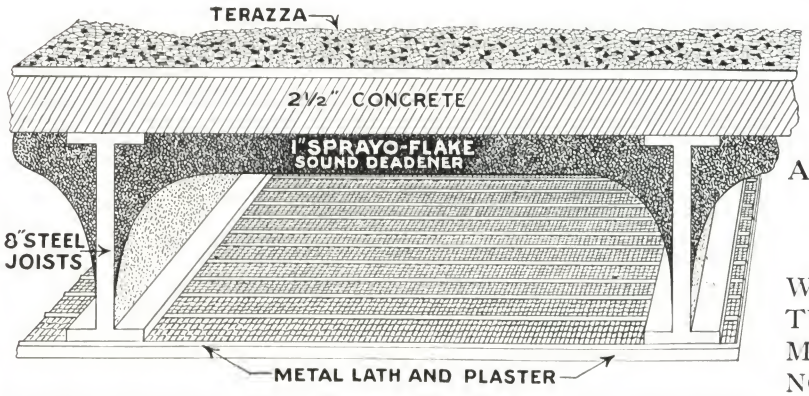
DUPLEX BUILDING, MILWAUKEE

WOOD JOIST CONSTRUCTION WITH SPRAYO-FLAKE

LOGARITHM OF REDUCTION—4.08

ACCEPTABLE FOR APARTMENT OR DUPLEX FLOORS MILL CONSTRUCTION

FLOORS "NO. 2 AND NO. 3"



MILWAUKEE COUNTY HOSPITAL STEEL LUMBER FLOOR CONSTRUCTION WITH AND WITHOUT SPRAYO-FLAKE

AIR-BORNE SOUNDS DID NOT REGISTER

NOTE: WHEN IMPACT TESTS WERE MADE ON THESE TWO TYPICAL FLOORS IT WAS DETERMINED THAT 5½ TIMES AS MUCH NOISE IN PHYSICAL UNITS PASSED THROUGH THE FLOOR IN WHICH THE SPRAYO-FLAKE HAD NOT BEEN APPLIED.

SPECIFICATIONS—SOUND INSULATION WITH SPRAYO-FLAKE

SOUND INSULATION OF WOOD JOIST FLOOR CONSTRUCTION

(A) Preliminary Carpentry Provisions

(A1) Joists—Joists shall be of proper dimensions to support floor loads without deflection, spaced 16 inches on centers framed and bridged in accordance with the standard practice.

(A2) Rough Flooring—Rough flooring shall be laid diagonally. Over the rough flooring apply continuous felt or fibre pads ½ in. thick x 2 in. wide laid parallel with and 3 in. off center of joists (16 in. on centers). Nail pads to rough floor.

(A3) Wood Nailing Strips—Over the felt pads apply wood nailing strips ⅝ in. thick x 2 in. wide secured through the pads to the rough flooring.

(B) Insulation

(B1) Application Under Rough Floor—Sprayo-Flake Insulation shall be applied under the rough floor to a minimum thickness of ¾ in. and shall extend down the sides of the joists to a feather edge.

(B2) Application on Top of Rough Floor—Sprayo-Flake shall be applied on top of rough floor between stripping to the full thickness of felt pads and wood strips, slightly crowned at center.

(C) Installation

Installation shall be by Licensed Sprayo-Flake Operators in accordance with the standard Sprayo-Flake air-gun method.

SOUND INSULATION OF STEEL LUMBER FLOOR CONSTRUCTION

(A) Floor Construction

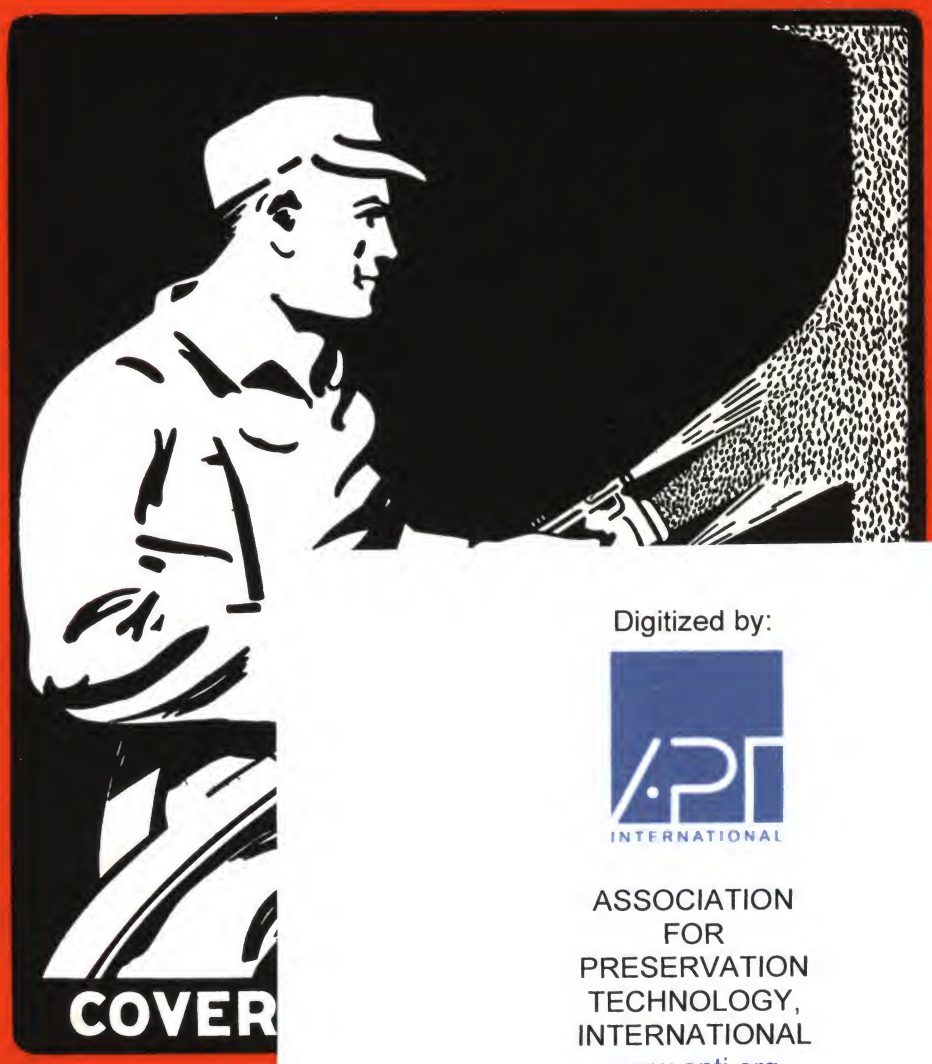
Floor Construction shall be in strict accordance with the steel joist manufacturer's standard specifications.

(B) Insulation

Sprayo-Flake Insulation shall be applied under the floor slab, before lathing, to a minimum thickness of 1 in. and shall extend down the sides of the steel joists to a feather edge.

(C) Installation

Installation shall be by Licensed Sprayo-Flake Operators in accordance with the standard Sprayo-Flake air-gun method.



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with GUNS
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COVERS LIKE A BLANKET