

FILE NAME: Johns-Manville (JMA)

DATE: 1978-1983

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DOCUMENT DESCRIPTION: Asbestos-Cement Saw: Report, Product Information and Sales Brochures

#16 6 AF.

Samuel's letter
flat, covered, & sealing



Johns-Manville



Research and Development Center

Report No. E411-1063

Date November 9, 1978

Title: CIRCULAR SAW FOR DRY-CUTTING CORRUGATED A/C SHEET

SUMMARY

A shield has been developed for a standard portable circular saw (Rockwell Model 368-1), which allows corrugated asbestos-cement sheet to be cut dry in an acceptably dust free manner. The shield, illustrated in the Appendix, consists of upper and lower cases which enclose the blade and cutting zone. Each case is connected to a vacuum source (Nilfisk GA73 vacuum cleaner) by 1-inch hoses. The shield works on the principle of near-total enclosure of the cutting zone, to maximize the use of the available vacuum to retain dust within the enclosure and thus allow its removal.

The difficulty in enclosing the cutting zone when cutting corrugated, compared to flat sheet, is that the undulating surface presented to the blade is constantly changing. To achieve enclosure of the cutting zone, the "valleys" between corrugation crests must be blocked off to minimize air ingress, both above and below the sheet. However, the structure which blocks the "valleys" must be able to rise out of the depressions and over the crests. Additionally, the saw must be easy to use, i.e., the shield cannot "drag" on the sheet and require excessive force to operate. To solve these problems, overlapping rubber strips were placed on each side of the upper and lower cases. As the saw moves across the sheet, the strips extend into the "valleys" and effectively fill them to exclude air from the shield. They fold outward when a crest is encountered.

Tests using a common masonry blade (Table 1) in the "dust chamber" show that with no shield or dust collection, the dust count was 60.4 f/cc. With the shield, but with no rubber skirt, the count was 2.0 f/cc. There were substantial visible emissions of dust during this test, and this fiber count is questionably low. With the skirt, counts of 0.0 to 0.6 f/cc were attained, illustrating the effect of the device. Tested in an open room, the maximum fiber count was <0.1 f/cc.

It is concluded that this shield allows the cutting of corrugated asbestos-cement sheet with a circular saw, equipped with a common masonry blade, with fiber counts well under the 2.0 f/cc TLV. Cutting may be done across, with, or diagonal to the corrugations. It is believed that this device will be particularly useful to the medium and large contractor, on jobs where a substantial amount of cutting or trimming is required.

Contents: Summary, Appendix

Reported by F. M. Bodycomb
F. M. Bodycomb
Asbestos & Mineral Technology

Reported by G. R. Bauman
G. R. Bauman
Asbestos & Mineral Technology

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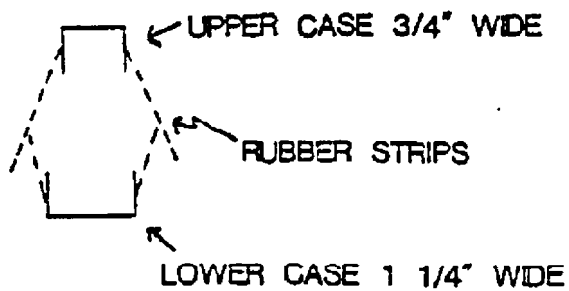
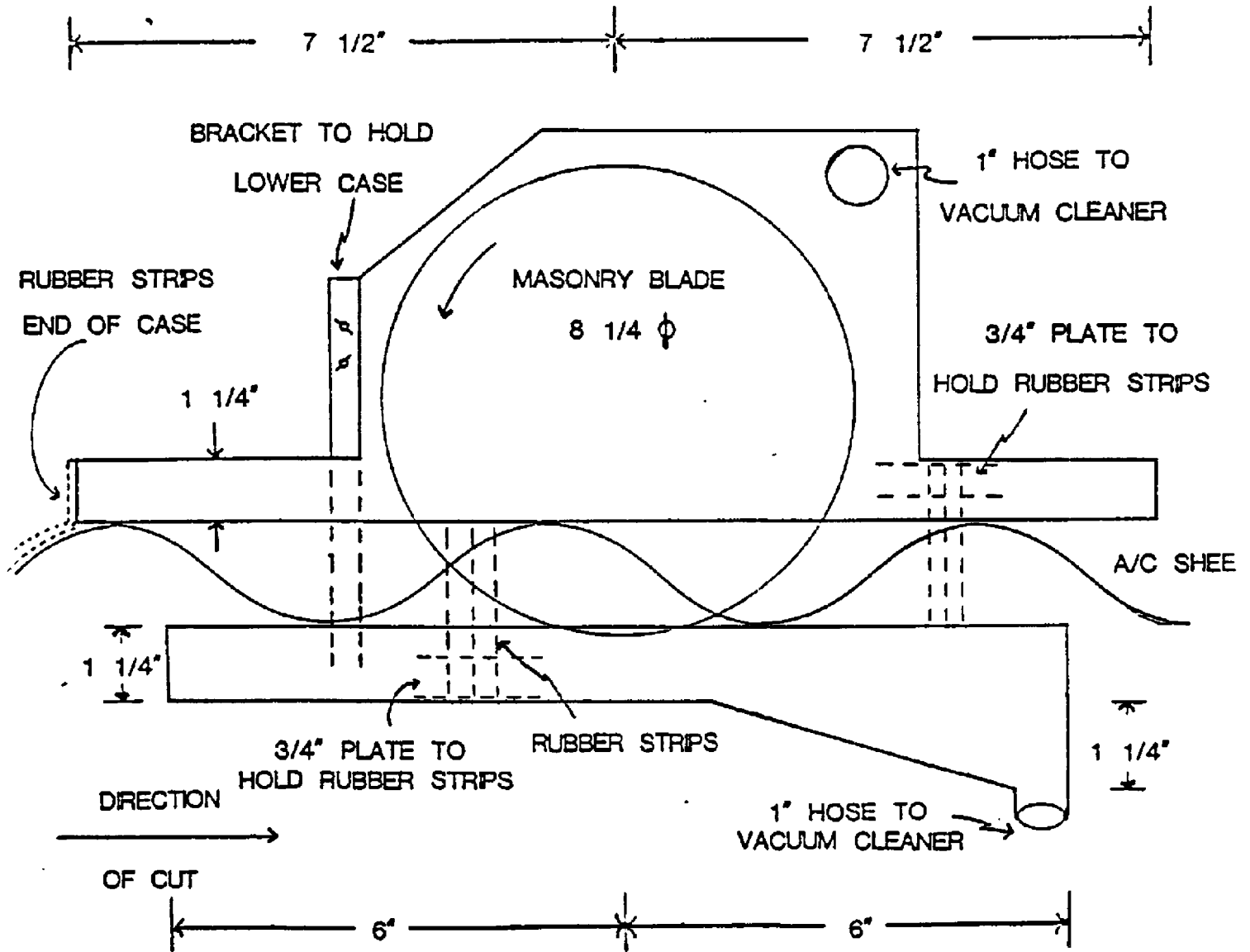
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D. Poutiatine	- 2-14
J. Connor	- 2-14
J. Reis	- 2-14
D. Kelleher	- 2-14
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R&D Information Center (4)

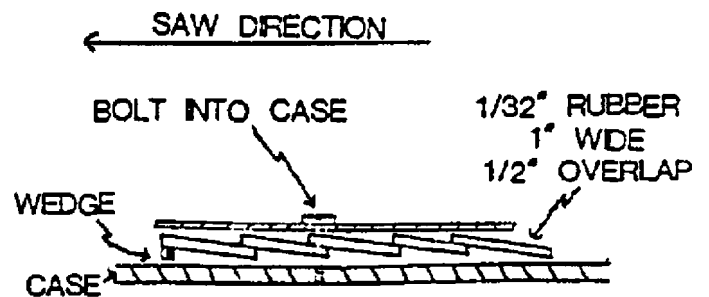
KEYWORDS

Asbestos
Asbestos-Cement
Fabrication
Dust
Dust Collection
Environmental Health

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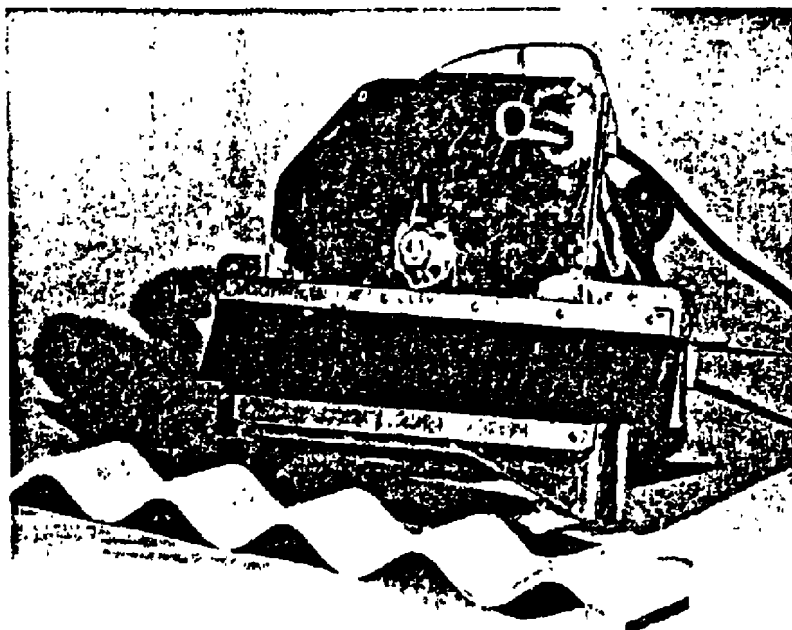
END VIEW



DETAIL: RUBBER STRIPS

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APPENDIX
FIGURE 1
CIRCULAR SAW FOR CUTTING CORRUGATED A/C SHEET



Vacuum Source - Nilfisk GA 73

Vacuum: 60" w.G.

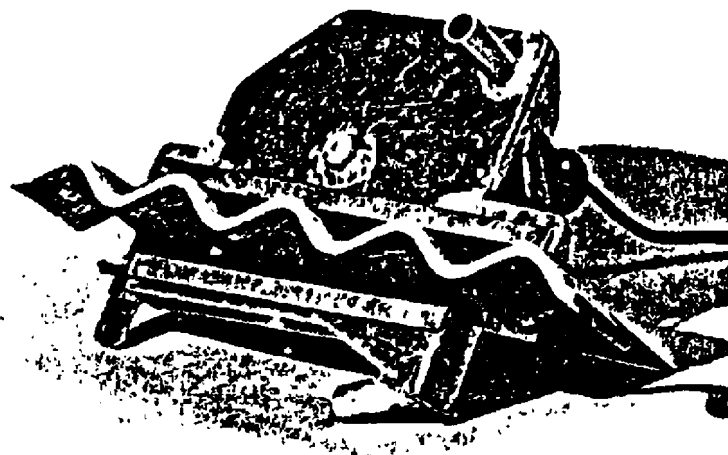
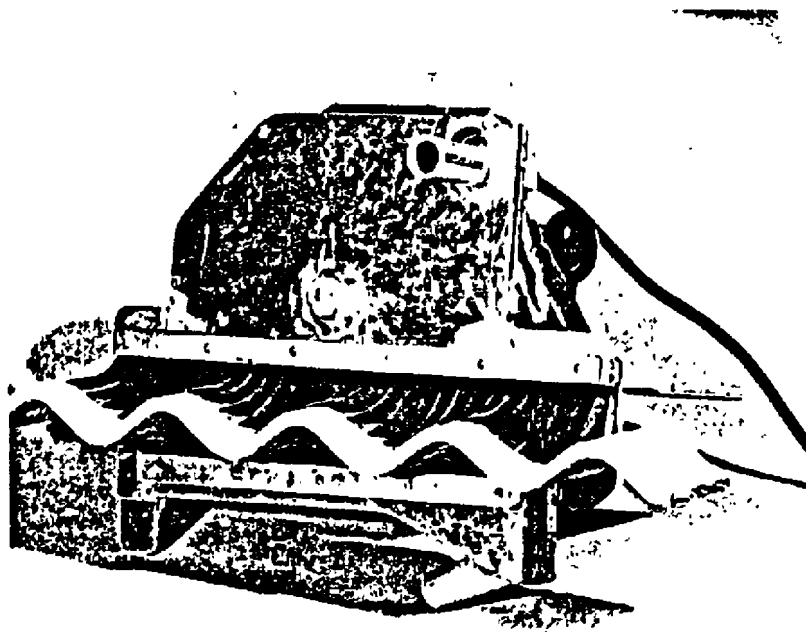
Airflow: 180 CFM

Filtration: 3 stage

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APPENDIX
FIGURE 2

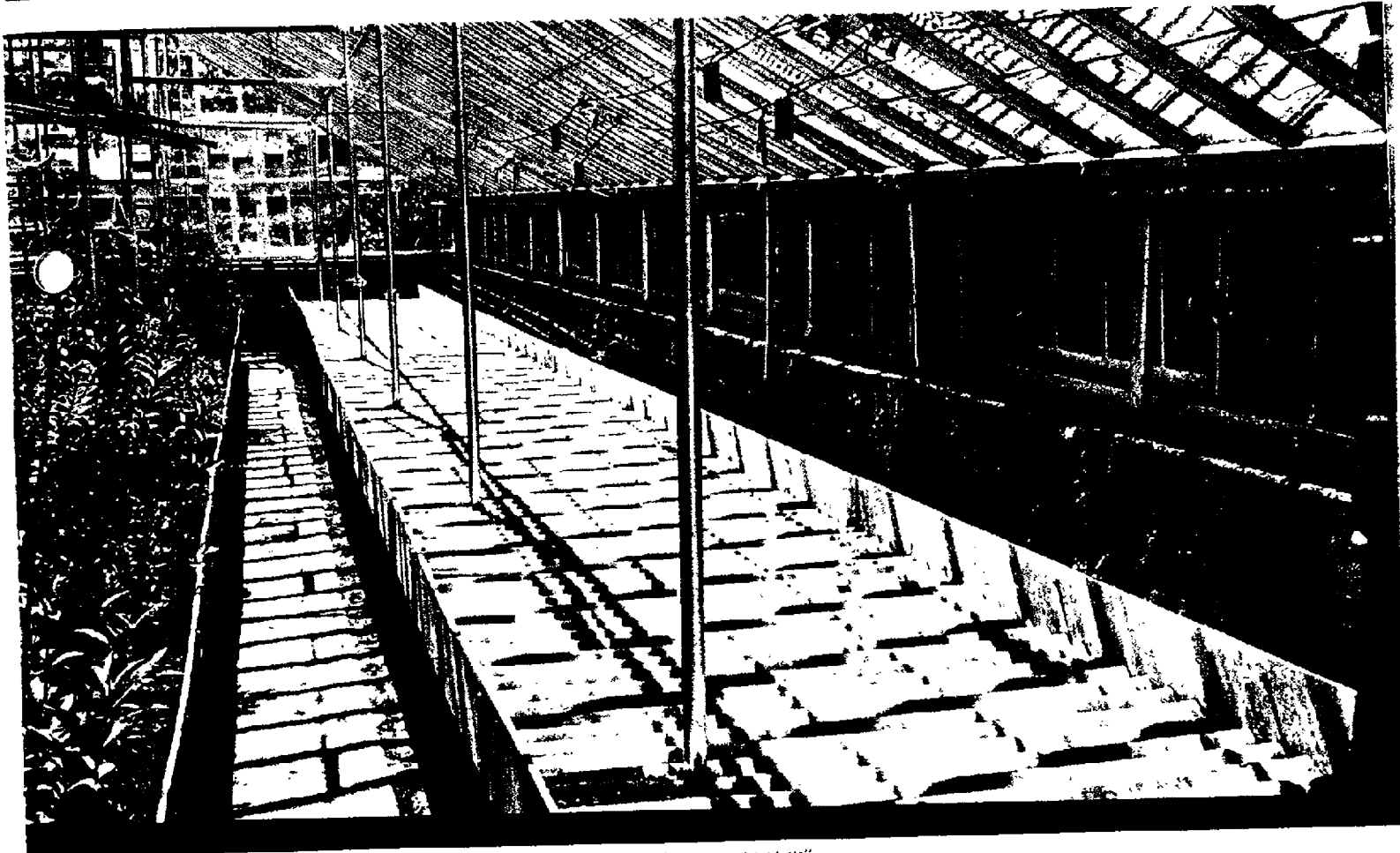
CIRCULAR SAW FOR CUTTING CORRUGATED A/C SHEET



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JOHNS-MANVILLE

ASBESTOS CEMENT



Note: TRANSITE is Johns Manville's registered trademark for its brand of asbestos cement products.

*"Unsurpassed as a construction material
where moisture resistance
and immunity to rot
are primary considerations"*

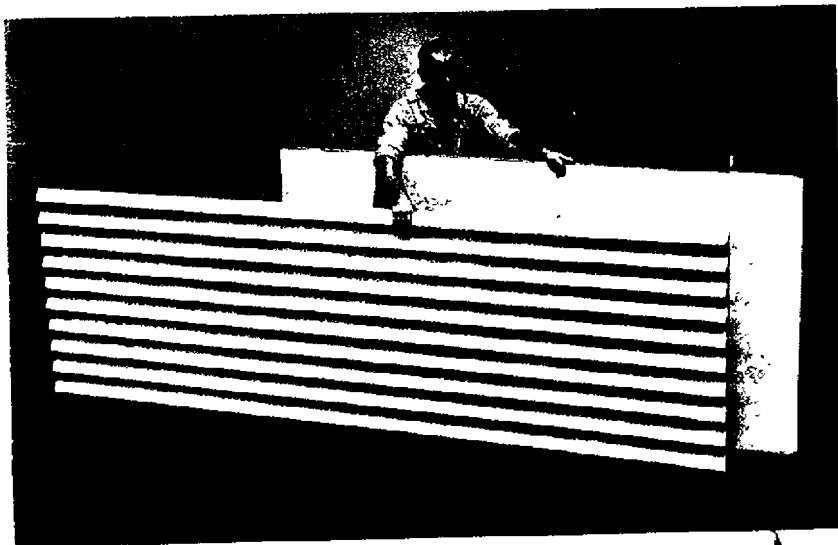
- GROWING BENCHES
- CURBS
- FLOOR SLABS
- EVAPORATION PANS

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CORRUGATED TRANSITE

J-M CORRUGATED TRANSITE
... the logical solution to greenhouse problems resulting from moisture, temperature variations, condensation, chemicals and vapors.



In the perpetual moisture-laden atmosphere of modern greenhouses, Corrugated Transite is the ideal construction material for the building of growing benches, curbs, floors and evaporation pans. It offers all of the physical characteristics essential to efficient, economical growing operations.

J-M CORRUGATED TRANSITE is composed of asbestos-fibre and Portland cement, formed under intense hydraulic pressure into rock-like sheets. It is durable and strong, moisture and rot resistant, and it will not promote the growth of fungi. It is one of the most enduring materials ever developed. In fact, it actually gets stronger with age. And, the valleys formed by the corrugations produce the natural drainage system desired for greenhouse work.

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CORRUGATED TRANSITE OFFERS MAJOR TIME AND COST SAVING ADVANTAGES...

PERMANENCE—Once installed, expensive maintenance, repair and ultimate replacement is practically eliminated.

RESISTS ROT-DISINTEGRATION—The dense asbestos-cement composition of Corrugated Transite eliminates rotting and disintegration normally resulting from ever-present humidity and moisture.

UNAFFECTED BY TEMPERATURE VARIATIONS—High temperatures combined with humidity rots wood . . . rusts steel reinforcement in concrete. Corrugated Transite is virtually unaffected.

CHEMICAL RESISTANT—Most chemicals used to combat various plant diseases and promote plant growth have little or no effect on the mineral composition of Corrugated Transite.

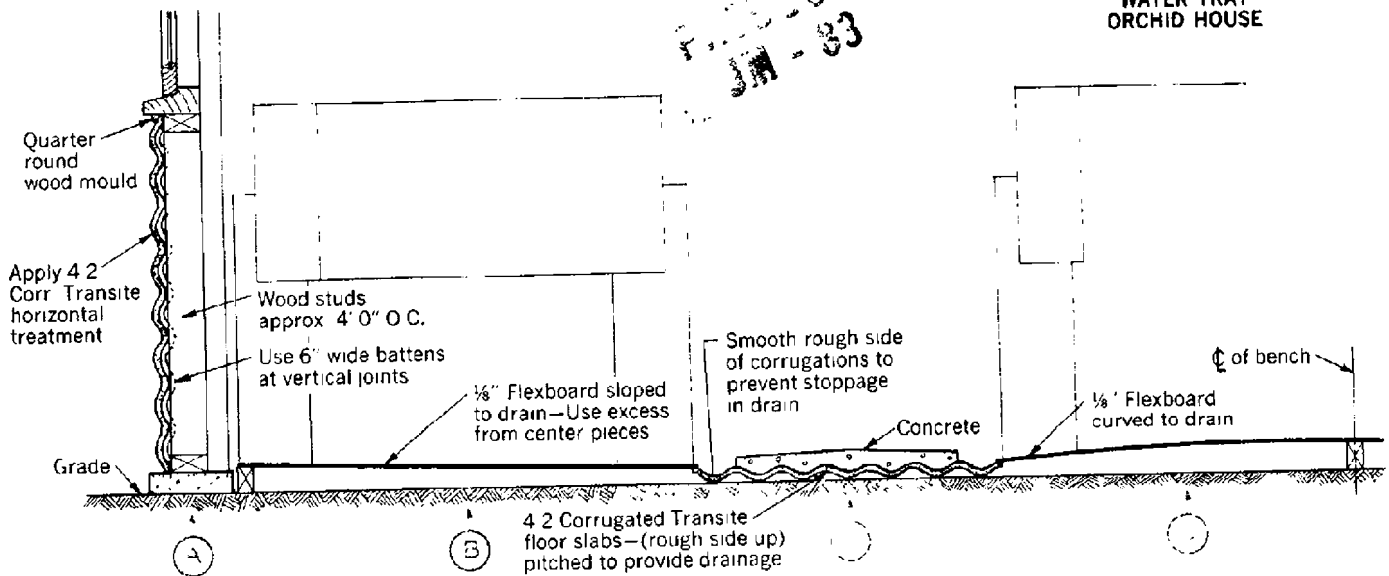
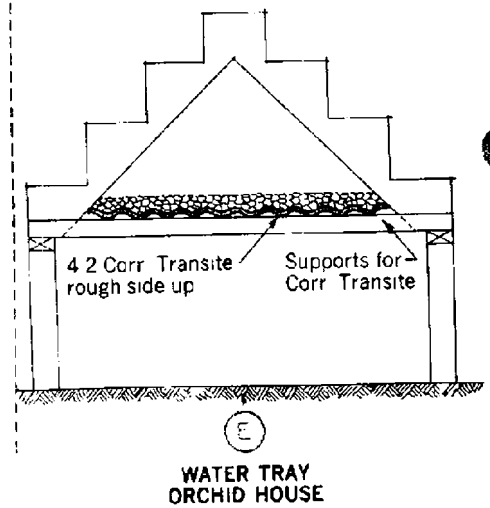
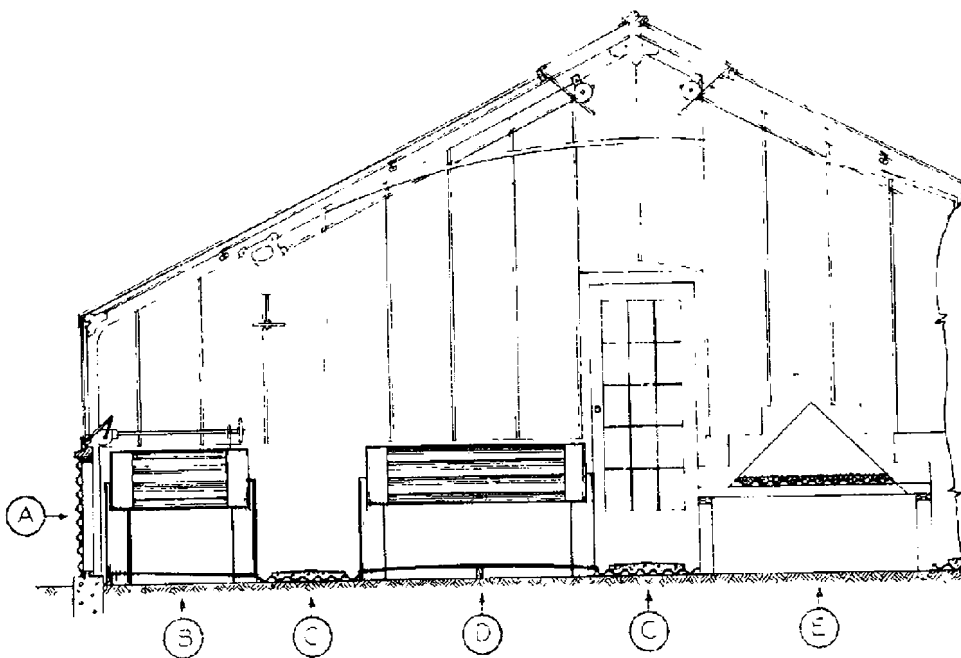
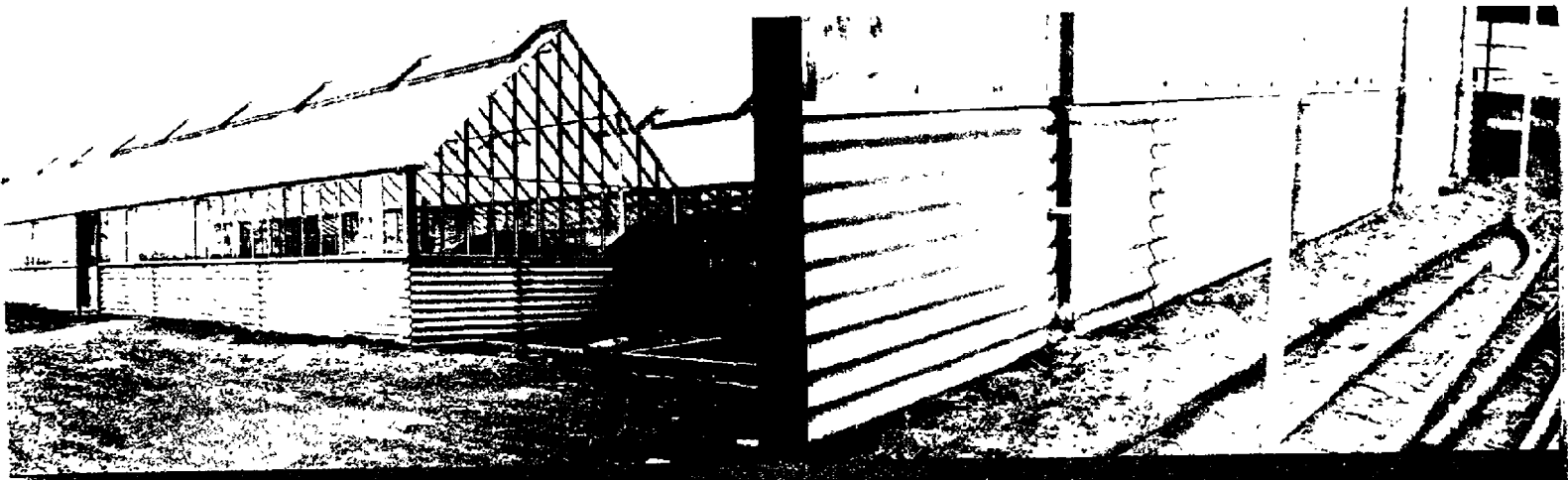
EASY-TO-CLEAN—The smooth surfaces of Corrugated Transite can be quickly and easily washed or steam-sterilized to kill surface bacteria.

EASY TO INSTALL—Corrugated Transite is easy to work with. It can be drilled with a carbide tipped masonry drill, cut with a power saw having a carborundum blade, and fastened with screws or bolts.

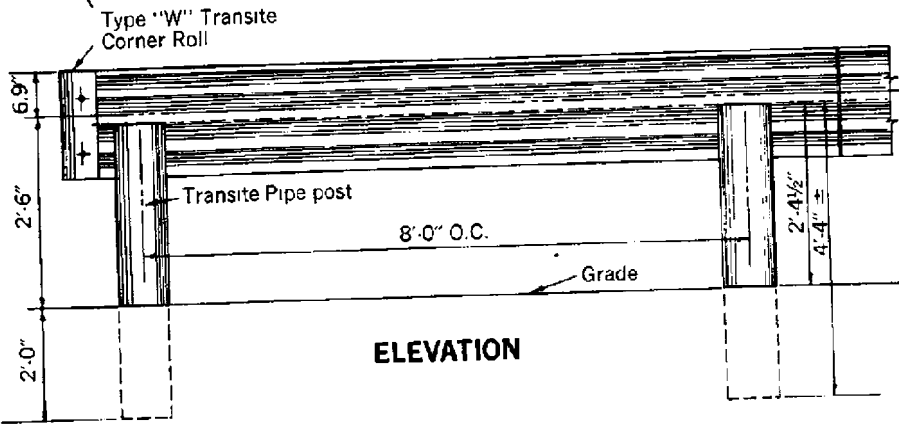
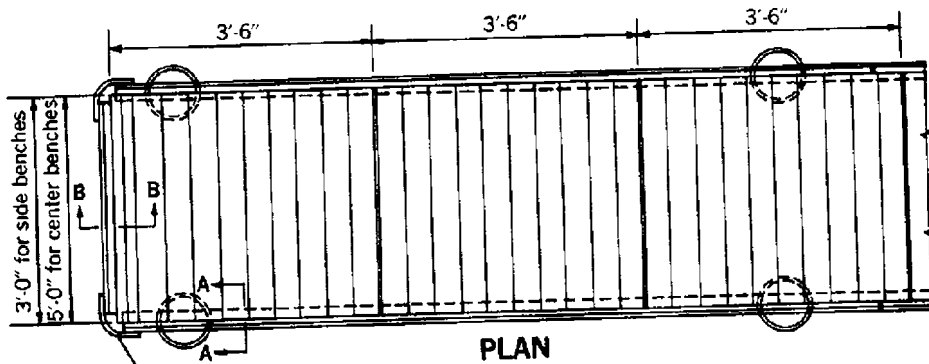
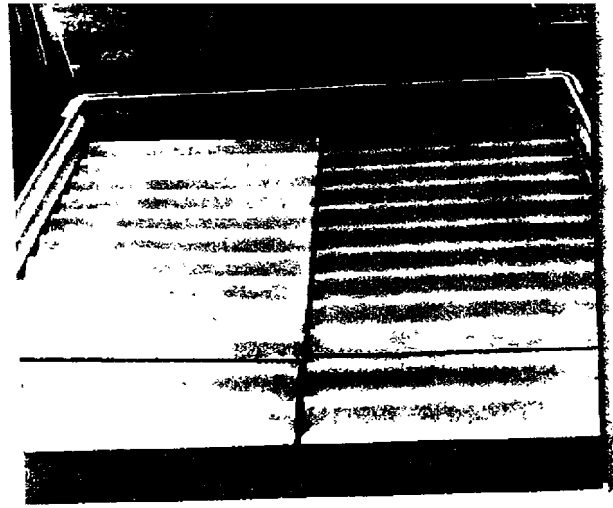
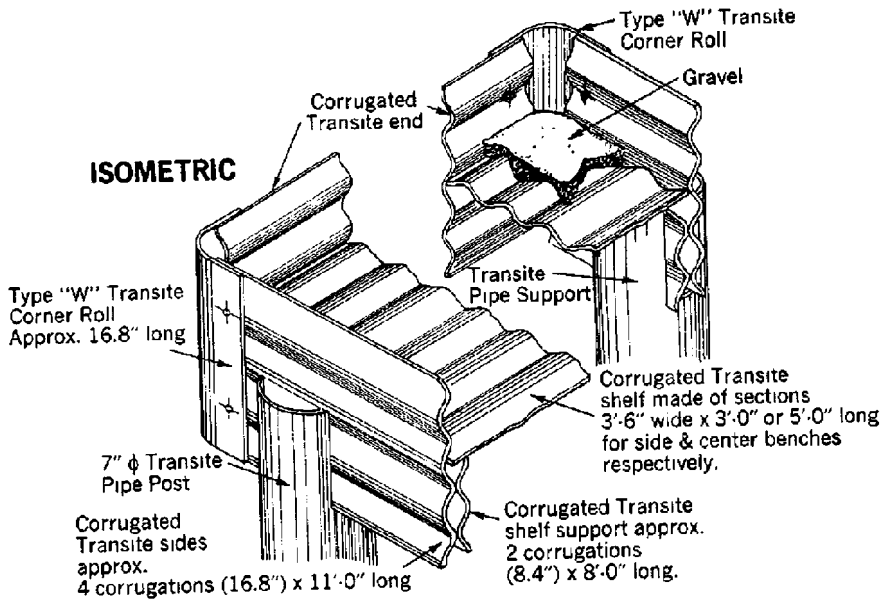
ECONOMICAL—Initial installation is practically the one and only cost with Corrugated Transite. Maintenance and replacement every 6 to 8 years is eliminated. Corrugated Transite lasts a life-time.

The following pages illustrate several methods of using Corrugated Transite in the construction of effective growing benches, curbs or walls, floor slabs and evaporation pans. If additional information is required, contact the Johns-Manville Sales Office in your area.

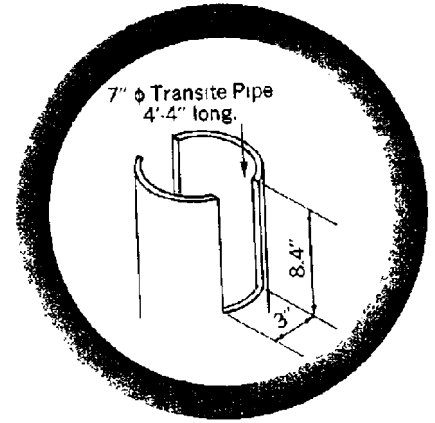
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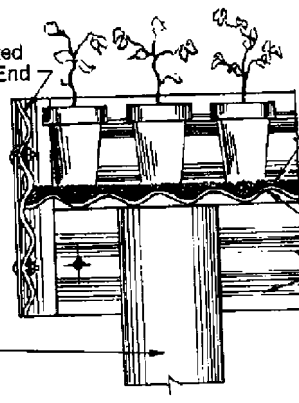
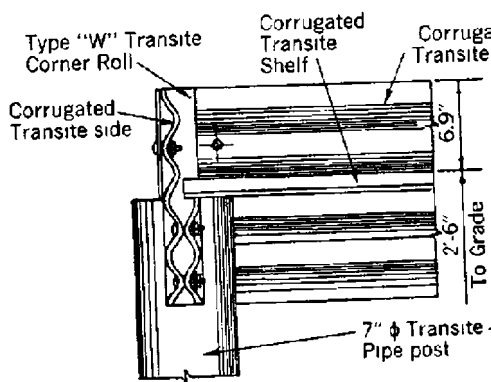
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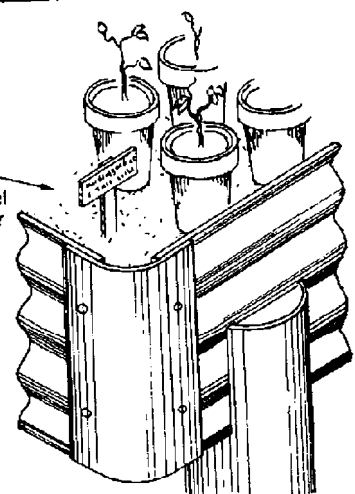
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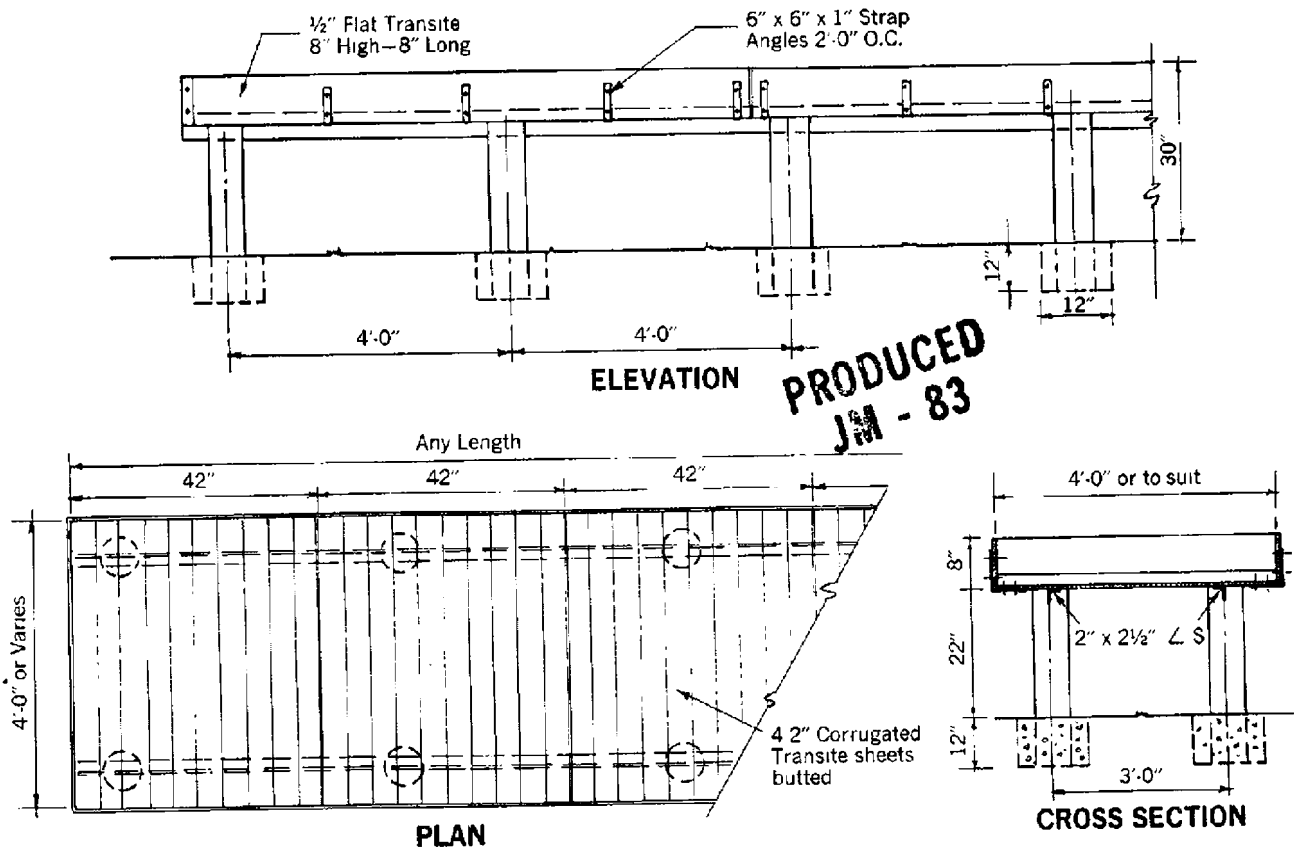
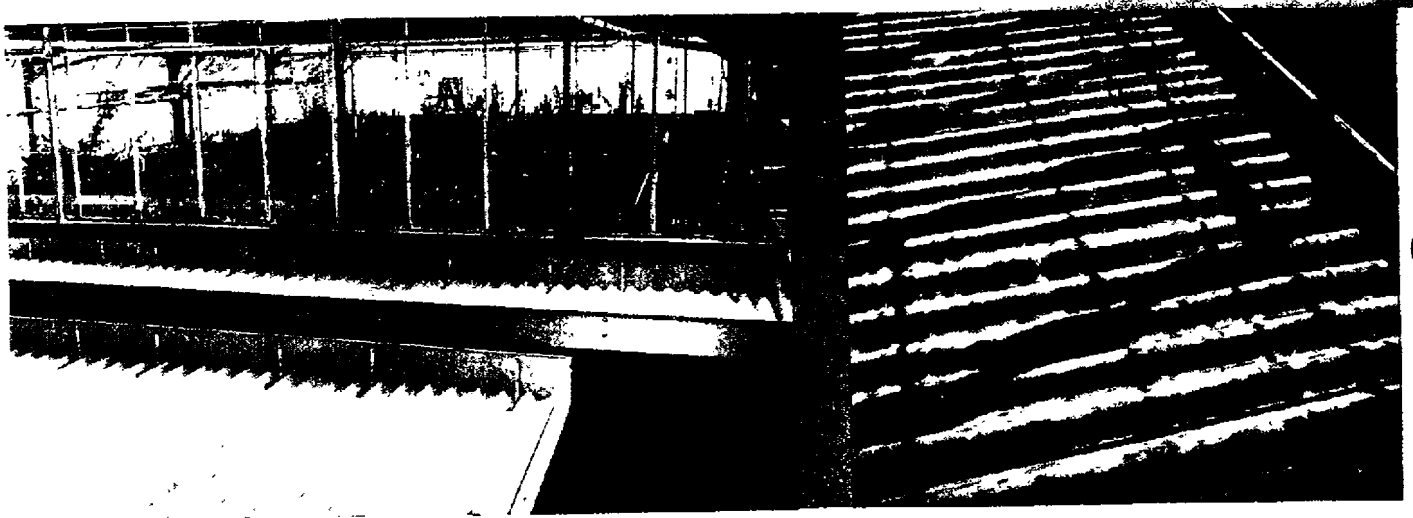


DETAIL OF CUT AT TOP
OF TRANSITE PIPE POST

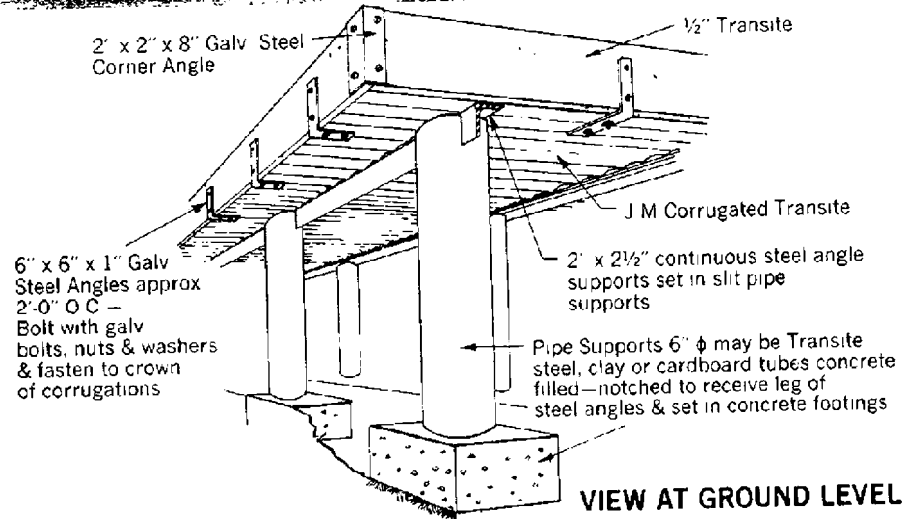
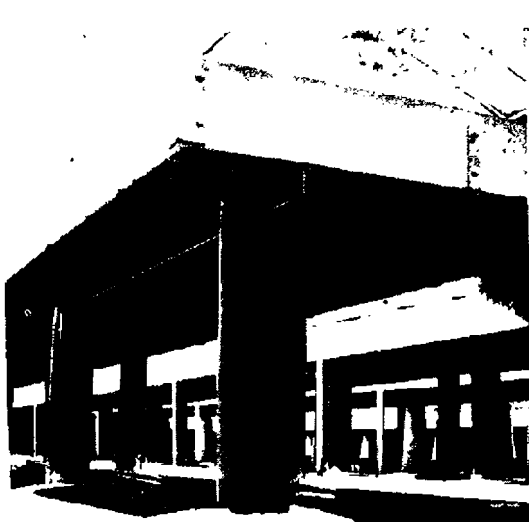


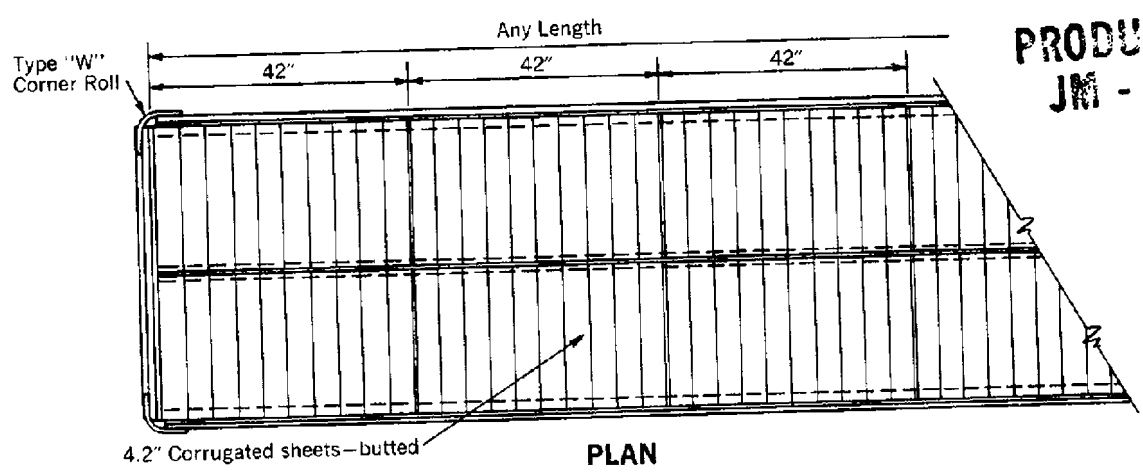
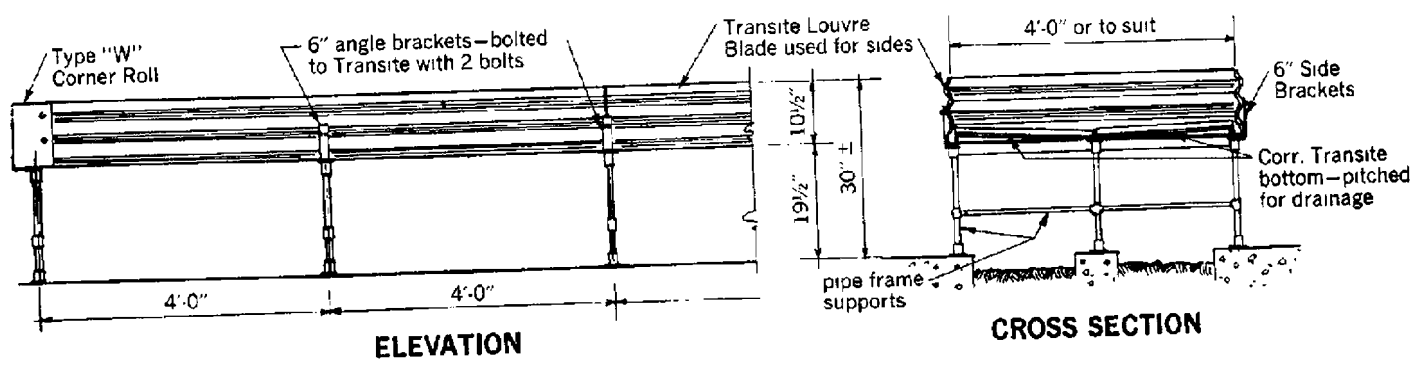
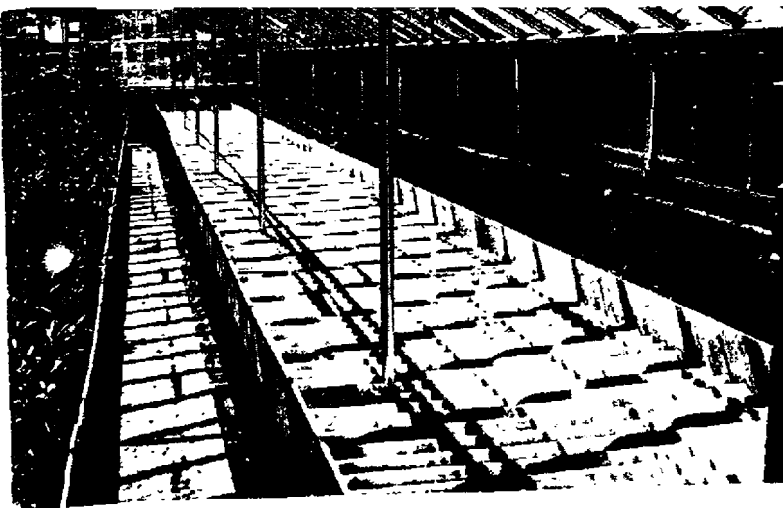
Gravel to act as drain and to provide level base for flower pots.



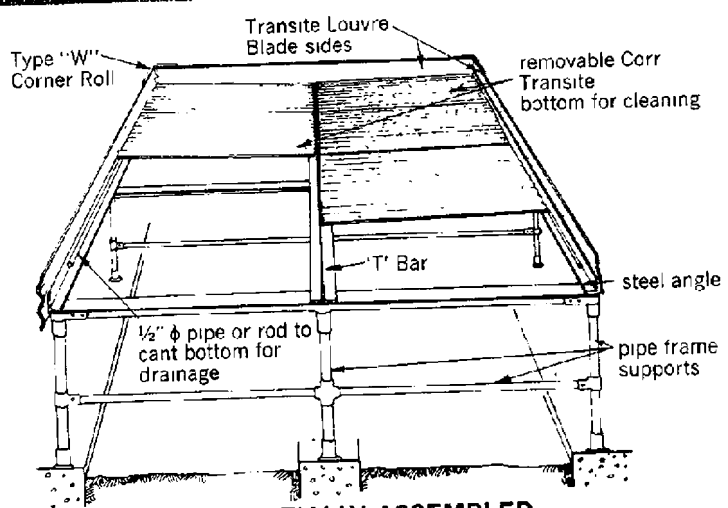


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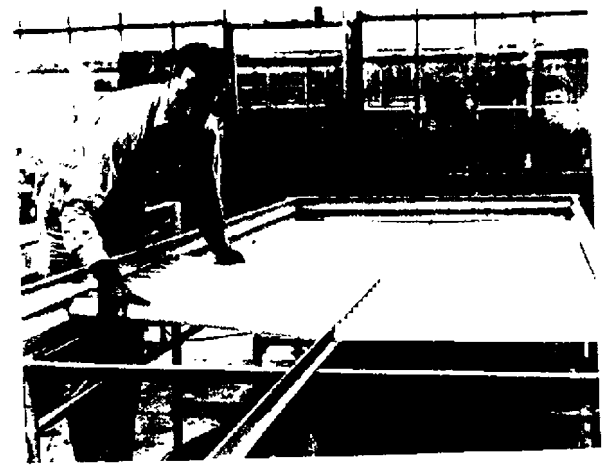




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BENCH PARTIALLY ASSEMBLED





PHYSICAL CHARACTERISTICS

112 4.1 5 20 max.	Density—dry—lb/cu ft Weight—normal lb/sq ft Moisture Content (Normal)—% dry wt Water absorption—% dry wt	100 min. — 5 22 max.
0.0010 0.0004 0.0005 0.000004	Moisture Expansion—in./in. Shrinkage—normal to dry Expansion—normal to 90% RH Expansion—normal to saturated Thermal Expansion—in./in./deg F	0.0020 0.0006 0.0028 0.000004
600-700 1000 4 5	Temperature Limit—deg F Continuous Service Intermittent Service Thermal Conductivity Btu/in./sq ft F hr	600-700 1000 4.5
5 3000 2.3 x 10 ⁶	Water Vapor Permeability (perms) —grains/hr/sq ft/in. of mercury Transverse Strength (Wet), psi (modulus of rupture) Modulus of Elasticity (Wet), psi (From Transverse Test)	PRODUCED ⁵ JM - 83—
— — 28 avg	Compressive Strength (Normal), psi 3/8" thickness Tensile Strength (Normal), psi Brinnell Hardness No. (Dry)	14000 1400 25 avg
satisfactory	Freezing and Thawing Resistance	satisfactory

JOHNS-MANVILLE



22 EAST 40TH STREET, NEW YORK, N. Y. 10016

maintenance

men

walk

right

past

structures

built with

Johns-Manville

flat or

corrugated

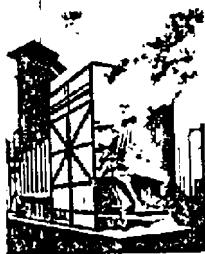
Transite®

asbestos

cement

sheets

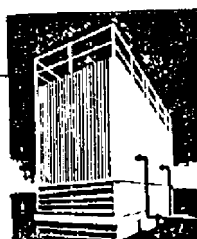
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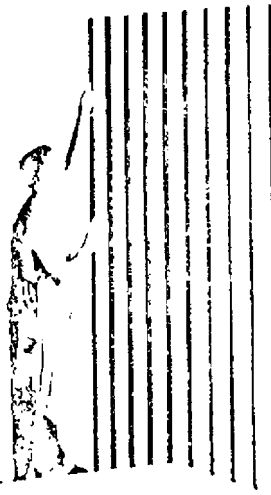
coke quenchers,
breechings



fume hoods,
ducts



cooling towers,
housings



—

Johns-Manville Industrial

Transite Structural Sheet Material

For more than thirty years J-M Transite — in both flat and corrugated sheet form — has been used widely for housings, cooling towers, fume hoods and ducts, baffles, drying ovens and countless other industrial applications. Made of portland cement bonded with tough asbestos fibers for greater tensile strength, and formed under tremendous pressure into dense, monolithic sheets, Transite possesses a host of valuable properties and advantages.

STRONG, FIREPROOF, SIMPLE TO USE

Transite is exceptionally strong and rigid, and so durable that replacement is rarely necessary. It is completely incombustible, makes an excellent fire barrier, and is unaffected by weather, moisture, and most corrosive elements found in industrial atmospheres. Transite comes in large, easily handled sheets. It may be

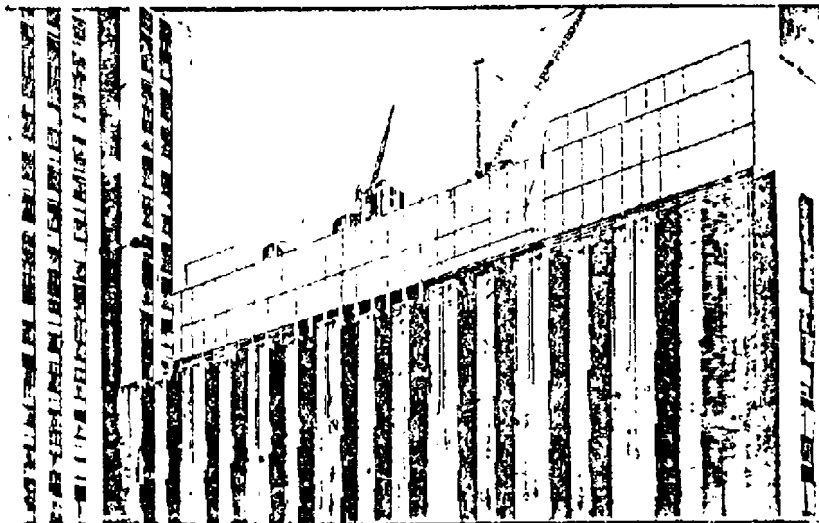
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RESISTS MOISTURE, HEAT, CORROSION

This coke quencher dramatically points up Transite's resistance to severe operating abuse. Many times daily carloads of coke, glowing at 1700F, are run into the quencher and deluged with cold water. Intense heat, cold water, and steam all impinge directly on the corrugated Transite walls of the quencher without effect. Transite is the only material to satisfactorily withstand such rigorous service.

STRONG AND ATTRACTIVE

High atop a midtown New York skyscraper, this Transite cooling tower provides the structural strength and rigidity to resist wind and weather. Transite's natural, stone-like finish takes a handsome addition to any building, requires no paint, and never needs protective painting.



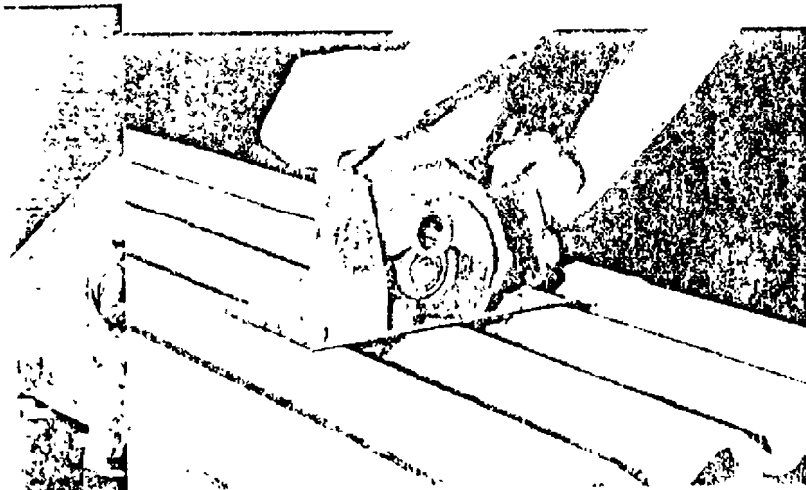
in the shop . . . on the job

is so simple to use!



SHEETS MAY BE DRILLED for the fastener bolts either by hand or with an electric drill. The latter method is more economical when large quantities of sheets are to be drilled.

NO SPECIAL TOOLS ARE REQUIRED to apply Flat or Corrugated Transite. However, where large quantities of this material are involved, greater speed is attained by using an electric saw instead of a hand saw. In such cases, a carborundum blade should be used.



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MADE IN CONVENIENT SIZES for easy handling and application, Transite sheets go up quickly and cover large areas with a minimum of framing. Once in place, Transite is practically maintenance free because it is waterproof and requires no paint or special treatment to preserve it.

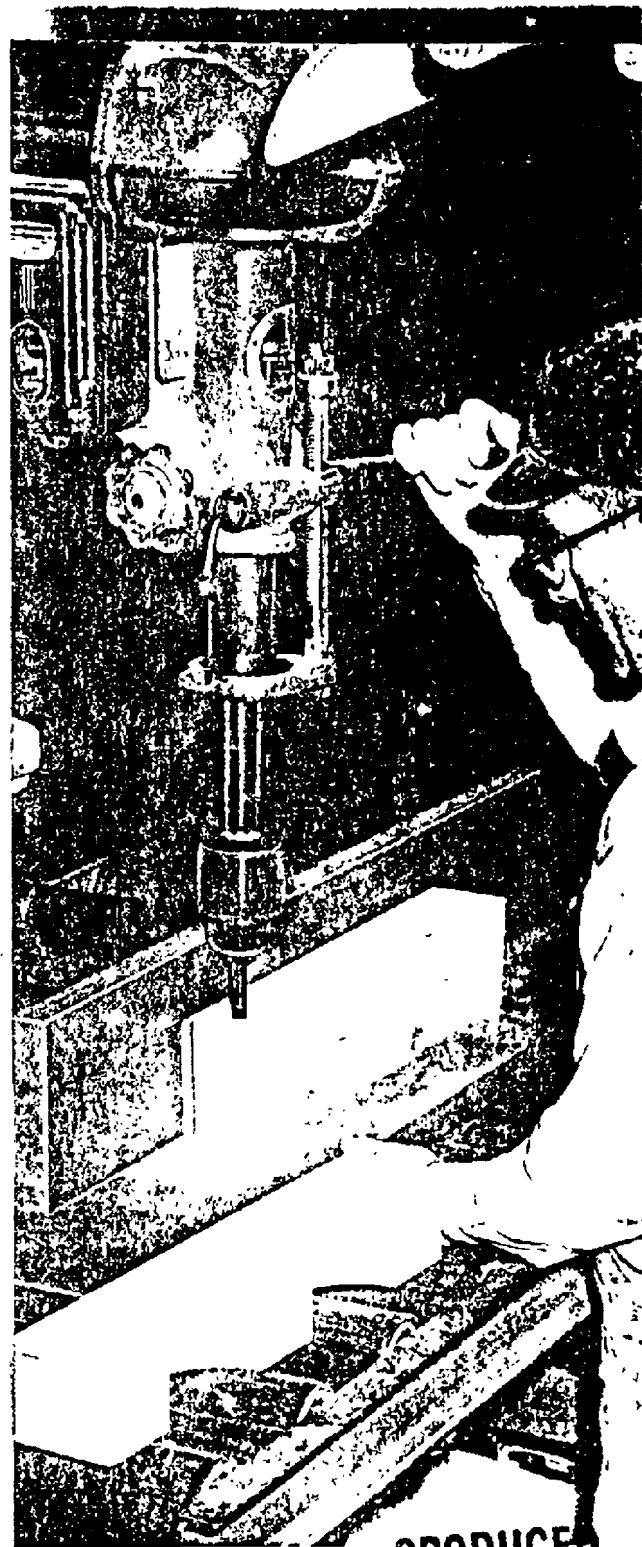
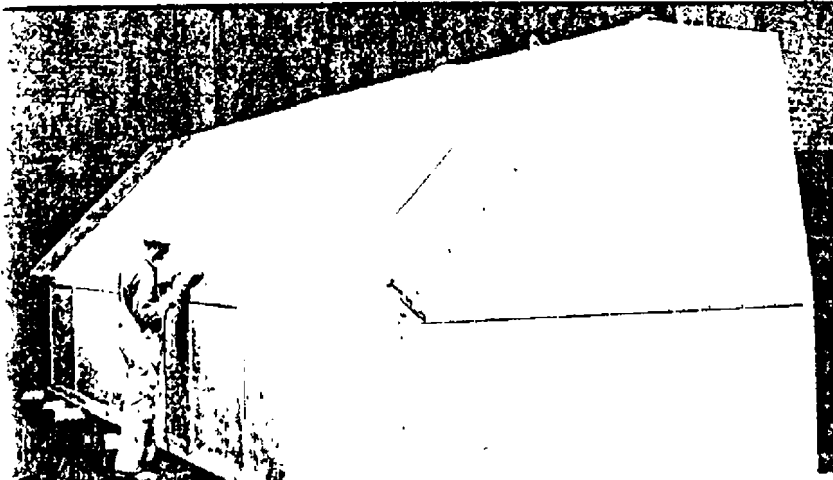
....per installation dollar

the original
asbestos-cement
sheet with the
reputation to maintain!

readily cut with hand or power saws equipped with a carbide-tipped saw or an abrasive wheel, drilled with steel-working drills, and applied directly to framing members with screws, bolts or mechanical fasteners.

ATTRACTIVE & MAINTENANCE FREE

A soft, natural gray color, Transite looks well anywhere, makes a handsome addition to any industrial setting. Cooling tower manufacturers, for example, use it extensively because it blends perfectly with modern architecture. Transite never requires preservative painting or coating under normal operating conditions, and will stand up for decades with practically no maintenance. Where color schemes make it advisable, Transite may be painted with any good quality alkali-resistant type paint.



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TOUGH, VERSATILE

The asbestos fibers used to bond the cement in Transite have the tensile strength of piano wire. This extra toughness greatly expands Transite's industrial usefulness. Here, for example, it is being fabricated into spacers to carry heavy power and telephone conduits along the underside of overpasses on a Chicago superhighway.

READILY FABRICATED BY PLANT LABOR

Equipped with a hand or power saw, a portable electric drill and mechanical fasteners, your own plant labor force can readily fabricate Transite sheets right on the job. Transite is unusually rugged and durable, yet remarkably easy to work.

Here are the properties that have made TRANSITE famous

Property	Value	
	Flat	Corrugated
Density (Dry), lb/cu ft minimum.	-	112
Up to 1/8" thickness	100	-
Over 1/8" thickness	95	-
Moisture Content (Normal), % of dry weight	5 to 13	-
Water Absorption, % of dry weight, maximum (After 48 hour immersion)	22	20
Transverse Strength (Dry), psi..... (Modulus of Rupture)	-	3000 (Wet)
1/4" thickness	4500	-
3/8" to 1/2" thickness	4000	-
Over 1/2" thickness	3500	-
Modulus of Elasticity (Dry), psi (From Transverse Test)	-	2.3 x 10 ⁶ (Wet)
1/4" thickness	2.1 x 10 ⁶	-
3/8" to 1/2" thickness	1.8 x 10 ⁶	-
Over 1/2" thickness	1.4 x 10 ⁶	-
Compressive Strength (Normal), psi:		
1/4" thickness	16000	-
3/8" to 1/2" thickness	14000	-
Over 1/2" thickness	12000	-
Tensile Strength (Normal), psi.....	1400	-

Property	Value	
	Flat	Corrugated
Charpy Impact Resistance (Normal), in lb (ASTM D256 S4T, Method B - 4" span, 5" x 1/2" x thickness - unnotched samples)		
1/4" thickness	2.9	-
1/2" thickness	5.6	-
Screw Holding Strength (Normal), lb/screw (Withdrawal load for Type A, No. 6-12 Sheet Metal Screws)		
1/4" penetration	430	-
1/2" penetration	1020	-
Complete penetration	-	480
Brinell Hardness H _B (Dry) (500 kg load, 10 mm ball, 10 sec)		
1/4" thickness	32	-
3/8" to 1/2" thickness	25	-
Over 1/2" thickness	20	-
At crowns	-	25
At flanks	-	30
Dimensional Change Due to Moisture, in/in		
Shrinkage - Normal to Dry	0.0020	0.0010
Expansion - Normal to 90% RH	0.0006	0.0004
Expansion - Dry to Saturated	0.0028	0.0016
Maximum Service Temperature, F	600	-
Thermal Conductivity, Btu in/sq ft/F/hr.	4.5	4.5

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Dimensional Tolerances of Full Sheets (inches)		
	Value	
	Flat	Corrugated
Length	-	+1/4, -0
Untrimmed and trued one side and one end	+1 1/2, -0	-
Trued four edges	±1/32	-
Width		
Untrimmed and trued one side and one end	+3/4, -0	-
Trued four edges	±1/32	-
Width of half corrugation on each edge	-	±0, -1/4
Thickness		
1/4" to 3/8" thickness	±3/64	-
Over 3/8" thickness	±1/16	-
At Crowns	-	0.360 to 0.500

DIMENSIONS	
Flat Sheets*—In sheet sizes of 42" x 48", 42" x 96", 48" x 48", and 48" x 96". All sizes are available in thicknesses of 1/4" through 4"	
Corrugated Sheets—The standard width is 42" (10 cor- rugations). The thickness is approximately 1/16" at the ridge and valley and approximately 3/16" on longest, for an average thickness of 1/8". The standard lengths are from 6" to 11' in increments of 6"	
*Unless order specifies that sheets are to be trimmed to nomi- nal size, they will be furnished untrimmed. Trimmed sheets have a tolerance of ±1/4" in length and width. Untrimmed sheets are up to 1/2" oversize in length and 3/4" oversize in width.	

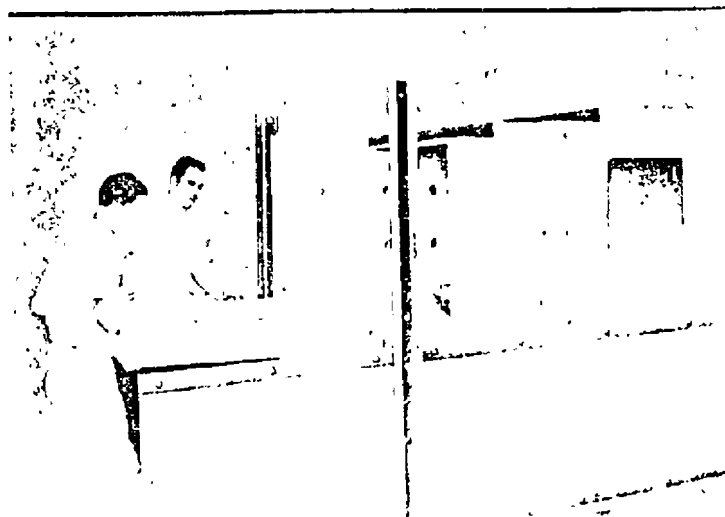
FROM SPECIALIZED PRODUCTS

TWO OUTSTANDING MEMBERS OF THE J-M BOARD PRODUCTS FAMILY

J-M MARINIT®

for the construction of ovens,
driers and other insulated housings

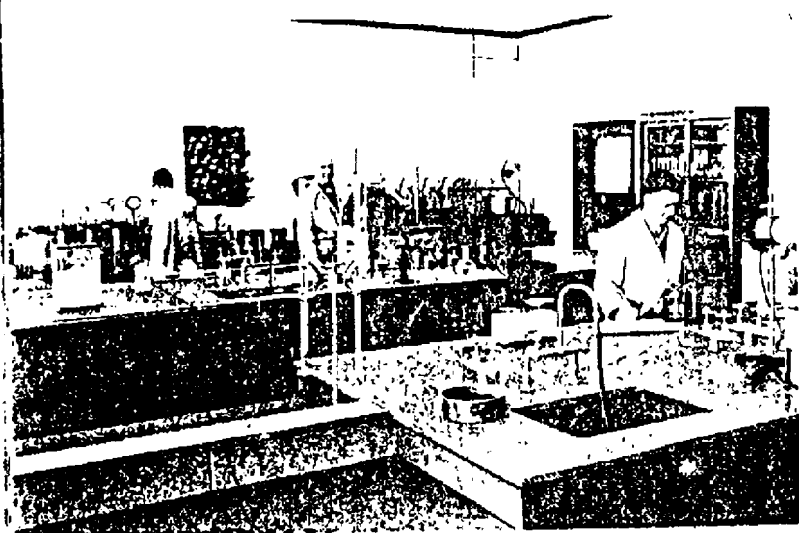
Johns-Manville Marinite is an insulating sheet material composed of asbestos fiber, diatomaceous silica and an inorganic binder. This fireproof material combines great structural strength with light weight and excellent thermal properties. It is completely non-corroding and is unaffected by water. Write for brochure IN-153A.



J-M COLORLITH®

for laboratory table tops, sinks,
hoods and work spaces

Johns-Manville Colorlith is a mixture of cement and carefully selected asbestos fibers integrally mixed with chemically resistant colorings and fillers. Subjected to enormous hydraulic pressure to form a dense, homogeneous sheet, Colorlith is highly resistant to most common acids and alkalis used in the laboratory. Write for brochure EL-62A.



Johns-Manville

General Headquarters: 22 East 40th Street, New York 16, New York

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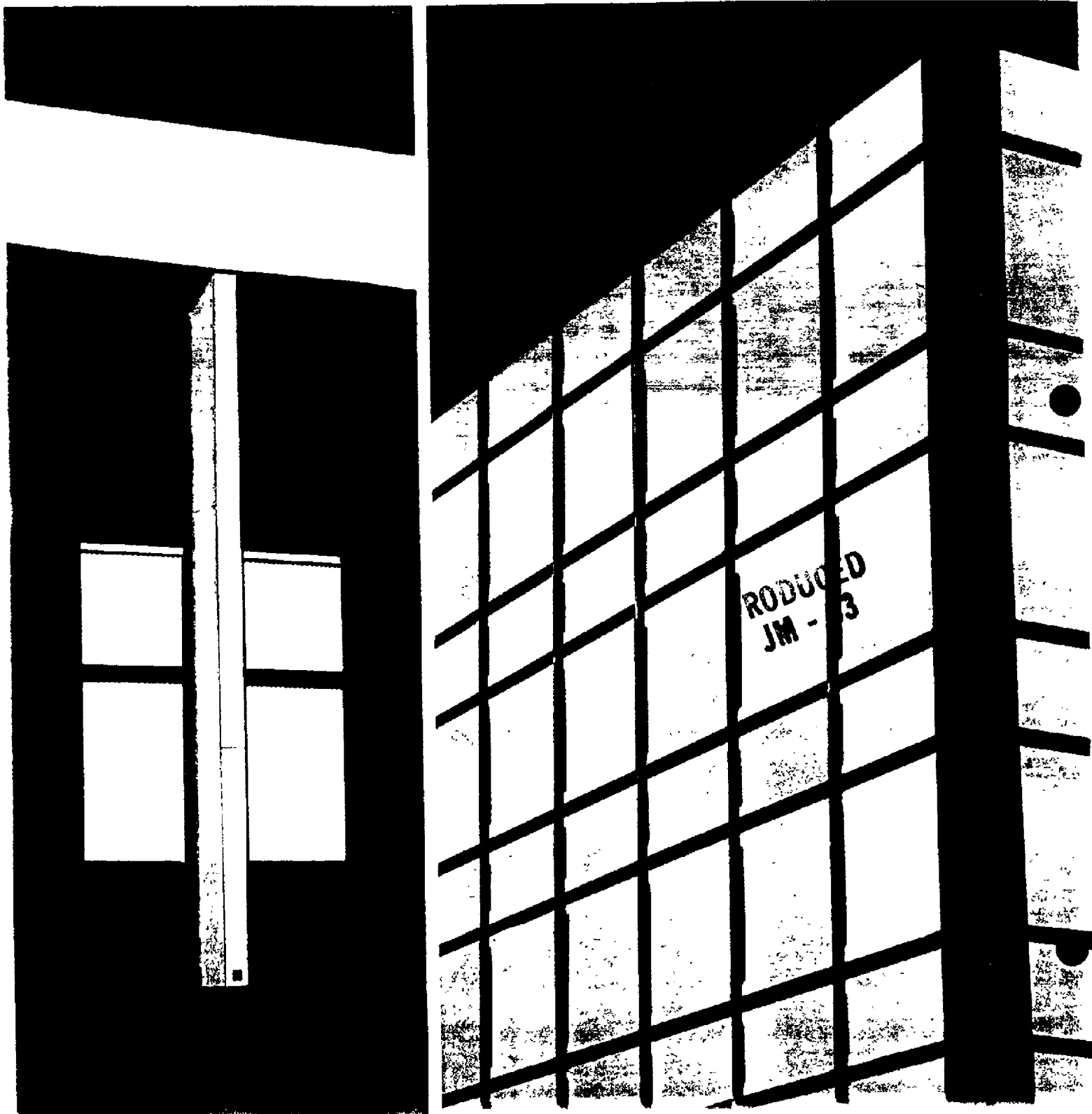
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Johns-Manville **JM**
FLAT TRANSITE®

Building Panels for Commerce
and Industry



Johns-Manville Flat Transite®



1. This coke-quencher indicates how well Flat Transite resists intense heat, cold water and steam without ill effects.

2. The Transite cooling tower on this New York skyscraper is handsome, requires no maintenance or protective painting.

3. Plant laborers equipped with portable hand or power tools can readily fabricate Transite sheets—right on the job.



Johns-Manville Flat Transite is a basic building material in panel form. It's made of two virtually indestructible materials—*asbestos fibers and portland cement*—combined under intense pressure into dense, monolithic sheets. The result is a panel that looks—and lasts—like stone, one that has many unique properties and advantages.

Transite is completely noncombustible. It makes an effective fire barrier, whether used for interior or exterior walls.

The rugged durability of Transite has been tested and proved under almost every conceivable condition. It is unaffected by extremes of temperature, will not rot, rust or mold when exposed to prolonged dampness. It will not powder, crack or chip, and it resists impact or denting.

Transite is furnished in large, easily handled sheets, so large areas can be covered quickly. It can be fabricated with standard metalworking tools, and applied directly to framing members with screws, bolts or mechanical fasteners.

Transite has a neutral gray color that is compatible with most other building materials. It requires practically no maintenance, and replacement is rarely necessary. The hard, smooth surface does not normally need painting or preservative treatment, but it can be painted if desired.

This rare combination of qualities has established J-M Transite as one of the most versatile of all building materials. Pleasing enough in appearance to be used as a facing for entire industrial and commercial buildings. Tough enough to be used for coke quenchers and cooling towers. So simple for plant labor to fabricate—right on the job—that it is widely used for kilns, fume hoods, bench and counter tops, ovens and hundreds of other special constructions. So efficient and economical a material that, every day, more and more builders rely upon Transite to solve the tough problems!

Flat Transite is so versatile that it is practical for scores of uses. Here are just a few of many:

- Animal Stalls*
- Air Shafts*
- Barriers and Baffles*
- Baking Ovens*
- Burial Vaults*
- Bulkheads*
- Cooling Towers*
- Chutes*
- Conduits*
- Dry Kilns*
- Drying Towers*
- Dust Collectors*
- Ducts*
- Farm Buildings*
- Fume Hood Liners, Ducts*
- Fire Barriers*
- Fumigation Chambers*
- Feed Bins*
- Fire Walls and Stops*
- Fuel Hoppers*
- Grain Bins*
- Greenhouses*
- Heat Shields*
- Linings for Tanks*
- Machine Guards*
- Protective Coverings for Marinite Ovens*
- Pallets*
- Sandblasted Panels*
- Spray Paint Booths*
- Smoke Houses*
- Storage Bins*
- Table Tops*
- Toilet Partitions*
- Water Treating Equipment*
- Welding Table Tops*

MAXIMUM SPANS FOR FLAT TRANSITE SHEETS using a design load of 30 psf and a factor of safety of 3.

THICKNESS	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"
HORIZONTAL SPAN	18"	24"	27"	36"	45"	54"	72"
VERTICAL SPAN	18"	24"	30"	39"	48"	60"	78"

(Weight of the Transite sheet has been considered in establishing horizontal spans.)

J-M Flat Transite®/Product Description

Materials: Flat Transite is a monolithic sheet composed of portland cement and asbestos fibers combined under high pressure

Flat Transite is noncombustible

The materials used to manufacture Flat Transite are among the most enduring building materials ever developed. They actually become stronger and tougher with age, require no preservative treatment.

Flat Transite will not rot or rust. It resists vermin.

Basic Use: Flat Transite is a building panel for exterior and interior use—flame barriers, oven walls, fume hood ducts, etc. It is especially suited for areas of high temperature and humidity where wood and metal will rot or corrode.

Surface Burning Characteristics ASTM-E-84:

Flame Spread 0
Fuel Contributed 0
Smoke Developed 0

Limitations: Although rigid and strong, Flat Transite panels should not be subjected to bearing loads. Flat Transite has satisfactory resistance to freezing and thawing, but should not be used where exposed to alternate freezing and thawing cycles in the presence of de-icing chemicals, such as calcium chloride or sodium chloride or where subject to alternate wetting and drying in the presence of soluble salts.

In the presence of certain other chemical reagents, suitable impregnants or coatings should be used to provide satisfactory and economical service. No material or coating is immune from attack, marking, or discoloration from all chemicals. Where it is essential that appearance be maintained, Transite should have a protective coating.

Advantages: Flat Transite panels are noncombustible and will not rot or rust. They will

withstand high temperature without cracking or buckling and they require no preservative treatment under normal conditions.

Sizes: 48" wide
48" and 96" standard length,
Available in thicknesses of 1/4"
through 2"

Colors: Natural Gray of asbestos cement

Standards: Flat Transite panels meet Federal Specifications SS-B-755a

TECHNICAL DATA

Density (Dry), lb/cu ft	min 100
Moisture Content (Normal), % of dry weight	5 to 13
Water Absorption, % of dry weight, maximum (After 48 hour immersion)	22
Transverse Strength (Dry), psi (Modulus of Rupture)	4000
Modulus of Elasticity (Dry), psi (From Transverse Test)	1.5 x 10 ⁶
Compressive Strength (Normal), psi	12000
Tensile Strength (Normal), psi	1400
Shear Strength (Normal), psi	3500
Screw Holding Strength (Normal), lb/screw (Withdrawal load for Type A, No. 6-12 Sheet Metal Screws)	
1/4" penetration	430
3/4" penetration	1020
Brinell Hardness No. (Dry) (500 kg. load, 10 mm ball, 10 sec)	25
Moisture Expansion, 1/in	
Normal to 90% RH	0.0007
Normal to Saturated	0.0012
Thermal Expansion, 1/in/F (Avg over range of temp up to 400 F)	5.0 x 10 ⁻⁴
Maximum Service Temperature, F	600

Thermal Conductivity, BTU/in/sq ft/F/hr., .45

*The figures given are average values (unless otherwise specified) obtained in accordance with accepted test methods. Strength figures must be modified by applying adequate factors of safety to arrive at working values. "Dry" refers to oven-dried samples, "Normal" to normal conditions of 75F and 50% RH.

INSTALLATION

Flat Transite panels are adaptable to all conventional systems of erection. They can be framed, battened, screwed and clipped. Cutting and Drilling: the preferred method of field cutting is to use a plastic-reinforced abrasive blade at a speed of 5000 rpm or follow recommendations of manufacturer of power saw. For drilling, use standard twist drills, preferably carbide tipped.

AVAILABILITY

Flat Transite panels are available in all 50 states through established distributors. These distributors are equipped to supply Flat Transite in full size or cut panels ready for installation. Additional information for unique or special requirements is available through conveniently located Johns-Manville offices.

MAINTENANCE

The natural gray color of Flat Transite may lighten uniformly with time and no special maintenance is required.

TECHNICAL SERVICE

Qualified representatives are located at Johns-Manville District Offices in major cities throughout the country. Their exact locations may be obtained from Johns-Manville Sales Representatives, approved distributors or by calling Johns-Manville in New York City, Area Code 212-532-7600.

Brief Specifications

Material shall be Flat Transite composed of portland cement and asbestos fibers pressed into monolithic panels as manufactured by Johns-Manville. The panels shall be homogeneous and free from stratifications. They shall be

furnished 1/4" through 2" (specify one) in thickness, 4' in width and 4' or 8' in length (specify one). Flat Transite panels shall be noncombustible in composition and natural gray in color.

NOTE: Transite® is a registered J-M trademark for a quality asbestos cement product. All asbestos sheets are not Transite.

PRODUCED
JM - 83

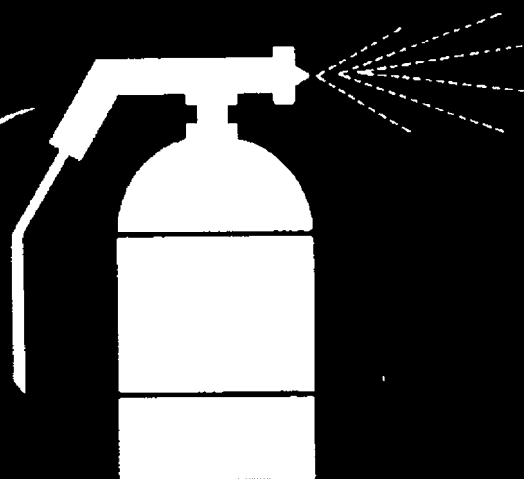
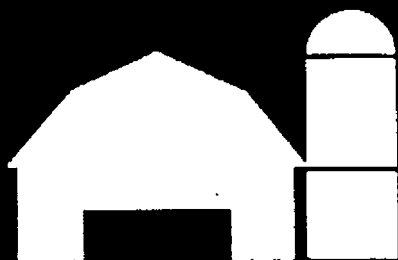
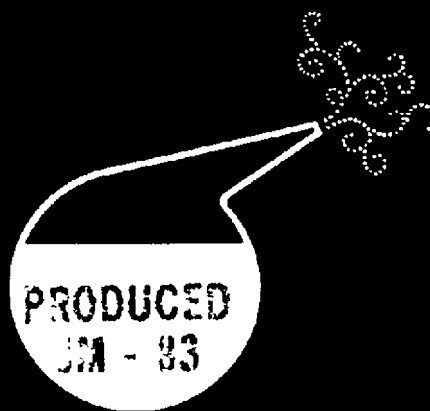


Johns-Manville

22 East 40th Street • New York, N. Y. 10016

Sales Offices in Principal Cities

FLAT TRANSITE™



Johns-Manville Flat Transite is made of wire-tough mineral fibers and portland cement combined, under intense pressure, into a dense, monolithic sheet. This action produces a basic building material that looks—and lasts—like stone.

Because it's formed of noncombustible materials, Flat Transite won't burn, resists high temperatures without cracking or buckling. It is unaffected by time and weather. It won't rot, rust, dent, powder or mold. It resists the action of most corrosive elements found in industrial atmospheres.

And, because it has all of these advantages—is a virtually indestructible material furnished in easily-

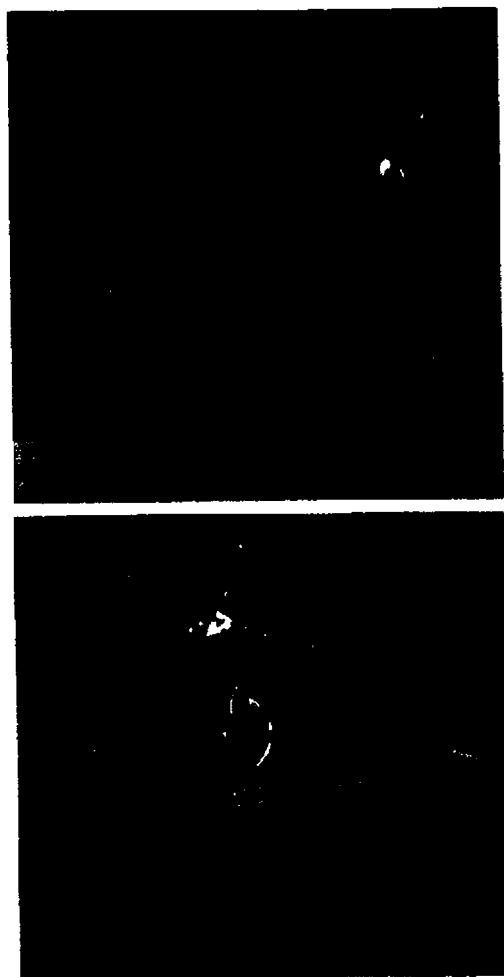
handled, easy to fabricate sheet form, J-M Flat Transite has long been recognized as one of the most versatile and economical of all building materials. It has been used for a wide range of interior and exterior applications in commercial and industrial buildings.

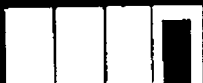
Since Flat Transite requires no protective painting, practically no maintenance or replacement, most of these applications are giving excellent service today.

But the ability to cover large areas efficiently is just one asset of this amazing material. Because it offers the protection of a fire wall, the durability of stone, it is the ideal material for hundreds of special constructions. And practical as well:

Flat Transite is offered in convenient sizes for easy handling and application. The large sheets go up with a minimum of framing. Its hard, smooth surface needs no painting to protect it, but can be painted if desired.

No special tools are required to fabricate Flat Transite. It can be cut or drilled with standard metalworking tools, applied directly to framing members with screws, bolts or mechanical fasteners.





J-M Flat Transite®/Product Description

Materials: Flat Transite is a monolithic sheet composed of portland cement and mineral fibers combined under high pressure.

Flat Transite is noncombustible.

The materials used to manufacture Flat Transite are among the most enduring building materials ever developed. They actually become stronger and tougher with age, require no preservative treatment.

Flat Transite will not rot or rust. It resists vermin.

Basic Use: Flat Transite is a building panel for exterior and interior use—flame barriers, oven walls, fume hood ducts, etc. It is especially suited for areas of high temperature and humidity where wood and metal will rot or corrode.

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Smoke Developed	0

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AVAILABILITY

Flat Transite panels are available in all 50 states through established distributors. These distributors are equipped to supply Flat Transite in full size or cut panels ready for installation. Additional information for unique or special requirements is available through conveniently located Johns-Manville offices.

MAINTENANCE

The natural gray color of Flat Transite may lighten uniformly with time and no special maintenance is required.

TECHNICAL SERVICE

Qualified representatives are located at Johns-Manville District Offices in major cities throughout the country. Their exact locations may be obtained from Johns-Manville Sales Representatives, approved distributors or by calling Johns-Manville in Denver, Colorado, Area Code 303-770-1000.

Brief Specifications

Material shall be Flat Transite composed of portland cement and asbestos fibers pressed into monolithic panels as manufactured by Johns-Manville. The panels shall be homogeneous and free from stratifications. They shall be

furnished 1/4" through 2" (specify one) in thickness, 4' in width and 4' or 8' in length (specify one). Flat Transite panels shall be noncombustible in composition and natural gray in color.

NOTE: Transite® is a registered J-M trademark for a quality asbestos cement product. All asbestos sheets are not Transite.

The physical properties contained in this brochure on Johns-Manville Flat Transite represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Check the Johns-Manville District Office to assure current information.



Johns-Manville

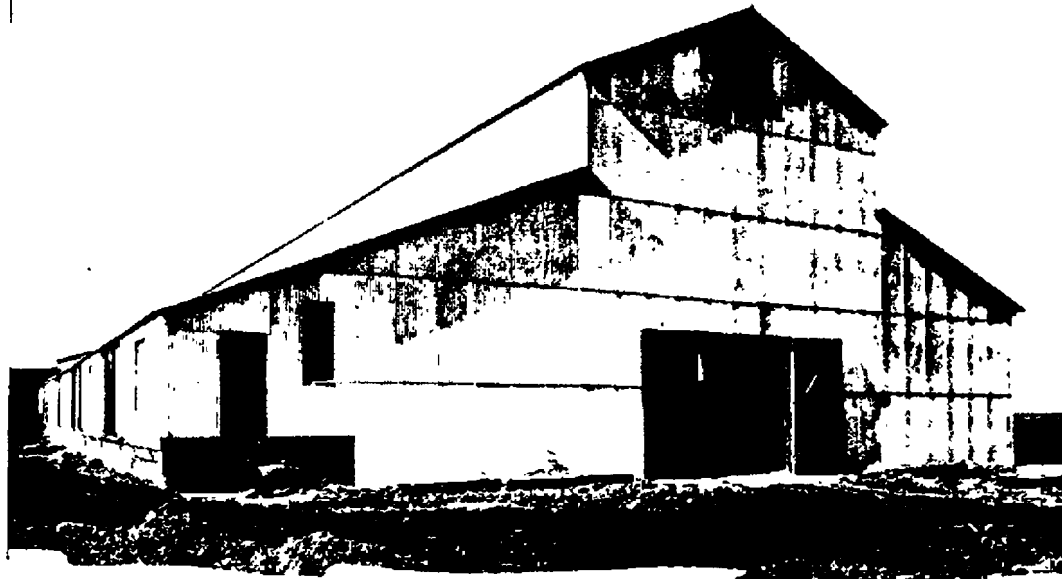
Greenwood Plaza • Denver, Colorado 80217

Sales Offices in Principal Cities

For Information on other J-M Products and Systems call Product Information Center at (303) 770-1000 Ext. 2745



Johns-Manville Service to Industry



An installation for M. L. Shoemaker, Philadelphia, Pa. Note the neat gray finish and the continuous horizontal and vertical lines made possible by the special cut corner construction.

Johns-Manville Transite Corrugated Asbestos Roofing and Siding

A PARTICULARLY economical, durable and fireproof roofing and siding for application directly over purlins or girts in skeleton frame construction, or over wood sheathing.

A material that will not rot, rust or burn; that never needs paint; that is immune to alkalies, gas fumes and most acids. A rigid, corrugated slab of mineral that actually grows tougher with age.

Made of Asbestos fibres and Portland cement molded under great hydraulic pressure into dense, tough, structurally

strong sheets of solid mineral. It is ideal for many conditions, particularly on low buildings over boilers and where sustained high temperatures or condensation and corrosive fumes make the use of ordinary corrugated roofing impractical and expensive. Transite Corrugated does not warp, crack or peel. It is unaffected by temperature differences. It is practically indestructible and this fact assures the longest, most economical and satisfactory service.

Can be used on Spans up to 45 inches

Because of its unusual strength, Transite Corrugated Asbestos Roofing and Siding can be laid on spans up to 45" directly on the purlins or girts. Our en-

gineers may be able to help in making a substantial saving of structural steel where a building has not yet been erected.



Economically, Quickly and Easily Applied

Johns - Manville Transite Corrugated Asbestos Roofing and Siding has none of the disadvantages of metal roofing, which is always liable to rust or corrode and allow water to drip in on valuable stock or machinery.

The history of a metal roof is one of expense for constant painting and patching and oftentimes, replacement. When once erected the metal sheathing cannot be painted between the laps, under flashings, or on the underside where it rests over the purlins or girts. It is at these vital points that rust starts. The metal becomes thinner and thinner and finally gets beyond repair.

The history of Transite Corrugated Asbestos Roofing and Siding, on the other hand, is one of long life, low cost and minimum upkeep expense. It never needs paint or other protection to help it keep

its original structural strength—in fact it actually grows tougher with age.

Johns - Manville Transite Corrugated Asbestos Roofing and Siding requires no special tools for application and can be installed as rapidly and in the same general way as other corrugated material. It can be readily sawed, punched or drilled and fastened with bolts, nails or screws, as shown on page 138.

The extra width of the sheets in which this material is furnished requires the handling of fewer sheets and the making of fewer laps, thus permitting a substantial saving in labor and materials as compared with ordinary corrugated roofing.

Johns - Manville Corrugated Asbestos Roofing and Siding presents a clean, neat, gray finish which lends an attractive appearance to the building.

Where Used

Recommended for use on engine houses, boiler houses, chemical and fertilizer plants, warehouses, piers, coal bunkers, hangars, oil houses, elevators, heating plants, garages, car barns, train sheds, awnings and sheds over loading platforms, bridges between buildings, covered

bridges over tracks, or any place where roofing or siding of this type can be used.

On sawtooth roof construction it provides a maximum of light reflection into the interior of the building in addition to durability and economy.

Transite Corrugated Asbestos Roofing and Siding is made of these two indestructible minerals—**asbestos rock fibre** and **Portland cement**—combined under great hydraulic pressure. That's why it's so everlastingly durable.





LIBRARY
May 1938
Johns-Manville Service to Industry



Cut Corner Construction —A Feature

A feature of this material is the manner in which sheets are butted and lapped at the corners, which is provided for by special cut corner construction. These cut corners eliminate a thickness of material where the four sheets come together in the corner lap, thus allowing the sheets to nest perfectly at these points, permitting them to be laid with laps forming continuous horizontal and vertical lines. This improves the appearance and eliminates cutting of sheets at one end of the building. The inside and outside radii of the corrugations are the same, thereby allowing the sheets to nest perfectly at all laps.

All of the foregoing features provide a more weathertight, watertight and better looking job than is possible with any similar type of roofing.

Our engineers will be glad to go over plans and discuss the use of Transite Corrugated for new buildings, or for the replacement of roofing and siding on buildings already in service.

How Furnished

Johns-Manville Transite Corrugated Asbestos Roofing and Siding is furnished in sheets 42" wide,

Bevel Cut Corners of Transite Corrugated Asbestos Roofing



1. Corner drawn apart. Extra thickness is avoided by butting the two bevel corners instead of lapping.



2. Upper bevel sheet moved into place. When remaining top sheet is in position, there are no crevices for the weather to enter.



3. Complete corner. Note the vertical as well as horizontal laps form continuous straight lines, a better looking job than the customary staggered vertical lap.

and in standard lengths of 4, 5, 6, 7 and 8 ft. Sheets can be furnished, on special order, cut to any desired length possible from the above mentioned standard sizes. Comes in two thicknesses, approximately $\frac{1}{4}$ " and $\frac{1}{2}$ ". This material is smooth on the weather side, the other side being slightly pebbled.

Special Curved Sheets

Where it is desired to use curved sheets, they can be furnished, on special order, curved at the factory with the following limitations; sheets may be curved longitudinally, the arc being formed along the direction of the corrugations. Minimum radius when so curved 48".

Sheets may be curved crosswise, the arc being formed across the corrugations. Minimum radius when so curved 12". Sheets may be curved either way but not in combination.

The same materials that are used in forming the corrugated sheet are moulded at the factory into special standard shapes to be used as ridge roll, corner roll, louvres and ventilators; see pages 138, 139 and 175. Flat sheets can be furnished as described on page 170. All of the above mentioned materials are particularly designed to be used in connection with the corrugated material, but can also be used independently.

Specially designed Johns-Manville fasteners should be used in the erection of this material.

This material may be laid on roofs pitched 2" to the foot and over. Where pitches are from 2" to 4" to the foot, Johns-

Manville Asbestos Roof Putty is to be used in all laps. Where pitch is over 4" to the foot this precaution is not necessary unless extraordinary service conditions demand it.

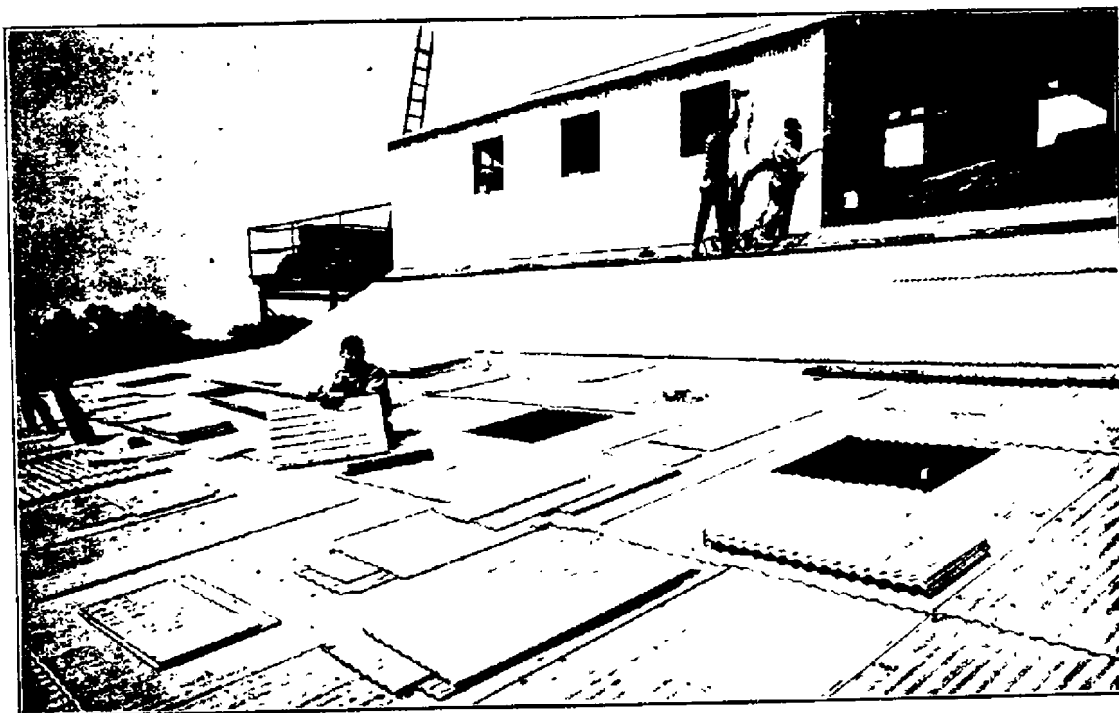
A Tested and Proved Material

Asbestos is a mineral that withstands all the destructive forces of nature. Portland cement is used universally in building for permanence. These materials combined in Transite Corrugated Asbestos Roofing and Siding, make the ideal material for skeleton frame construction.

This product is simply a different form of a time-tested material. It is the same as Johns-Manville Transite Asbestos Wood

which has been used in railroad and industrial construction over a period of many years as fireproof roofing and siding, partitions, walls, ceilings, in fact, anywhere a fireproof and durable material is needed.

This tested and proved material is corrugated to give greater strength thus allowing for its use as roofing and siding over widely spaced purlins.



This building of the Iowa Southern Utilities Company, Centerville, Iowa, will be free from roof troubles practically as long as the structure stands. The natural gray surface of this Transite Corrugated Asbestos Roofing never needs paint or other protective coating. David F. Fisher & Co., Engineers.



Johns-Manville Service to Industry



Standard Specifications for the Application of Johns-Manville Transite Corrugated Asbestos Roofing and Siding

ROOFING AND SIDING

Where shown on plans, the roofs and sides of building shall be covered with Johns-Manville Transite Corrugated Asbestos Roofing and Siding as manufactured by Johns-Manville Inc. The material to be of a dense, homogeneous construction, weighing approximately 3.5 lbs. per square foot, and to be approximately $\frac{5}{16}$ " thick at ridge and valley of corrugations and approximately $\frac{1}{4}$ " thick on slope.

When $\frac{1}{2}$ " material is to be specified cross out above data on weight and thicknesses ONLY and substitute the following:

Weighing approximately 7 lbs. per square foot, and to be approximately $\frac{5}{16}$ " thick at ridge and valley of corrugations and approximately $\frac{1}{2}$ " on slope.

Sheets shall be 42" wide and of suitable length so that all end-laps shall occur over a purlin or girt. Sheets shall be furnished with cut corners

enabling material to be laid with side laps forming vertical lines.

Sheets shall be laid with 6" end-lap and two corrugations side lap.

FLASHING (AND BUILDING TRIM)

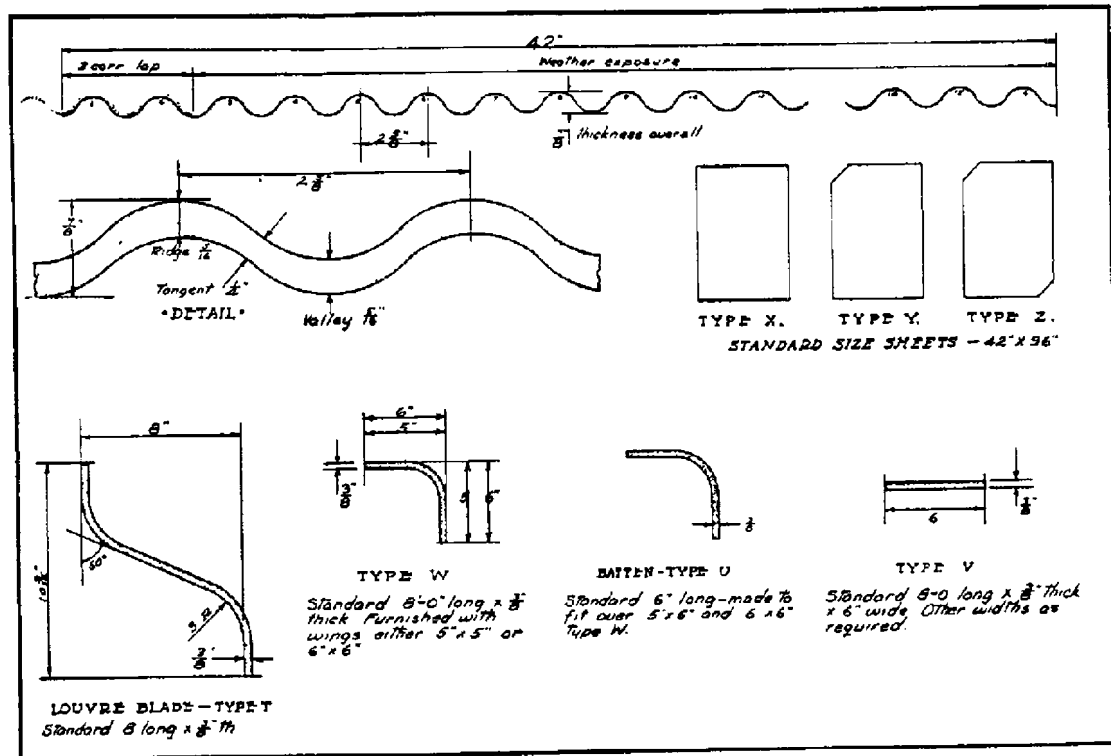
Where shown or indicated on plans Ridge Roll, Corner Roll, Louvers and Flashing to be of the same material as the roofing and siding. All other flashing to be of 4 lb. Sheet Lead.

FASTENERS

Johns-Manville Standard sheradized or galvanized Fasteners shall be used. Heads of all fasteners on weather side of building shall be protected with Johns-Manville Asbestos Roof Putty.

METHOD OF APPLICATION

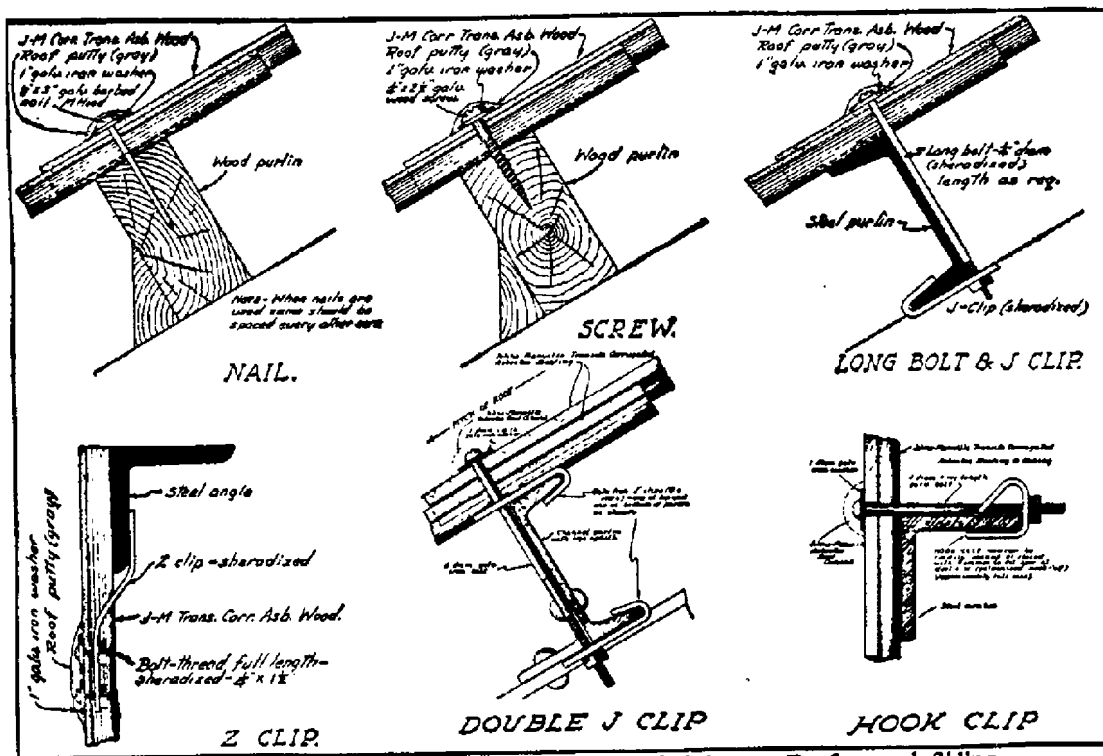
The method of application shall be in strict accordance with the manufacturer's standard erection instructions.



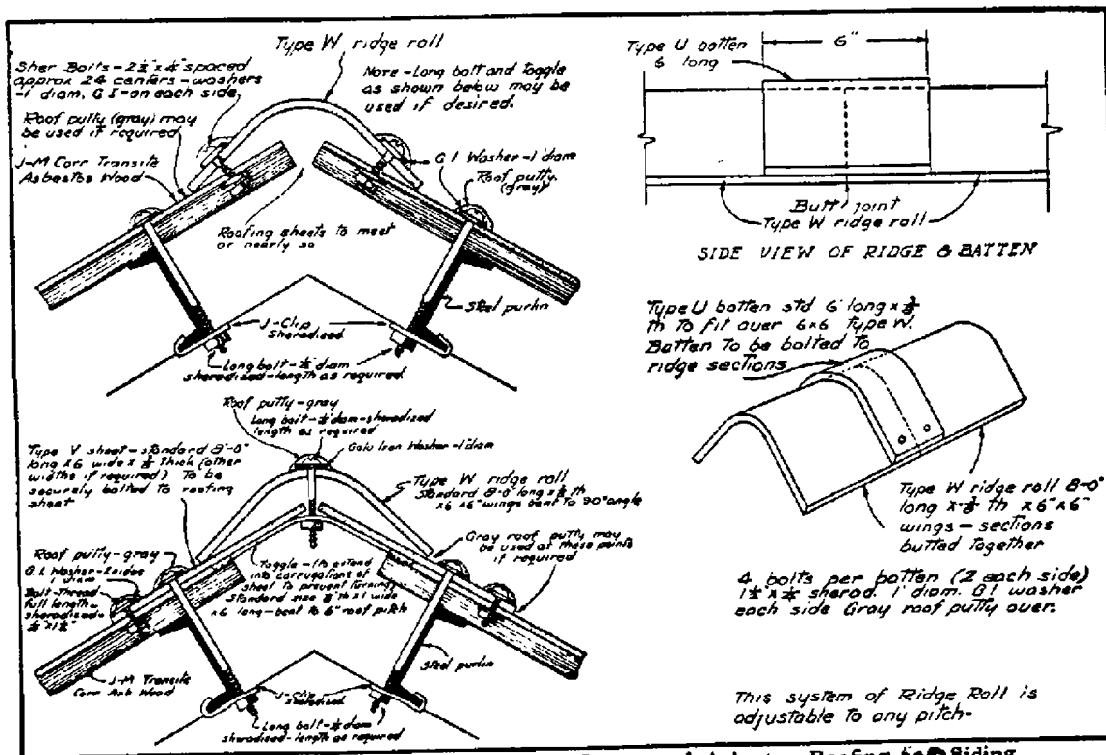
Types of Johns-Manville Transite Corrugated Asbestos Roofing and Siding, ($\frac{1}{4}$ " thick)
Louvers, Ridge Roll, etc.—Drawing AW-1.



Johns-Manville Service to Industry



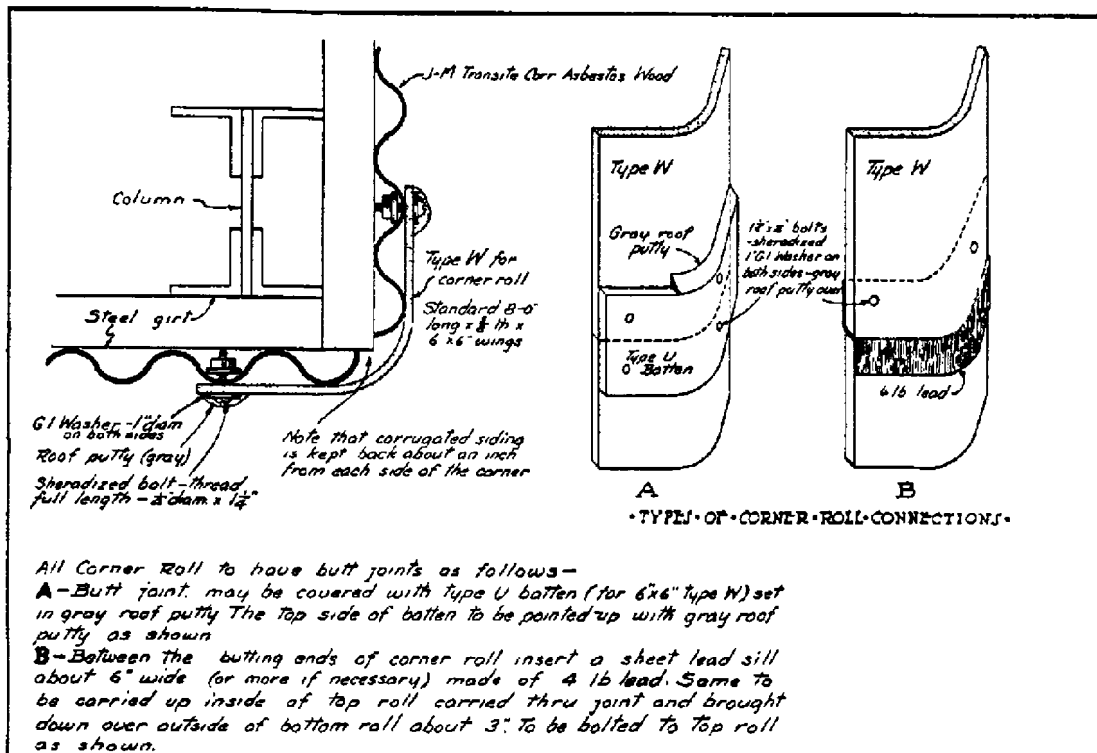
Fasteners for Johns-Manville Transite Corrugated Asbestos Roofing and Siding.
Drawing AW-2.



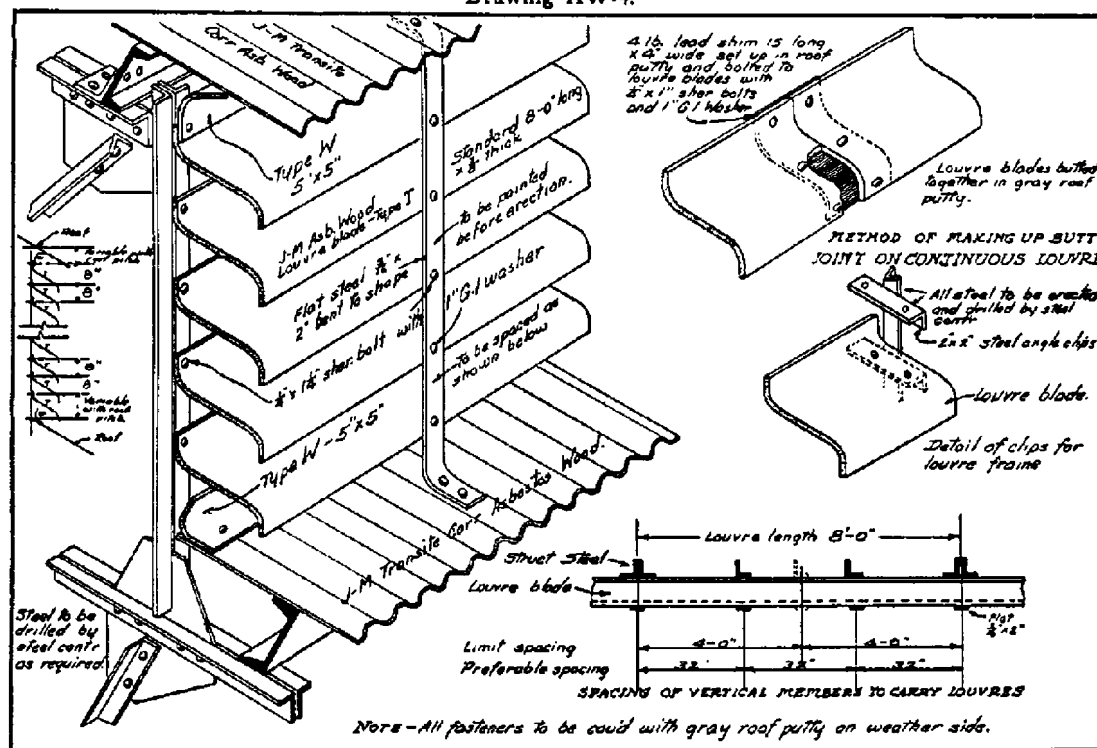
Ridge Roll for Johns-Manville Transite Corrugated Asbestos Roofing and Siding.
Drawing AW-3.



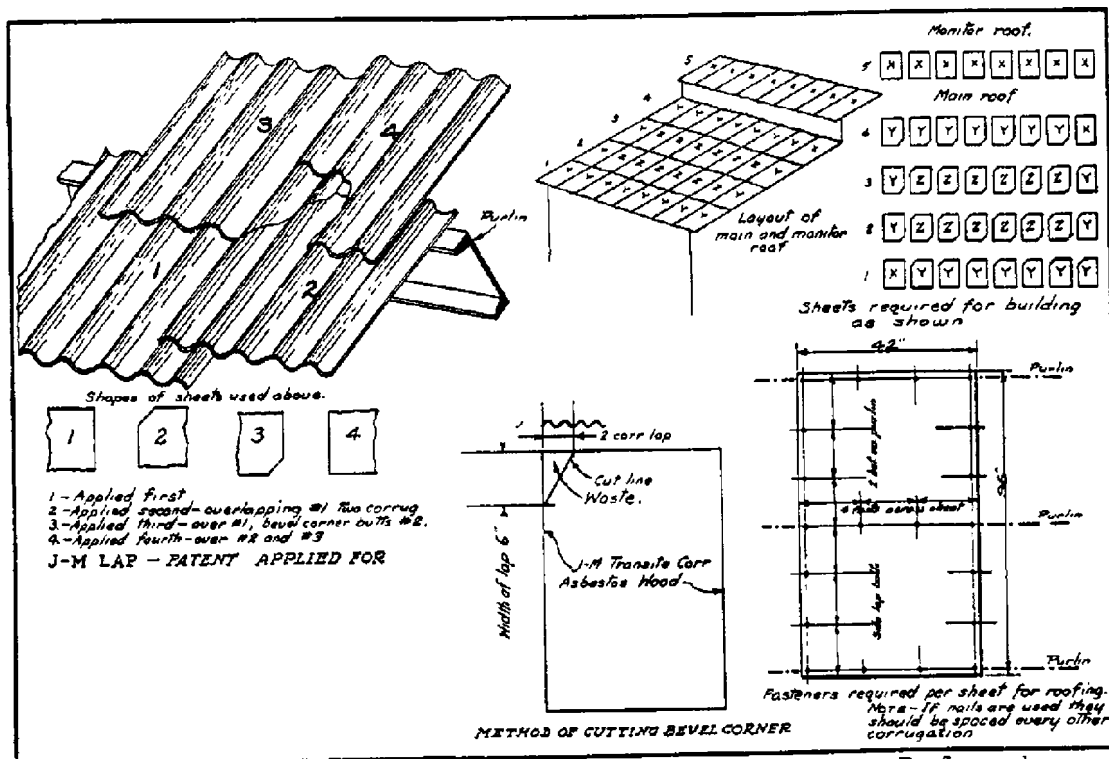
Johns-Manville Service to Industry



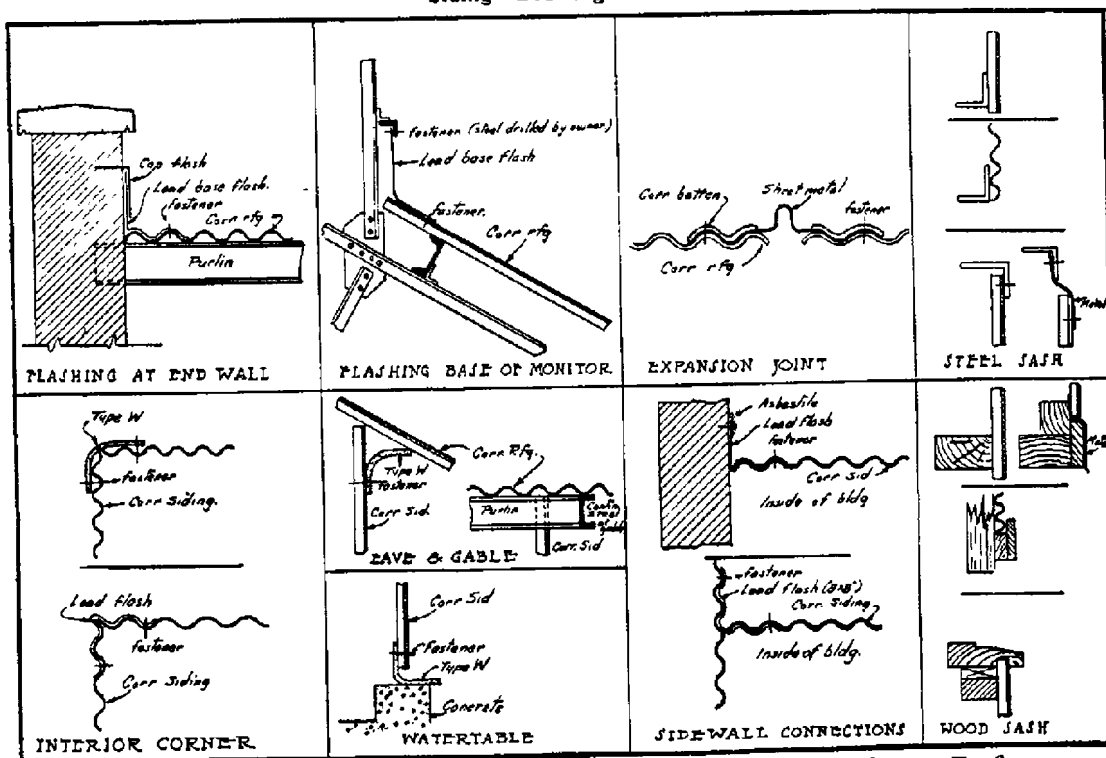
Corner Roll for Johns-Manville Transite Corrugated Asbestos Roofing and Siding.
Drawing AW-4.



Louvres for Johns-Manville Transite Corrugated Asbestos Roofing and Siding.
Drawing AW-5.



Details of Application of Johns-Manville Transite Corrugated Asbestos Roofing and Siding—Drawing AW-6.



Flashing in connection with Johns-Manville Transite Corrugated Asbestos Roofing and Siding—Drawing AW-7.