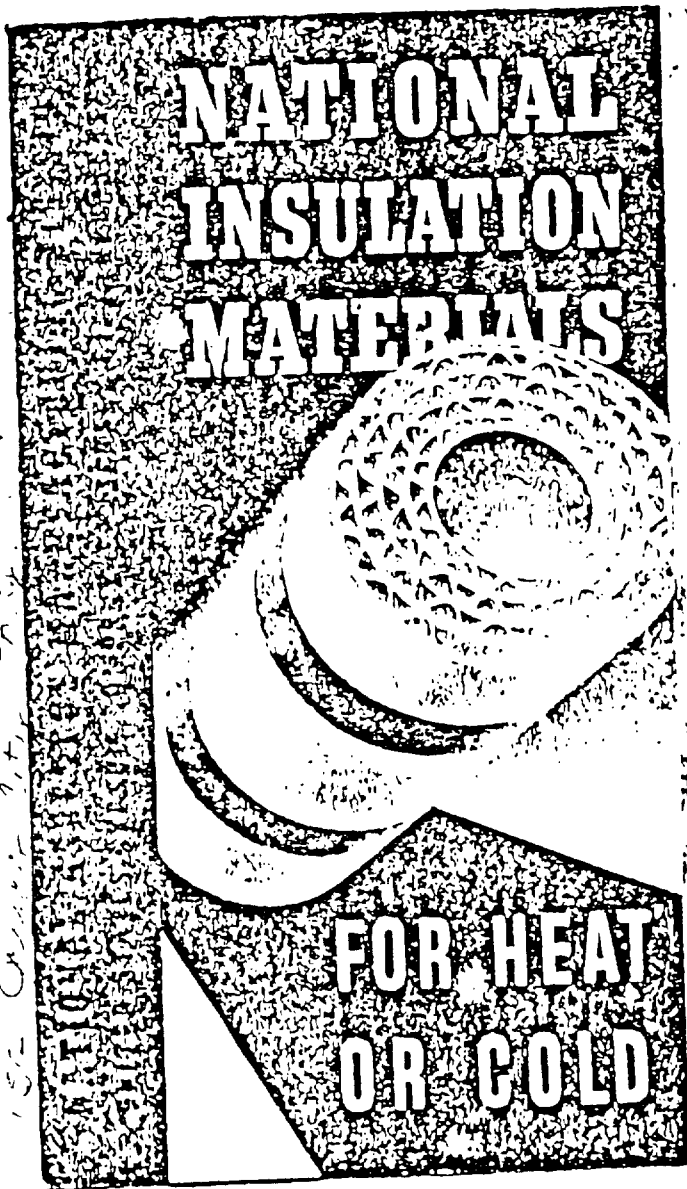


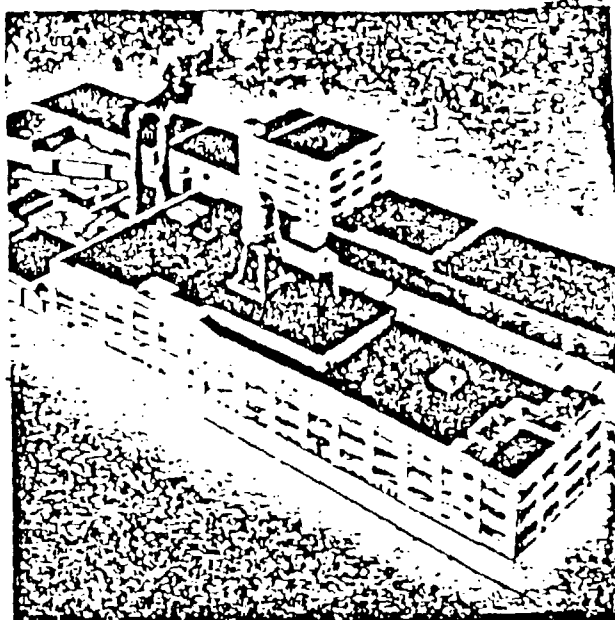
pipe covering

1936

*National Insulation Corporation
1520 Connecticut Avenue, N.W.
Washington, D.C.*



GP029 1838



UNITED STATES GYPSUM COMPANY'S
NATIONAL ASBESTOS PLANT
JERSEY CITY, N. J.

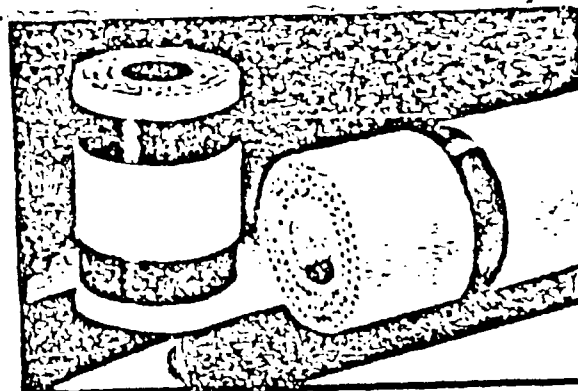
Quality in Every Product

National Asbestos Products are made in a modern plant equipped to provide the utmost in insulation efficiency. Careful research and scientific methods of control enable us to offer the finest quality in every product at a reasonable cost to the user.

National Insulation Materials are backed by years of experience in the Asbestos Insulation field. Their production is now further benefited by the vast experience of the United States Gypsum Company in the Building Materials field.

[PAGE TWO]

AP-20 COPY 2 BHT 1936 UNITED STATES GYPSUM CO. EN 9-36



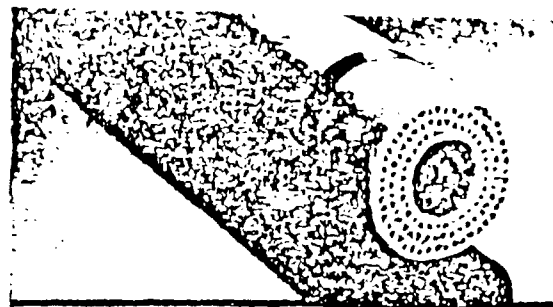
Jacketless ASBESTOS PIPE COVERING

FOR STEAM AND HOT
WATER INSULATION

A well made, sturdy insulation for low pressure steam and hot water pipes that costs no more than canvas jacketed covering and can be applied in two-thirds less time (See page 18). It has a clean, white smooth appearance, is shrinkproof and crackproof, and its finish is washable.

This round, air cell insulation is clean and easy to handle. There is no paste to be prepared and applied to canvas flaps. You simply open the sections, put them on the pipe, insert the staple, and apply the bands. An advancement in pipe covering manufacture that provides greater efficiency and economy and a much neater appearance.

[PAGE THREE]



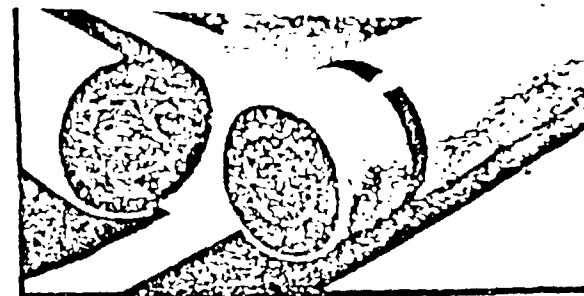
Super Air Cell ASBESTOS PIPE COVERING

FOR STEAM AND HOT
WATER INSULATION

National Super Air Cell is used for hot water and low pressure steam pipe insulation. It is made with full quarter-inch corrugations from strong asbestos paper, firmly bonded together, and has an additional wrapping of asbestos paper, covered with a canvas jacket. Brass lacquered bands provide a finished appearance.

Super Air Cell is light in weight, strong, and uniformly round. It can be sawed without separating the corrugations, and it can be removed and used again on other pipes. Has a white, smooth appearance and does not shrink. Four-ply or 1" thick Super Air Cell covering can be used effectively for temperatures up to 350° F.

[PAGE FOUR]



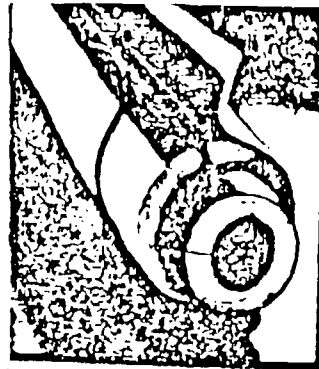
Wool Felt PIPE COVERING

National Wool Felt Pipe Covering is made with layers of creped wool felt, having an inner liner of asphalt saturated asbestos paper, permitting its use on either hot or cold water lines.

Wool Felt Sectional Covering used on hot water service lines prevents water from cooling on its way from heater to faucet and retards loss of heat from water standing in the lines. Cold water lines covered with Wool Felt Sectional Covering are not affected by warm air surrounding them. National Wool Felt Pipe Covering may also be used to prevent sweating under mild conditions.

An asbestos paper lining under the canvas jacket provides a smooth, white appearance. All joints are finished with brass lacquered bands.

[PAGE FIVE]



Anti-Sweat PIPE COVERING

PREVENTS
SWEATING

National Anti-Sweat Pipe Covering is made of creped wool felt paper, having five waterproof asphalt impregnated asbestos paper liners. It is made in two sections, one inside the other, breaking joints longitudinally and transversely. A three-inch lap seals longitudinal cut. Generally used on lines carrying liquid from 32° to 50° F.

Never-Freeze PIPE COVERING

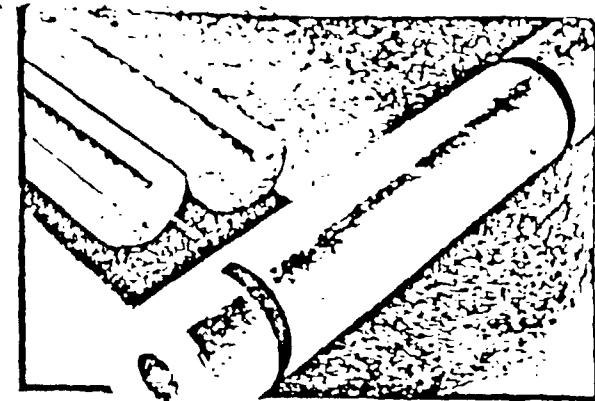
PREVENTS
FREEZING



National Never-Freeze Pipe Covering is made in three-foot sections 1 1/4" thick and is used to prevent cold water and drain pipes from freezing in unheated rooms.

Made of alternate layers of pure cattle hair felt and wool felt paper, with a saturated asbestos felt liner and canvas jacket.

[PAGE SIX]



85% Magnesia PIPE INSULATION

A HIGH PRESSURE INSULATION

An exceptionally good insulating material composed of 85% Carbonate of Magnesia and long asbestos fibers. It contains a great number of microscopic dead air cells. Used on pipe lines having a temperature up to 600° F.

This pipe insulation is furnished in three-foot lengths, split horizontally and joined with heavy, securely pasted canvas jackets, forming hinge and lap, and with necessary bands for proper application.

85% Magnesia Insulation is also furnished in block form for insulating flat, curved and irregular surfaces, and in cement or powdered form, both materials providing highly efficient insulation.

[PAGE SEVEN]

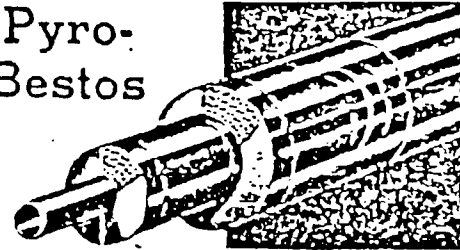


Laminated Asbestos and Sponge INSULATION

**PRACTICALLY
INDESTRUCTIBLE
HIGH PRESSURE
INSULATION**

Constructed of special asbestos paper impregnated with finely ground sponge, built up like a book in laminated form and providing practically indestructible insulation. It will withstand severe pipe vibration and rough usage. Retains original high efficiency even when wet.

Pyro- Bestos



PIPE AND STACK INSULATION

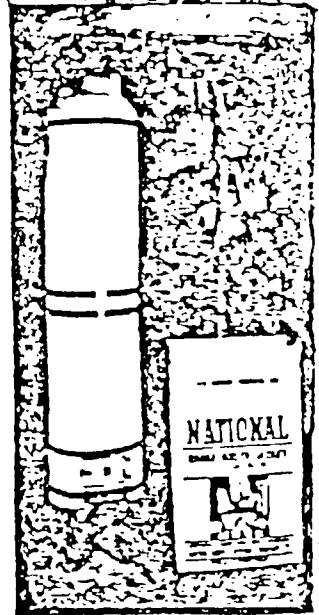
ABSOLUTELY WATERPROOF

A strong, practical, efficient and economical insulation for pipe lines running from building to building. Because this insulation is waterproof it may be buried in a trench, or tunnel, or exposed to the weather and still retain its insulating value.

[PAGE EIGHT]

Range Boiler Jacket

National Range Boiler Jacket, made of 3-ply white flexible quarter-inch corrugated asbestos paper, is furnished in two sections, one for upper part of tank and one for lower part, with five bands.



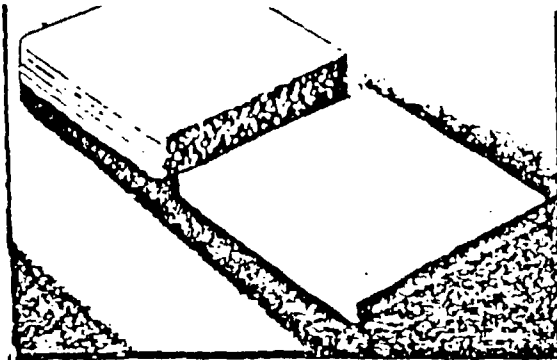
EASY TO APPLY

The two sections are wrapped around the tank and the shiny black metal bands put into place. Plaster Asbestos, which comes with each jacket, is then spread over the top and the job is finished. The smooth white surface of the jacket is easily cleaned.

SAVES FUEL

Water in the tank heats more quickly, less fuel is required to keep the water hot, and it remains hot over a much longer period. The jacket provides a saving in fuel cost of from 40% to 60% and pays for itself within a short time.

[PAGE NINE]



Asbestos Air Cell Boards

A splendid type of insulation for medium or low pressure boilers, heaters, dry rooms, hot water tanks, and similar surfaces not having extreme temperatures. Standard sizes of the boards are 36" x 36" and 6" x 36". Thicknesses run from $\frac{1}{2}$ " up to 4 in. and all corrugations are a full quarter inch. Asbestos Air Cell Board is also used as an insulation on air conditioning ducts.

Asbestos Mill Board

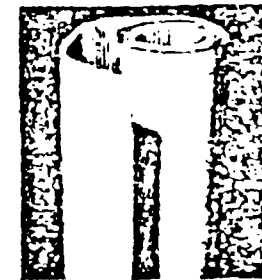
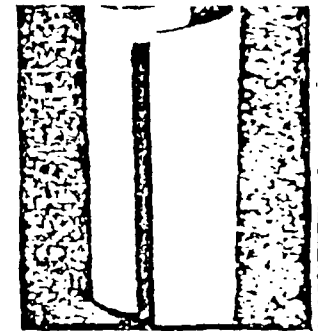
A low priced, light weight sheet used to insulate radiator enclosures, ovens and ranges. Also used as a fire retardant to line ceilings, walls, and metal doors. Standard size of sheets 42" x 48". Thicknesses run from $\frac{1}{16}$ " up to 1 in.

[PAGE TEN]

Asbestos Paper

FIRE
RETARDANT

National Asbestos Paper is used principally as a fire retardant but is also used for insulating purposes requiring a minimum thickness. It is used between walls, floors, and ceilings, for wrapping furnace or heater pipes, and for general fireproofing work. Comes in rolls 16", 24", and 36" wide, weighing 25, 50 and 100 lbs. The thickness is from .018 up to $\frac{1}{8}$ ".

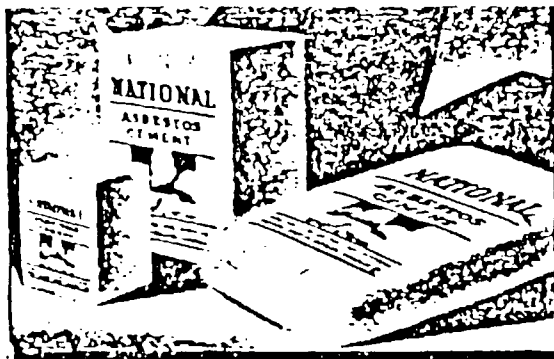


Corrugated Asbestos Paper

A GOOD
INSULATOR

Recommended highly for insulating hot air heater casings, pipes and ducts. The paper is usually wrapped around the pipe or duct twice and held in place with silicate of soda and wired around the outside. It is made with full, uniform $\frac{1}{4}$ " corrugations and is furnished in rolls 36" wide containing 250 sq. ft. Approximate weight per roll 50 lbs.

[PAGE ELEVEN]



Asbestos Cement

FOR COVERING BOILERS,
PIPE FITTINGS, ETC.

An efficient insulating cement, light in weight, having an above average covering capacity and finish. Composed of selected asbestos fibers and high grade insulating materials. Easy to apply and dries white and smooth.

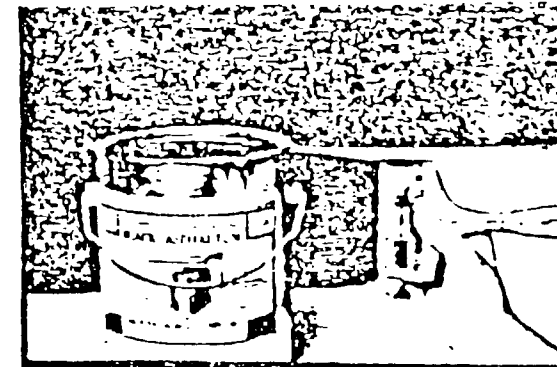
Available in a variety of grades for every insulating purpose where the use of sheet or block insulation would be impractical, or for finishing over air cell blocks.

Furnished in 100 lb. burlap bags or cartons of lesser weight.

COVERING CAPACITY—ONE INCH THICK

No. 7	20 Sq. Ft.	No. 3	25 Sq. Ft.
No. 5	18 Sq. Ft.	No. 2	29 Sq. Ft.
	No. 1		40 Sq. Ft.

[PAGE TWELVE]



Asphalt Quick Drying Paint

PREVENTS RUST, PRESERVES
BOILERS AND STEAM PIPES

National Quick Drying Paint is an asphalt paint that will prevent rusting when applied to Steam, Water, Gas or Oil Piping, Boiler Fronts, Oil and Water Tanks, Smoke Pipes, and all kinds of metal work. It will preserve their efficiency and improve their appearance.

This paint may be used for outside as well as inside work, such as gutters, downspouts, fire escapes, vent pipes, etc. Three-quarters of a gallon will cover 100 Sq. Ft. of metal surface one coat.

National Quick Drying Paint is furnished in cans one to five gallons in size.

[PAGE THIRTEEN]



Air
Cell

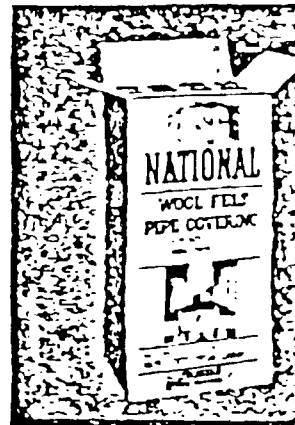
PIPE COVERING

CARTON CONTENTS

Pipe Size	Lineal Feet Per Carton	Pipe Size	Lineal Feet Per Carton
1/2"	120	2 1/2"	36
3/4"	102	3"	36*
1"	90	3 1/2"	30*
1 1/4"	66	4"	27*
1 1/2"	60	5"	21*
2"	45	6"	15*

In cartons marked * sections are shipped open.

[PAGE FOURTEEN]



Wool
Felt

PIPE COVERING

CARTON CONTENTS

Pipe Thickness	1" Thick	1 1/2" Thick	2" Thick
1/2"	72	135	102
3/4"	60	105	90
1"	45	90	72
1 1/4"	36	72	60
1 1/2"	36	60	54
2"	30	45	36
2 1/2"	21	36	33
3"	18	27	18

[PAGE FIFTEEN]

1. Extract from assigned report distributed by

Heat Losses From Bare Pipes and Efficiencies of Improved Asbestocel Compared to Efficiencies of Average Commercial Air Cell

Pipe Size Inches	Bare Pipe Loss B. T. U. per ft. per Hr.	Temp. Difference of	2-Ply Improved Asbestocel	3-Ply Commercial Air Cell	3-Ply Improved Asbestocel	4-Ply Commercial Air Cell	4-Ply Improved Asbestocel
3	197.3	100	67.2	68.4	72.6	72.4	75.9
	330.1	150	68.7	69.9	74.0	73.8	77.2
	676.3	250	71.2	72.3	76.4	76.2	79.4

2. Extract from report of test made by Electrical Testing Laboratories, New York City May 18, 1915 (is recognized authority on test and research work), on Asbestocel Air Cell Covering made by National Asbestos Manufacturing Co., Jersey City, N. J.

Efficiency or Percentage of Heat Loss Prevented

Pipe Size Inches	Approx. Temp. Difference of	2-Ply NATIONAL Air Cell	3-Ply NATIONAL Air Cell	4-Ply NATIONAL Air Cell
3	100	66.5	73.5	75.
	150	70.	75.5	78.
	250	73.	77.5	80.

NOTE: The greater efficiency shown by National figures in No. 2 over Asbestocel and Commercial Air Cell figures in No. 1. 100 Temp. Difference means temperature difference over room temperature, and is equal to 170° F. Hot Water on boiler gauge. 150 Temp. Difference means temperature difference over room temperature, and is equal to 8 lbs. Steam Pressure on boiler gauge. 250 Temp. Difference means temperature difference over room temperature, and is equal to 80 lbs. Steam Pressure on boiler gauge.

Efficiencies of Two Most Efficient Pipe Coverings

(The term "efficiency" as used in connection with pipe covering means the percent of reduction of heat loss from bare pipes by the use of pipe covering, i. e., the saving expressed in percent of bare pipe loss.)

Example: A given length of bare steam piping loses the equivalent of 100 lbs. of coal per hour. A pipe covering which has an efficiency of 85%, saves 85 lbs. of coal per hour.

Steam Pressure	10 lbs.	80 lbs.	120 lbs.	160 lbs.	200 lbs.
Steam Temperature ° F	239.4	374	370	370.7	380
Temperature Difference ° F	169.4	254	210	300	318
85% Magnesia 1" thick	% Eff. Loss 83.1 0.422	% Eff. Loss 85.5 0.430	% Eff. Loss 86.2 0.413	% Eff. Loss 88.7 0.436	% Eff. Loss 87.1 0.440
85% Magnesia 1½" thick	85.8 0.395	87.6 0.360	88.5 0.362	88.9 0.363	89.2 0.369
85% Magnesia 2" thick	88.1 0.289	88.6 0.300	90.4 0.301	90.6 0.302	91.1 0.304
National Laminated 1" thick	85.7 0.358	87.2 0.360	87.7 0.366	88.2 0.368	88.5 0.361
Asbestos and Sponge 1½" thick	87.9 0.303	89.2 0.320	88.7 0.323	90.1 0.324	90.3 0.330
Asbestos and Sponge 2" thick	89.9 0.252	91.1 0.264	91.4 0.270	91.7 0.272	92.0 0.274

The columns headed "Loss" give the loss in B. T. U. per square foot of pipe surface, per degree F. difference in temperature between the pipe and air, per hour.

NOTE—All data on heat transmission through pipe coverings given above is based on 8" pipe size. The efficiencies will be slightly less for smaller pipe sizes and slightly greater for larger pipe sizes. For all practical engineering purposes the above data will be satisfactory because variations due to temperature, humidity of air, air currents, condition of pipe covering surface, etc., will affect values in actual practice as much if not more than variations due to difference in curvature.

Jacketless

ASBESTOS PIPE COVERING

The following table shows the comparative time required to install 300 lineal feet of Canvas Jacketed and National Jacketless Pipe Covering.

Seven operations are required to apply the Canvas Jacketed Covering and only three for the National Jacketless, a saving in time of more than two hours.

Installing 300 Lineal Feet of Covering

CANVAS-JACKETED		NATIONAL JACKETLESS	
Operation	Minutes	Operation	Minutes
1. Prepare paste	5		
2. Pull back canvas flaps	50		
3. Open sections	5	1. Open sections	5
4. Apply paste to flaps	30		
5. Put sections on pipe	25	2. Put sections on pipe	25
6. Pat down pasted flaps	50		
7. Apply bands	20	3. Apply bands	20
Total Minutes	185	Total Minutes	50

Less than one hour to do with National Jacketless what requires over three hours with canvas jacket covering.

[PAGE EIGHTEEN]

PRICES PER LINEAL FOOT ALL TYPES OF PIPE COVERINGS

Inside Diameter of Pipe	Prices per Lineal Foot				
	1" Thick	1 1/4" Thick	2" Thick	Double 1" Thick	Double 1 1/4" Thick
1/2"	\$0.22	\$0.46	\$0.75	\$0.65	\$1.20
3/4"	.24	.49	.80	.70	1.35
1"	.27	.52	.85	.75	1.40
1 1/4"	.30	.56	.90	.80	1.45
1 1/2"	.33	.60	.95	.85	1.55
2"	.36	.64	1.00	.90	1.65
2 1/2"	.40	.70	1.05	1.00	1.75
3"	.45	.76	1.15	1.10	1.90
3 1/2"	.50	.82	1.25	1.20	2.05
4"	.60	.88	1.35	1.40	2.20
4 1/2"	.65	.94	1.45	1.50	2.35
5"	.70	1.00	1.55	1.60	2.50
6"	.80	1.10	1.70	1.80	2.70
7"	1.00	1.20	1.85	2.25	2.90
8"	1.10	1.35	2.00	2.50	3.15
9"	1.20	1.50	2.20	2.70	3.40
10"	1.30	1.65	2.40	2.90	3.65
12"	1.85	1.85	2.70	4.10	4.10
14"	2.10	2.10	3.00	4.50	4.60
16"	2.35	2.35	3.30	5.10	5.10
18"	2.60	2.60	3.60	5.60	5.60
20"	2.85	2.85	4.00	6.00	6.00
24"	3.30	3.30	4.50	7.00	7.00
30"	4.00	4.00	5.50	8.40	8.40

PRICES PER SQUARE FOOT ALL TYPES OF BOARDS OR BLOCKS

Thickness	Price per sq. ft.	Thickness	Price per sq. ft.
1/2"	.24	1 1/2"	.45
3/4"	.27	2"	.60
1"	.30	3"	.90

[PAGE NINETEEN]