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REMARKS

#1 This info is from the journal Asbestos.

#2 This is from Sweets Catalogue Service - Architectural Files. We went through every other issue from 1947-1971. So, the dates are approximate and record the year in which they could be found in the Catalogue.

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Asbestos, November 1934, p. 13

"British Employ Asbestos to Soundproof Subway Cars," by Geoffrey Blackall. Layers of material sprayed with a special liquid which quickly solidifies, are being used as a lining for the walls, roof and floor.

Asbestos, September 1936, p. 12-13

"Sprayed Insulation: The newest development in the insulation field." Applying an asbestos coating to practically any type of surface, large or small, by spraying, is the newest development in the insulation field. The product is known as K & M Limpet Sprayed Asbestos. It can be used on any normal surface. Manufactured by Keasbey & Mattison Co.

Asbestos, February 1937, p. 38

Trademark, Protokote-U.S. Gypsum Co. Asbestos Fibre Coating.

Asbestos, March 1948 p. 44

Patents

Spray Gun and Method of Spraying granted on 12/30/47 to Arthur J. Lampe, Chicago, Ill. Assignor to Sprayo-Flake Co., Chicago, Ill. In the art of spraying a divided material and adhesive whereby the material is rendered adherent for application to selected surfaces.

Texturing Device for Finishing Surfaces of Sprayed Fibrous Material granted 1/13/48 to James L. Kempthorne, Montclair, N.J.

Asbestos, September 1948, p. 9

Ad for K & M APAC; also Sprayed "Limpet" Asbestos, Keasbey & Mattison, Ambler, PA.

Asbestos, December 1948, p. 7

3 patents concerning sprayed asbestos.

Asbestos, July 1950, p. 26

"James L. Kempthorne Reports on the Hiroshima Assignment." Kempthorne, President of Sprayed Insulation Inc. was on assignment in Hiroshima to instruct workers in the application of sprayed insulation to buildings being erected by the Atomic Casualty Commission.

His product, Spraykote, is a combination of asbestos and rock wool used for acoustical treatment and sound deadening. Spraykote was used principally because it would withstand better than plaster the almost daily tremors of earthquakes in that region.

Asbestos, October 1950, p. 50

Textolite: U.S. Gypsum for exterior treatment of brick, cement block, stucco and concrete: an oil resin paint.

Asbestos, November 1950, pp. 12-13

Sprayed-on Materials (Building Research Summary Report 72 issued by the National Bureau of Standards on Acoustic Materials) [See Xerox].

Asbestos, May 1951, p. 48

Trademark, Fibrespray Asbestos Acoustic Inc. Philadelphia, Pa., Dec. 15, 1949. For asbestos fibre and binder for spraying in place as thermal insulation and sound absorber.

Asbestos, February 1952, p. 36

"Folder on Spray Craft Fibre Insulation Available." James L. Kempthorne, President of Asbestos Fibres, Inc. has recently issued a 4 page folder on his Spraycraft, an industrial fibre

insulation made by Sprayed Insulation, Inc. Asbestos Fibres, Inc., is a wholly owned subsidiary of Sprayed Insulation, Inc. which processes a proper type of fibre for Spraycraft.

After years of development, Spraycraft is now ready for hard side wall application in any color. There is to be a national convention in Newark in the Fall, at which time an entire new line of products all applied by the spraygun method will be introduced.

Asbestos, June 1953, p. 26

Smith & Kanzler Corp., Linden, N.J. have added a "Spraybest" division for spray-gun applied asbestos fibre for fireproofing, insulation, condensation control and noise insulation.

W.A. Burnham, associated with the development and improvement of gun-applied fibers, has been appointed general manager.

Asbestos, February 1954, p. 6

Keasbey & Mattison Co. -- History. In 1936, K & M introduced Sprayed "Limpet" Asbestos Acoustical material . . . The first asbestos acoustical product in this country. It differs widely from other noise killing materials in that it is sprayed from a gun like paint.

Asbestos, December 1956, p. 18

A unique method of fireproofing structural steel members and steel floor units in building construction was recently tested and rated by the Underwriter's Laboratories, Inc. In addition to protection from fire, this method presents an entirely new concept for the protection of structural steel members against corrosion. This fireproof medium known as Sprayed "Limpet" Asbestos is distributed throughout the U.S. by Keasley & Mattison Co., Amber, Pa.

Asbestos, June 1957, p. 60

Patent

Coating Wet Metal Surfaces with Asphalt Cutback Composition. Granted May 2, 1957 to C. E. Wilkinson; assignor to the Texas Co., N.Y. A plastic composition suitable for application to wet metal surfaces comprises a vehicle such as air blown asphalt, a thinner, tall oil, aluminum powder, and a filler such as asbestos

fibre. A slurry of the material is sprayed or brushed on to the surface and the thinner evaporated, thereby forming a permanent, adherent protective coating in the metal surface.

Asbestos, January 1958, p. 37

Ad for Smith and Kanzler Corp. Spraycraft Fireproof Acoustic Plaster, Linden, N.J.

Asbestos, September 1959, p. 12-14

See xerox "Sprayed Asbestos"

Asbestos, October 1959, p. 16

Asbestos has recently received from Asbestospray Corporation pamphlets describing their "Asbestospray Insulation." Asbestospray Corp., 300 Thomas Street, Newark 5, N.J.

Asbestos, November 1959, p.8

Smith & Kanzler Corporation, manufacturers of one of the leading sprayed-on asbestos insulations has published two brochures on its product "Spray Craft" a superior non-combustible thermal and Acoustical insulating material for decorative and industrial applications. Along with a description of "Spray Craft" and its uses, the brochures contain tables and illustrations. Smith & Kanzler Corporation, 1414 East Linden Avenue, Linden, N.J.

Asbestos, July 1960, p. 28

A 12 page catalogue giving the advantages and uses of Sprayed Limpet Asbestos has just been released by Atlas Asbestos Company Limited, 5600 Hochelaga St., Montreal, P.Q., Canada.

Asbestos, November 1960, p. 26

Turners Asbestos Cement Company Limited of Trafford Park, Manchester 17, England, has recently released a 14 page 11" x 8 1/2" brochure entitled "Sprayed Limpet Asbestos-Heat & Sound Insulation."

Asbestos, January 1961, p. 52

Keasbey & Mattison Co. has published a four page folder describing its Sprayed Limpet Asbestos spray shaped coatings.

The folder lists the fire resistance approvals that have been gained from UL, Nat'l Bureau of Standards, and their counterparts in Great Britain & Canada.

Asbestos, March 1961, p. 26

Smith & Kanzler Corp. published 2 interesting brochures covering the use of SprayCraft. One deals with fireproofing applications, fire resistive ratings, specifications. The other with use of SprayCraft for acoustical and thermal insulation applications.

Asbestos, January 1962. p. 28

Sprayed Limpet Asbestos described as the modern sprayed on material in Keasbey & Mathson Company's new 4-page Sweets Catalogue insert 10 a/ke. Literature includes specification guide and detailed results of testing by fire and standards laboratories. Attractive front cover illustrates well known and architecturally important structures in which Limpet has recently been used.

Asbestos, November 1963, p. 24

Pyrospray, a fireproofing, spray-on asbestos and mineral fiber material manufactured by Baldwin-Ehret-Hill Inc., has recently undergone new tests by U.L. Inc which certify its improved fire resistance. It adheres securely, following the contours of the surface to which it is applied, as it is discharged directly from the spray gun nozzle. Pyrospray has excellent thermal insulating properties and high acoustical efficiency.

Asbestos, November 1964, p. 4

Smith & Kanzler Co. announced the signing of a licensing agreement on "SprayCraft" asbestos mineral fibre with Nippon Asbestos. Nippon Asbestos will be able to manufacture Spray Craft fireproofing and acoustical material as well as SprayCraft spraying machines for sale in Japan, Okinawa, Korea, Formosa, Hong Kong and the Philippines.

SprayCraft was used in the Pan Am Building and Chemical Bank N.Y. Trust Building in N. Y. City.

Asbestos, March 1965, pp. 2-8

"The Growing Application of Asbestos in Industry," By W.E. Sinclair, Consulting Engineer to Putten's Asbestos Corp.

P. 8- Spraying asbestos fibres directly on to a structure or on fabric is becoming common practice to ensure soundproof rooms. Certain applications are employed to combat condensation and to provide thermal insulation. Spraying, besides being a means of fireproofing the structure, also corrects acoustic effects and reduces noise.

Asbestos, May 1965, p. 20

Asbestospray Corp. insulation. Components (mixture of virgin African asbestos and inorganic heat-resistant binders) are combined by a controlled blending process which assures product uniformity and optimum consistency for spray application.

Asbestos, May 1965, p. 49

Ad - SprayCraft: Sprayed Asbestos Mineral Fiber by Smith & Kanzler Co., 1414 Linden Ave., Linden, N.J. 201-925-2100.

Asbestos, September 1965, p. 24

Smith & Kanzler Company, Linden, N.J has indicated that a licensing possibility exists with them in many countries throughout the world on SprayCraft sprayed asbestos mineral fiber. S & K presently has licenses with Nippon Asbestos Co., Ltd (Japan) and Bradford Insulation (S.A.) Ltd. (Australia). The licensing includes the use of the company's trade name "SprayCraft" and also covers the manufacture of the special SprayCraft spraying machines which are the most advanced design in the industry.

P. 36, Sprayed Insulations Limited "Silbestos" Sprayed asbestos process.

Asbestos, January 1966, p. 26

B-E-H Mono-Spray. Monolithic Thermal insulation by Baldwin-Ehret-Hill, Inc. Mono-Spray is a combination of asbestos and spun mineral wool fibers with an organic binder plus rust inhibitors and provides for fast, economic application by spraying it on turbines, ducts vessels and other large surface area.

Asbestos, September 1966, p. 6-8

From article by C.Z. Carroll Porczyniski, "British Asbestos Industry." See Zerox "Sprayed Asbestos".

Asbestos, September 1966, p. 16

Foster Spray Instructions. All Foster products adaptable to spray application are being shipped with complete spray instructions. Instructions indicate the necessary equipment, use of application equipment, how to spray. Benjamin Foster Co., Ambler, Pa. Division of Amchem Products, Inc., Ambler, Pa.

Asbestos, November 1966, p. 12

Sprayed Mineral Fiber Manufacturers Association (SMFMA), P.O. 427, Westfield, N.J. 07050, New York, N.Y. has been formed for the primary purpose of providing data on the latest materials and techniques in the fields of fireproofing, thermal insulation and sound control. It was brought into existence by 4 major producers of sprayed mineral fiber:

Asbestos Corp.
Baldwin-Ehret-Hill Inc.
Smith & Kanzler Co.
U.S. Mineral Products Co.

President: James P. Verhalen (U.S. Mineral Products),
Vice President: A.E. Binger (S&K)
Treasurer: J.H. Wittkop (B-E-H)
Promotion Committee Chairman: John Boland (B-E-H)
Technical Committee Chairman: Morris Leiff (S&K)

Asbestos, January 1967, p. 4

SMFMA - One step application of sprayed mineral fireproofing. In manufacture, virgin asbestos and mineral wool fibers are blended with the binder as a dry mix. The material is applied with a spraygun, at its nozzle, combines air and water with the mix to form a homogenous mat of contact fireproofing.

Asbestos, September 1968, p. 36

Sprayed Mineral Fiber Booklet. Description, uses, and properties of sprayed mineral fiber are covered in a new booklet "Fireproofing . . . Insulate . . . Control Sound," published by the Sprayed Mineral Fiber Manufacturers Association. The publication is the first ever issued on the product generically. The material is suitable for buildings of all occupancies. Fire-retardant ratings meet all codes and standards.

Asbestos, June 1969, p. 12

Armstrong Armaspray 16 - High thermal efficiency. High temperature spray-on insulation. Product of Armstrong Cork

company. The new insulation is a blend of asbestos fibers, mineral wool fibers and inorganic binders. It is processed at the job site, from fifty-pound bales of compressed dry material through a special Armspray Spraying Machine. It is dampened in mid-air by atomized water as it leaves the spray gun. Fire protection, noise reduction, and corrosion prevention for indoors or outdoors.

Asbestos, January 1973, p. 38

U.S. Consumption in 1971

- 25% Asbestos-Cement (A-C) pipe and building products
- 18% Floor tile
- 14% Felts & Papers
- 10% Friction materials
- 3% Packing & Gaskets
- 3% Textiles
- 2% Sprayed Insulation
- 25% Miscellaneous Products

Asbestos, March 1973, p. 12

"Pre-Dampened Silbestos Spray". See Xerox.

INCIDENT

In my neighborhood, a small country village, lives a woman whose relatives are, for the most part, residents of Ireland.

A month or so ago two of her sisters and a niece, decided to come over to visit her. They decided to come by plane to New York. The woman drove to LaGuardia Field to meet them, but when the plane on which they were expected arrived, they were not on it.

Rather worried, the woman telephoned to Ireland, had a pleasant chat with them and other relatives, and was told that they had to give up their reservations on that particular plane which was scheduled for a Monday, but that they would arrive on Wednesday or Thursday. None of them was rich, just "comfortably fixed" as we country people say.

The incident is not remarkable in itself—perhaps hundreds of similar ones occur every month. The outstanding part of it is its casualness.

Twenty years ago *no one* would have thought of flying from Dublin to New York, or if they had it would have been with fear and trepidation. Certainly women would not have attempted such a trip. Nor would they have been able to telephone.

When ordinary country people, not especially accustomed to travel, take a plane trip from Ireland to the country as a matter of course, just as we would take a train into Philadelphia (a matter of 18 miles) air travel has definitely arrived.

Who knows; we may all soon be taking vacation trips, or even weekend ones, to the moon!

Private firms may send investigators to Germany under certain conditions. These conditions are described in the September 10, 1946 issue of Technical Services, published by the U. S. Department of Commerce. Further information can be obtained from Robert Reiss, Chief, TTHD Department of Commerce, Washington 25, D. C.

SPRAY INSULATION OF CORRUGATED ASBESTOS CEMENT

Architects and builders today are at a cross-roads. They are faced with the choice on the one hand of using conventional building materials in conventional fashion,—if they can get them and if, after having gotten them, they can afford to use them. On the other hand, architects and builders have the alternative of engineering new combinations of available materials.

Such combinations which are more economical and which do a better job are often only waiting to be exploited. Exploitation is not so easy as it sounds, for it is much easier to follow in someone else's footsteps in selecting a type of building construction than it is to push thru a new idea. There are the building codes to be changed, the architects to be shown, and the builders to be made acquainted with the advantages and limitations involved in installation.

A recent development along these lines is the application of asbestos fibre by spray on to corrugated asbestos-cement wall and roof structures, for the purpose of thermal insulation. The advantages offered by corrugated asbestos-cement board are well known—ease of erection, permanence, etc.—but the insulation of this material with conventional insulating board presents the great problem of air leakage thru joints and application holes.

Scarcity of conventional insulating board has given the manufacturers of "Fibrespray" Asbestos the opportunity to prove what they had long known—that the application of sprayed asbestos fibre to corrugated asbestos-cement board would give a construction that was incombustible, tight, economical and fireproof.

Several one-story manufacturing buildings in the Philadelphia area have been built using Fibrespray insulation on corrugated asbestos-cement side walls. The space between the glass block windows and the insulated roof (approximately 5 feet) consists of corrugated asbestos-cement board with Fibrespray insulation. For these build-

ings Fibrespray 1-3 $\frac{1}{4}$ " on the crest and 2-3 $\frac{1}{4}$ " on the trough and weighing approximately 3 pounds per square foot was used. This added to the corrugated asbestos-cement board, weighing 4.2 pounds per square foot, makes a combined weight of 7.2 pounds per square foot. The K factor¹, or conductivity of Fibrespray, being 0.31, and the 3.8" corrugated board 12.5, the combination was equivalent in insulation value to a 13" masonry wall, complete with furring and plaster. In one building the Fibrespray insulation was painted, and in the other, it was left in its natural color.

Being completely flexible in its application and treatment, the thickness of Fibrespray can be custom tailored to the job to meet its particular need. Its monolithic construction allows no open joints for air circulation. Expansion and contraction of the coated surface has no cracking, peeling, or other destructive effect.

Fibrespray applied to ceilings or walls acts as a barrier against flames in addition to possessing its insulation and acoustical properties. This should prove to be a definite safety measure and insurance economy.

The application of Fibrespray is made² by men thoroughly trained for this type of work, using machines developed for this particular purpose. Great care has been given to the selection of fibre grades and the binder which is incorporated at the factory. The processed fibre passes down the machine hopper thru a fan which "fluffs up" the fibre and sends it thru a hose. At the point of discharge it is met by a liquid spray which combines with the opened fibres in the air, so that they are dampened just as they strike the surface to which they are applied.

Thru a combination of spraying and tamping, the material is built up in layers until the desired thickness has been reached when the surface is leveled and textured. The finished surface has a pleasing appearance which may be left in its natural light color, or painted if higher light reflection is desired. The added value of sound reduction by this treatment is attractive to those who realize that re-

¹Coefficient expressed in BTU¹ per hour per sq. ft. per degree F. per 1" thickness.

duction of noise in the factory is just as desirable in promoting the efficiency of industrial workers as noise reduction in the busy office is considered a vital must by far-sighted employers.

Where Fibrespray insulation is subject to physical impact, it can either be covered by plain asbestos board, wire lath and plaster, mastic coating, or special hardening of the sprayed asbestos itself. The acoustical value is naturally lost where the material is covered up, but the hardening process of the fibre itself reduces but does not eliminate its acoustical value. This is accomplished by the addition of a special binder to improve body and surface strength.

This method of insulation forms a *felted blanket* of interlocking asbestos fibres which seals the entire surface covered. If desired, structural members may be covered also. Particular attention must be given to method of sprayed insulation at the points of contact with structural and supporting members in order to secure maximum insulating efficiency.

At the present time conservative builders are turning to corrugated asbestos-cement board only as a substitute. They feel that somehow its appearance is not "correct" and that as soon as other materials, at present in short supply, become available, they will revert to these. It is entirely likely, however, that these prejudices against appearance will be strongly modified as time goes on. Actual experience with such construction, furnishing proof of its durability and efficiency should sell builders on the idea of giving a combination of corrugated asbestos-cement and Fibrespray insulation a lasting position in the field of permanent buildings.

Expense is a vital factor in all business construction. The building must not only do the job assigned to it; it must earn money while doing so. A high first cost is quite a handicap in the form of interest and amortization charges. This is especially true if no more than five to ten years of very profitable business are in sight.

Note: "Fibrespray" asbestos is made and distributed by Acoustics, Inc. Further information can be had by addressing them at Commercial Trust Building, Philadelphia, 2, Pa.

surface where they are deposited. In some cases the solubility of an ingredient is high enough so that the impervious film of solids completely closes the surface pores after the plaster has dried. Except at very low frequencies, where diaphragmatic absorption occurs, such plasters exhibit low absorbing power because the air cannot penetrate thru the glazed-over surface into the inner pores and voids. Acoustic plasters with a propensity toward glazing require stippling when partially dry to improve their sound absorbing power.

In general, acoustic plasters may be steel troweled or cork, shingle, or mohair floated to produce various surface textures. The troweling or floating must be done at the proper time after application. The time interval is specified by the manufacturer has been determined on the basis of numerous elaborate sound absorption tests on this plaster and should be adhered to closely. Premature troweling, or over-troweling, may bring the finely pulverized plasticizing ingredients (the so-called "fat") to the surface. An accumulation of "fat" tends to close off the surface pores with an effect on sound absorption similar to that of glazing discussed above. Troweling or floating too late may leave trowel marks and an uneven surface texture.

Sprayed-on Materials.

A number of fibrous materials, notably asbestos and mineral wool, are applied on the job by spraying the shredded fibre together with a suitable binder directly on the surfaces to be acoustically treated. After spraying, the material is rolled or tamped to a smooth surface. Sprayed-on materials can have comparatively high sound absorbing powers, depending on their porosity and thickness.

The chief disadvantage of sprayed-on materials is their structural weakness when applied too loosely or when insufficient binder is mixed with the shredded fibre during spraying. If insufficient binder is employed, shedding of the fibre may take place because of vibration of the wall surfaces to which the material is applied. Obviously, shedding of materials containing mineral wool



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can be very annoying to individuals confined to rooms where such shedding takes place. Excessive shedding may be prevented by addition of the requisite amount of binder during spraying, or by sizing or painting finished surface. Inasmuch as sprayed-on materials are relatively soft, they are not adapted for use in locations like gymnasiums, or hospitals for the insane, where they may be accidentally dented by a thrown ball or some other missile.

Yet it is this very structural weakness of sprayed-on materials which results in an acoustic material with very unusual characteristics from the standpoint of redecoration. Occasionally weak but exceptionally resilient materials are encountered which can be painted repeatedly until their surface pores are completely closed without marked diminution of their sound absorbing power. In fact such materials may acquire additional absorbing power, especially at low frequencies, after repeated painting.

Acoustic Baffles.

It often happens that a room with large window areas has insufficient wall area for application of acoustic material to obtain the required reverberation time. In such instances, recourse is made to "acoustic baffles", i. e. sound absorbent structures which are placed away from the walls where they will not interfere with lighting from windows. Baffles are also used to isolate individual machines. When placed around a machine so as partially to enclose it, baffles absorb sound at the source before it has an opportunity to spread to regions in a room where it is desired to maintain a lower sound level.

To be effective, baffles must be very highly sound absorbent; this is achieved by the use of thick layers (3 to 6 inches) of porous materials. Fibrous materials like mineral wool or glass wool, encased within perforated metal or perforated asbestos board coverings, are often used for baffle purposes. Baffles may also be constructed of highly porous masonry especially developed for the purpose.

One of the more interesting applications of baffles

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SPRAYED ASBESTOS

The spraying of asbestos fibres directly onto a structure or building fabrics is a process with great potentialities. It puts all the advantages of wet construction into dry buildings and is widely used to combat condensation, provide thermal insulation, give fire resistance, exclude dust, and in some types of building, to correct accoustical effects.

Sprayed asbestos is well-suited for insulating all classes of industrial and domestic buildings. At the same time it solves the problem of increasing thermal resistance of existing buildings. In addition, the treatment provides proof against vermin.

By this method, which is called sprayed "Limpet", specially treated asbestos fibres are projected simultaneously with a fine water spray from a multi-jet spray gun. Various grades of asbestos fibres are used in order to meet certain essential functions. The resultant mixture is pliable for two hours, during which time the surface can be flattened or shaped. It becomes set in about eight hours.

The advantages of sprayed asbestos are as follows:

Thermal Insulation

With a single skin roof, savings in fuel consumption of 50% have been achieved. Buildings insulated in this way can be kept, if required, at a lower temperature and still provide the same degree of comfort.

In summer, the treatment will reduce the amount of solar heat coming through the roof and so makes more comfortable working conditions.

Anti-Condensation

Condensation is prevented by maintaining the surface concerned about dew point. The applications are capable of absorbing many times their weight and this is later evaporated when average conditions are re-established.

Sprayed asbestos prevents condensation on exposed steelwork and the tendency to rust or corrode is greatly reduced.

Fire Protection

The system complies with the requirements of the Fire Research Station fire tests. Data is available which shows

CANADIAN ASBESTOS



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Address Inquiries to:

NICOLET INDUSTRIES, INC.

ASBESTOS FIBRE DIVISION

Nicolet Avenue

Florham Park*, New Jersey

*Suburb of New York City.

"ASBESTOS" — September 1959

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the exact degrees of fire resistance when applied to concrete floors, steel beams and columns.

Anti-Corrosion

Tests have been made against the corrosion of steel which have proved its value as a protective agent.

Dust Exclusion

By providing an unbroken and reasonably flexible internal line, the sprayed "Limpet" seals all the laps and joints. In that way, it effectively stops dust and dirt coming through roofs, and, occasionally, walls.

Sound Absorption

As it can be applied directly to all types of roofing and walls regardless of the surface contour, it is ideal for the reduction of noise.

Decoration

All applications will take decoration in the same way as asbestos cement.

Applications

The spraying of "Limpet" asbestos is carried out by Turners Asbestos Cement Co. Ltd., of Trafford Park, Manchester, England, on a contract basis. They carry out this type of work anywhere in the United Kingdom and their technical experts are available to advise on all problems connected with the application of this material.

Dec. 159 issue notes that the material is available in North America through Keasbey and Mattison Co., Ambler, Pa., sole licensee in the U.S. and in Canada through Atlas Asbestos Co., Ltd., Montreal, P.Q.

"ASBESTOS" recently received reprints of two very interesting and informative papers, "Further Observations on the Morphology of Chrysotile and Halloysite", by Thomas F. Bates and Joseph J. Comer and, "Morphology and Crystal Chemistry of 1:1 Layer of Lattice Structures", by Thomas F. Bates. "ASBESTOS" will be glad to lend its copies to interested readers.

"SAFETY IN THE SIXTIES", a forecast of things to come in safety in the next 10 years, will be the theme of the 17th National Safety Congress, annual convention of the National Safety Council to be held in Chicago, Illinois, October 19-23, 1959. There will be nearly 200 exhibits of safety equipment and materials.

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INSULATING MATERIALS

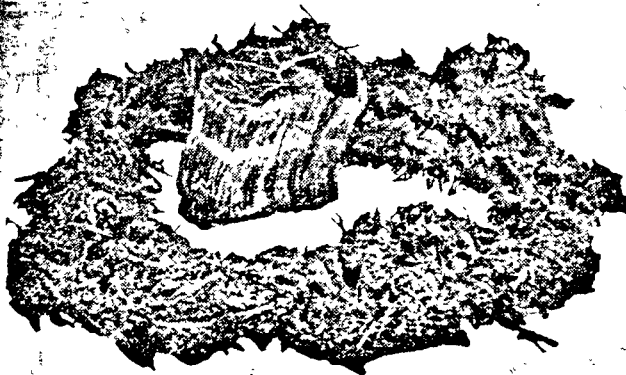
Sprayed Asbestos

The technique of spraying asbestos to produce coatings for heat and sound insulation, fire protection and the prevention of condensation was created in Britain in 1931 by J. W. Roberts Limited, who secured world-wide patents for their Sprayed Limpet Asbestos process. It has been continuously developed and improved with the result that it is now known throughout the world. The asbestos fibre and cement mixture is applied as an airborne stream with jets of atomized water, the resulting coating being then lightly pressed back with a float to the required thickness and density. It thereby provides coatings which are in intimate and continuous contact with the surface being treated, following all contours regardless of complexity and thus being extremely versatile.

Recent examples of Sprayed Limpet Asbestos applications include the New York State, the General Electric Company in U.S.A. and the General Motors Futurama buildings at the New York World's Fair and the fireproofing of the 52-story Prudential Centre tower in Boston, Massachusetts. It was also applied for insulation and sound deadening to the ceiling of the Olympic Judo Stadium, Tokyo. Additions within the last year to the many luxury liners insulated and fire protected by this process include the Italian ships, "Michelangelo" and "Raffaello", the Home Lines "Oceanic" and the currently building Swedish America liner "Kungsholm". New applications continue to be developed, a recent instance being in mining.

The capillarity of asbestos fibres has been put to work with excellent results to control condensation in buildings such as swimming pools and on the steel shells of railway cars⁽²⁾. The roofs and sides of such structures are chilled by outside atmospheres and by radiation to clear skies. Their temperature is thus frequently lowered below the

Australian Blue Asbestos Pty. Limited



Australian Blue is an ideal fibre for asbestos cement and for purposes requiring good heat insulation and acid resistance. It has excellent spinning properties. Samples available on request.

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dew point of the inside atmosphere and condensation can result to a major extent. If Limpet asbestos is applied to the interior surface, the amount of condensation is greatly reduced and such water as is formed within the insulation is withdrawn by wicking action to the exposed surface and re-evaporated to atmosphere. Used in this way, Limpet also reduces to a minimum heat losses through the structure and lowers the noise level within by absorption of sound waves.

The worth of Limpet asbestos is appreciated in the current modernization program of British Rail where it is finding increasing use by designers of diesel, diesel-electric and electric locomotives⁽³⁾. In these and in railway carriages, Limpet Asbestos is frequently applied between double floors and on the underside of steel or light alloy flooring sheets where it has the added function of reducing the transmission of track noise.

Limpet Asbestos is also extensively used for chemical and power plant. The perfect jointless fit to the insulated surface prevents convection losses. This, coupled with its low thermal conductivity and relatively high thermal capacity, makes it ideal for plant work. It has been adopted for the insulation of turbines all over the world and is now ordered by most leading turbine builders. Sprayed asbestos provides also protection against fire for road tankers which carry ethylene or propylene oxide⁴.

In addition to the J. W. Roberts Limpet process, use is being made of Seel sprayed asbestos insulation available from Chancey Insulation Limited, a member of the Universal Manufacturing Company Limited. A similar Ken-spray process, applied by William Kenyon and Son Thermal Insulating Company, uses mainly asbestos mineral wool fibre blends.

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