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Sweet's File

architectural

A file of catalogs designed for the use of architects, engineers, building contractors, and others whose practice it is to select, specify or purchase building materials, equipment and allied services

Sweet's Catalog Service
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DIVISION OF F. W. DODGE CORPORATION

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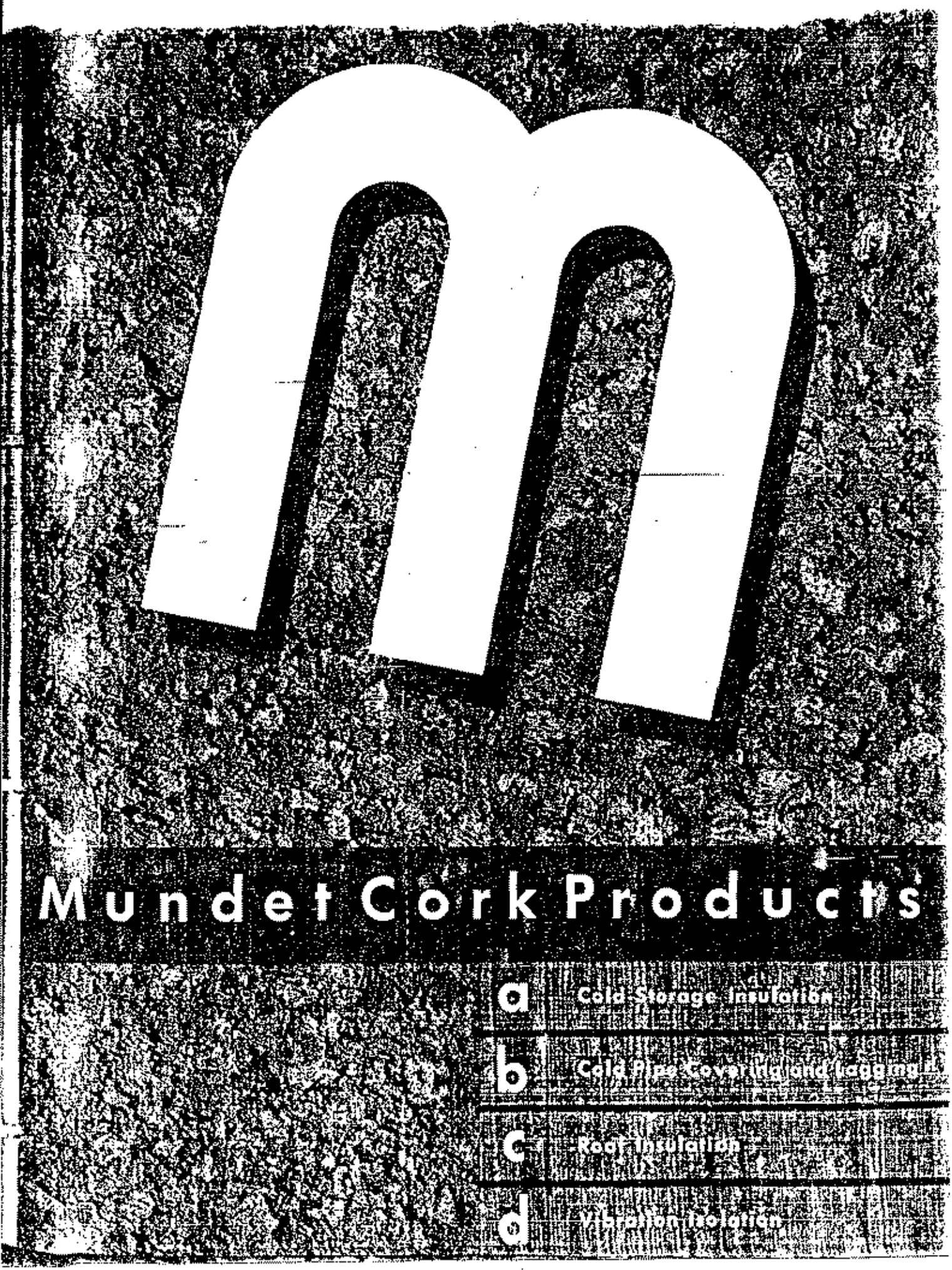

Mundet Cork Products
a
Cold Storage Insulation
b
Cold Pipe Covering and Lagging
c
Roof Insulation
d
Vibration Isolation

The Essentials of a Good Insulator

1. Low Conductivity
2. Light Weight
3. Structural Stability
4. Non-Absorbence
5. Fire Retardance
6. Ease of Installation

Why Cork is a Good Insulator

1. Cork restricts the transmission of heat, sound and vibration to a remarkably low degree, due to its internal cellular structure of sealed and non-connecting minute dead-air spaces.
2. Cork is light in weight despite its structural strength. It is easily handled and it adds less weight than other rigid insulations — approximately 4 pounds per cubic foot.
3. Cork has a cellular structure sufficiently strong and elastic to maintain its shape and characteristics under varying conditions of [illegible] properties are unique.
4. [illegible]
5. [illegible]
6. [illegible]

Sales and Service In 1865 the name of Mundet was first identified with cork products. Today the Company ranks among the leaders of the industry. The Company maintains branches in the principal cities of the United States and Canada for the convenience of its clients. Our branch offices (see back cover) are in charge of competent engineers who will gladly co-operate and furnish information pertinent to insulation work in both low and high temperatures. Mundet Cork & Insulation, Ltd., performs the same function and offers the same facilities in Canada.

Products, in addition to those described in this catalog, include magnesia insulation for all high temperature requirements.

Contracting The Company maintains a well organized erecting force at each branch office fully capable of handling any installation contract involving its products. No contract is too small or too large.

Plant Facilities The Company has two plants for the exclusive manufacture of cork insulation products—one in Portugal and the other in New Jersey, ten miles from New York City. Each plant can produce many million feet (board measure) of insulation a year. The Portuguese plant is adjacent to the Port of Lisbon from which ocean sailings are possible to any part of the world. The New Jersey plant at all times carries large stocks of finished products, as do all of the branch offices located in the principal cities of the United States.

Guarantee The Company unqualifiedly guarantees that its material and workmanship are of the best and agrees to make good, without cost to the client, any defect that may be chargeable to inferior material or workmanship as indicated in its contract form.

Mundet Cork

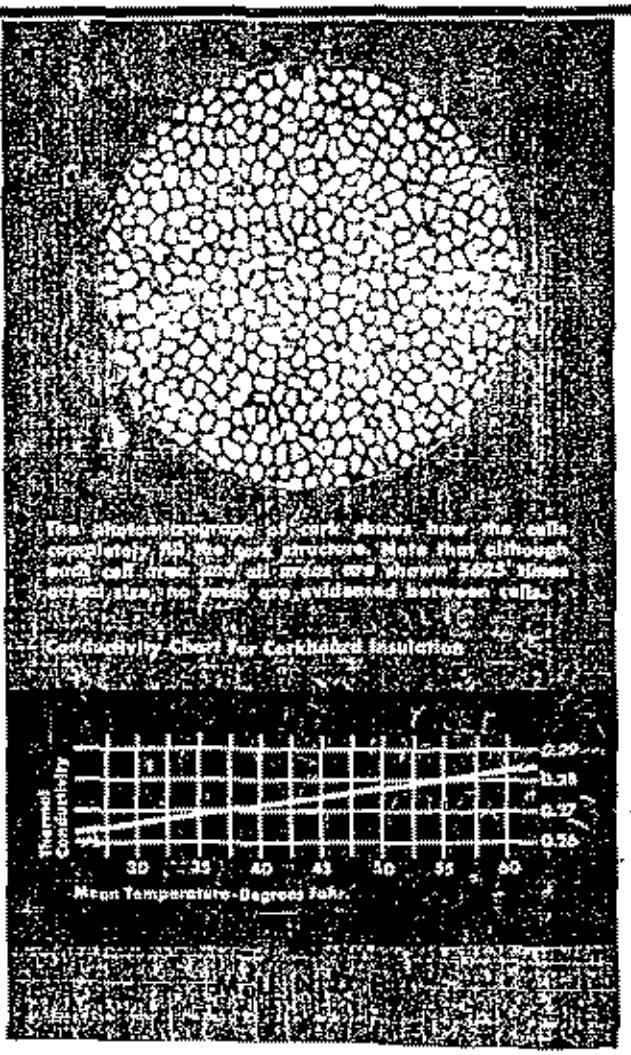
Natural Cork—Cork in its natural state consists of minute hermetically sealed cells containing "dead" air. Approximately 200,000,000 cells per cubic inch. Cell walls are resinous, resilient, and impervious to the passage of air. There is no "free" air to conduct heat or moisture through the mass and no capillary attraction.

Mundet Corkboard—Natural cork is ground into ¼" to ⅛" granules and compressed under heat in moulds to produce Mundet flat or shaped corkboard. Air spaces between granules are eliminated by the pressure and the milled resin in the cell walls cements the mass into a homogeneous structure retaining the properties of natural cork. Flat sheets, slabs and mats, and moulded fitting covers are furnished in various sizes and finishes. Regranulated cork is also available.

Mundet corkboard meets U. S. Government Master Specifications. Its heat transmission is guaranteed not to exceed .29 Btu when tested in accordance with Bureau of Standards regulations. In actual cold storage practice, this figure may be safely reduced to .27 Btu.

Material	Thermal Conductivity Average of two laboratories	
	Conductivity (K) (At 60° F)	Relative Insulating Value
Corkboard*	0.273	100.0
Shredded Redwood Bark	0.286	95.7
Animal Hair Board	0.302	91.0
Wood Fiber Board	0.312	87.6
Mineral Wool Board	0.321	85.3
Vegetable Fiber Board	0.346	79.2

* Corkboard values are averages of five different makes



Conductivity Chart For Corkboard Insulation

Cold Storage Insulation

General Specifications

Table of Economical Thicknesses

Inches

Range of temperature	Walls	Ceilings	Floor on ground	Floor above ground	Roofs
Below 0° F.	8	8	7	8	9
0° to 10° F.	7	7	6	7	8
10° to 20° F.	6	6	5	6	7
20° to 35° F.	5	5	4	5	6
35° to 50° F.	4	4	3	4	5
50° to 60° F.	3	3	2	3	4
Above 60° F.	2	2	0	2	2

Walls

Concrete, Brick, Hollow Tile

1 First Insulation Course Laid in Cement Mortar—*Preliminary*—*Concrete walls roughened by hacking for bond.*—*Insulation*—. . . in. Mundet Corkboard. First course in ½ in. bed of Portland cement mortar. Second course against first in heavy dip coat of hot asphalt and additionally secured by hardwood skewers.—*Joints*—as under General Specifications.—*Finish*—Plaster or mastic, as under General Specifications.

2 First Insulation Course Laid in Hot Asphalt—*Preliminary*—Concrete walls roughened by hacking for bond. Single coat Portland cement plaster left under float and thoroughly set.—*Insulation*—. . . in. Mundet Corkboard. Two spray or brush coats Mundet Asphalt Primer then first course Mundet Corkboard. Second course as in No. 1.—*Joints*—as under General Specifications.—*Finish*—Plaster or mastic, as under General Specifications.

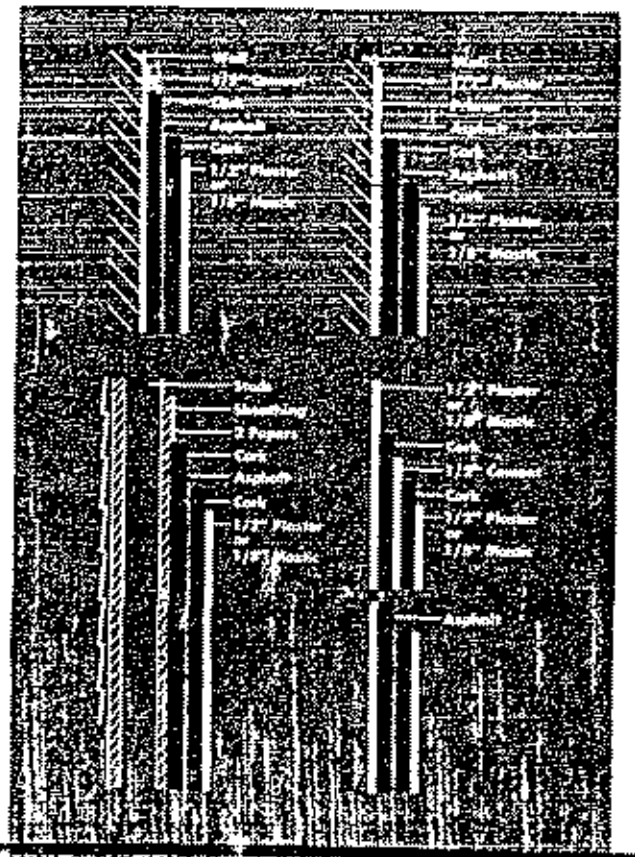
Wood Frame

3 First Insulation Course Nailed to Wall—*Preliminary*—Two courses waterproof insulation paper tacked against sheathed surfaces.—*Insulation*—. . . in. Mundet Corkboard. First course nailed dry to wall with galvanized wire nails especially made for such work. Second course as in No. 1.—*Joints*—as under General Specifications.—*Finish*—Plaster or mastic, as under General Specifications.

Cork Partitions—Solid cork, self-sustaining type

4 Cement Mortar Bond—*Preliminary*—Temporary studding for bracing.—*Insulation*—. . . in. Mundet Corkboard. First course erected against temporary studding. Second course against first in ½ in. Portland cement mortar and additionally secured by hardwood skewers.—*Joints*—as under General Specifications.—*Finish*—Plaster or mastic, as under General Specifications.

5 Hot Asphalt Bond—*Preliminary*—Like No. 4.—*Insulation*—Like No. 4 except second course erected in dip coat of hot asphalt additionally secured by hardwood skewers.—*Joints*—as under General Specifications.—*Finish*—Plaster, as under Gen. Spec.

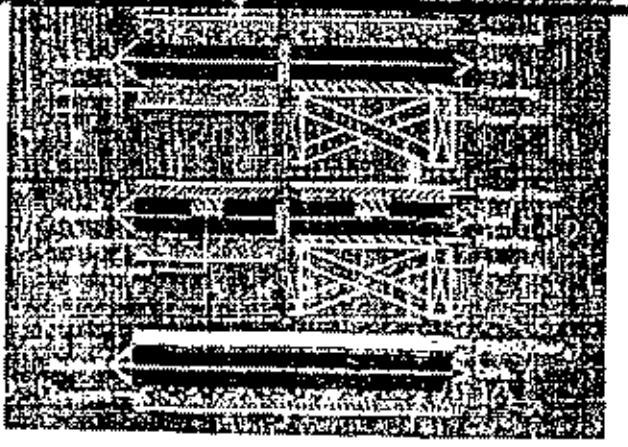


Floors

6 Concrete, Concrete or Wood Base.—*Insulation*—. . . in. Mundet Corkboard. First course in heavy hot asphalt mop coat. Second course similarly laid on first.—*Joints*—as under General Specifications.—*Insulation Finish*—Heavy hot asphalt mop coat to seal all joints.—*Concrete Wearing Floor*—(To be specified.)

7 Wood, Concrete or Wood Base—*Insulation*—. . . in. Mundet Corkboard. Two courses, laid like No. 6, second course after sleepers are located on first course.—*Joints*—as under General Specifications.—*Sleepers*—Wood, 2 in. x 4 in. on 28 in. centers, mopped in.—*Insulation Finish*—Heavy hot asphalt mop coat to seal all joints.—*Wood Wearing Floor*—(To be specified.)

8 Mastic, Concrete Base—*Insulation*—. . . in. Mundet Corkboard. Two courses laid like No. 6.—*Joints*—as under General Specifications.—*Insulation Finish*—Heavy hot asphalt mop coat to seal all joints.—*Mastic Floor*—2 in. mastic wearing surface in two courses.



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9 *Preliminary*—Two coats Mundet Primer on columns.—*Insulation*—. . . in. Mundet Cork Lagging. First course in hot asphalt dip coat; second course similarly laid on first. Hardwood skewers of suitable length used to lock adjacent logs to each other, also to additionally secure second course to first.—*Joints*—as under General Specifications.—*Finish*—Plaster or Mastic, as under General Specifications.

Ceilings

Concrete

10 *First Insulation Course Laid in Cement Mortar—Preliminary*—Ceiling areas roughened by hacking for bond and covered with light scratch coat of Portland cement mortar.—*Insulation*—. . . in. Mundet Corkboard. First course in ½ in. bed Portland cement mortar and securely propped in place until concrete sets; second course applied against first in heavy dip coat of hot asphalt and additionally secured by hardwood skewers.—*Joints*—as under General Specifications.—*Finish*—Plaster or Mastic, as under General. (If plaster, No. 19-gauge 2-mesh galvanized wire mesh should be securely stapled to cork surfaces before plaster is applied.)

Alternate—First Insulation Course Laid between Sleepers—Preliminary—Ceiling areas stripped with treated 2 x 4's spaced 12 in., 18 in. or 24 in. and bolted to ceiling every 5 feet with galvanized expansion bolts; spray coat of Mundet Asphalt Primer.—*Insulation*—. . . in. Mundet Corkboard. First course in heavy dip coat hot asphalt and toe nailed to 2 x 4 strips. Second course as in No. 10.—*Joints*—as under General Specifications.—*Finish*—As in No. 10.

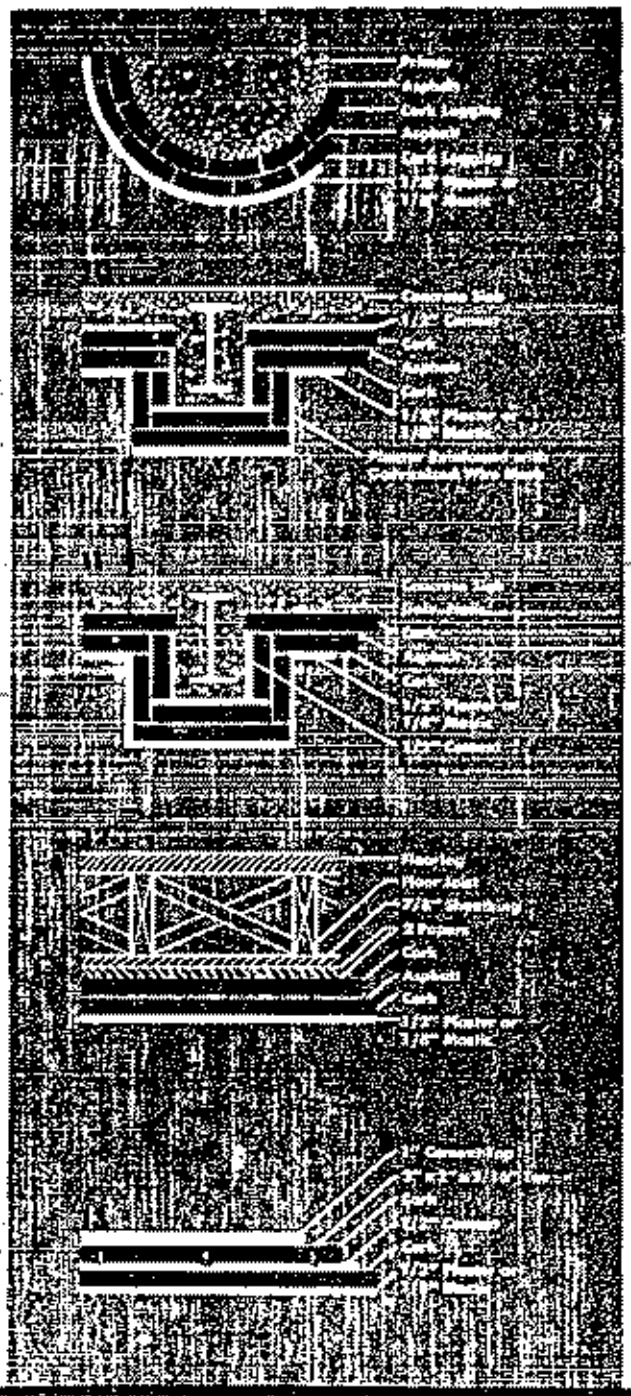
11 *First Insulation Course Installed During Construction—Preliminary*—Forms of slab portion of ceiling installed at height to accommodate insulation.—*Insulation*—. . . in. Mundet Corkboard. First insulation course of slab portion of ceiling placed in forms before pouring concrete, with at least 4 special galvanized nails per corkboard sheet driven obliquely into corkboard with heads protruding 1½ in. After stripping forms, second insulation course and both courses on beams and girders applied and finished as in No. 11.—*Joints*—as under General Specifications.—*Finish*—as in No. 10.

Wood

12 *First Insulation Course Underside Wood Sheathing—Preliminary*—Courses of ⅞ in. tongue and grooved sheathing nailed to underside of ceiling joists; two layers of waterproof insulation paper; second similar course of sheathing; two layers waterproof insulation paper tacked to sheathing.—*Insulation*—. . . in. Mundet Corkboard. First course nailed to prepared sheathing. Second course against first in dip coat of hot asphalt.—*Joints*—as under General Specifications.—*Finish*—Plaster or mastic, as under General Specifications.

False T Iron

13 *Preliminary*—Framework of 2 x 2 x . . . in. tee irons on 12½ in. centers erected on 2 x 2 in. wood framing concealed in cork wall insulation or suspended by pencil rods from main ceiling construction.—*Insulation*—. . . in. Mundet Corkboard. First course fitted snugly between tee irons after edges dipped in hot asphalt. Second course against underside of first in ½ in. Portland cement mortar; additionally secured by hardwood skewers.—*Joints*—as under Gen. Spec.—*Finish*—On top of first course, 1 in. Portland cement plaster. On bottom of second course as under Gen. Spec.



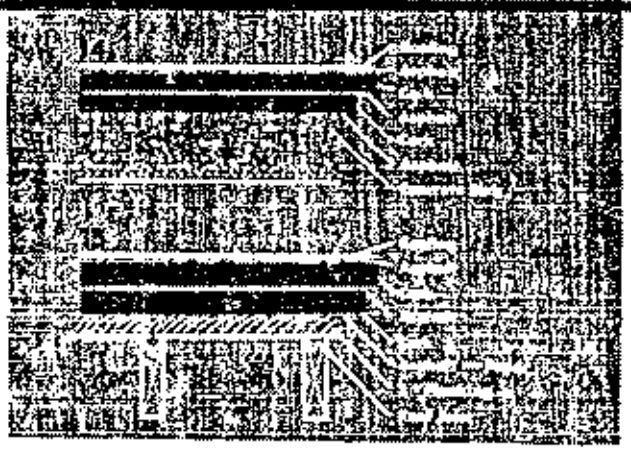
Roofs

Concrete

14 *Preliminary*—Clean roof and smooth any rough spots.—*Insulation*—. . . in. Mundet Corkboard. First course on concrete deck in heavy mop coat of hot asphalt. Second course similarly laid against first.—*Joints*—as under General Specifications.—*Finish*—None. Insulation protected before nightfall with at least two-ply roofing.

Wood

15 *Preliminary*—Clean roof and smooth any uneven spots. On planking, one course waterproof insulation paper with seams lapped at least 3 in. and mopped in with hot asphalt.—*Insulation*—As in No. 14.—*Joints*—as under General Specifications.—*Finish*—as in No. 14.



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b | Cold Pipe Covering and Lagging

Uses—For insulation of cold-water, brine, ammonia and other refrigerant lines and cylindrical tanks, coolers, etc.

Manufacture—Same as Mundet Corkboard, thus offering the same high resistance to heat infiltration. Molded to fit all standard size pipes and fittings and asphalt coated on inside and outside surfaces as protection against moisture. Mundet Cork Lagging for cylindrical vessels is beveled for accurate fitting of longitudinal joints and similarly treated to prevent moisture infiltration.

Clearances and Suggested Thicknesses—Pipe, Fittings and Lagging

Temp. Range °F	Fittings	Min. Clearance Req. Between Pipes	Min. Clearance Req. Bet. Pipes and Wall Surfaces	Cork Thickness Class and Type Inches*
Above 35	Screwed under 6"	6"	4"	Class A
	Screwed over 6"	10"	5"	Light Duty
	Flanged, any size	10"	5"	1.2-1.9*
0 to 35	Screwed under 6"	8"	6"	Class B
	Screwed over 6"	14"	8"	Standard
	Flanged, any size	14"	8"	1.7-3.0
−25 to 0	Screwed under 6"	10"	8"	Class C
	Screwed over 6"	18"	12"	Heavy Duty
	Flanged, any size	18"	12"	2.6-4.0

Mundet Cork Lag. Temp. °F	Inches
Above 50	2
35 to 50	3
20 to 35	4
5 to 20	5
−10 to 5	6

* Thickness required varies according to size of pipe. Standard lengths 3'.

A. Pipe Covering

Mundet "Jointite" Cork Pipe Covering and Fitting Covers are manufactured in three standard thicknesses to meet varying conditions of usage. The wall thickness for each type varies according to the pipe or tubing size. The economic thickness required for any given installation is that thickness that will reduce to the minimum the sum of expense due to the heat passed through it plus the expense of preventing the heat losses.

For temperatures below —25°F, we design a Special Wall Thick Covering (Class D) for each specific job.

Specifications

Government

Mundet "Jointite" 100% Pure Cork Pipe Covering and Fitting Covers, meet all requirements of United States Government Specifications.

The classes noted in Section B of these specifications will now be as follows:

Class A — Light Duty Covering
Class B — Standard Covering
Class C — Heavy Duty Covering

All details as to wall thicknesses noted under Section E of the Government specifications, will be in accordance with the requirements of those specifications.

Specification I

NOTE: The following specification is used more than any other, covering probably 75% of all pipe covering installations.

Pipe. After the pipe lines have been tested and approved, they shall be cleaned of any plaster, rust or moisture, after which they shall be insulated with "Jointite" (A), (B) or (C) Cork Pipe Covering. All contact joints shall be sealed with Mundet Waterproof Cement. All contact joints shall be butted closely and firmly together and secured with copper clad steel wire, spaced at intervals of not more than 6 in. All seams shall be horizontal. All mated sections shall be used together. The so-called "broken joint" method must not be used.

Fittings. The fittings shall be insulated with "Jointite" Cork Fitting Covers of a thickness to match the above pipe covering. All contact joints shall be sealed with Mundet Waterproof Cement. All joints shall be butted closely and firmly together and secured with not less than four copper clad steel wires. On all flanged fittings and on all screwed fittings larger than 6 in., not less than six wires shall be used.

Voids. All spaces between fittings and fitting covers shall be filled with either Mundet Space Filler or Fine Regranulated Cork.

Seams. All seams and chipped edges in the fitting covers and pipe covering shall be filled with Mundet Seam Filler and the surface made smooth.

Finish. The entire outer surface of the insulation shall receive one coat of Mundet Finish Paint.

Hangers. Pipe Lines shall be supported, in every case, outside of the covering and shall be protected by carefully fitted metal shields extending 4 in. on each side of the hanger. The shield shall embrace the entire lower semi-circle.

Spacing. Minimum spacing between pipes and adjacent surfaces shall be as shown in spacing table.

SPACING TABLE

Thickness	Description	Clear space between pipes, in.	Clear space between pipes and walls, etc., in.
LIGHT DUTY (A)	Screwed fittings up to 6 in.	6	4
	Screwed fittings over 6 in. and flanged fittings.	10	5
STANDARD (B)	Screwed fittings up to 6 in.	8	6
	Screwed fittings over 6 in. and flanged fittings.	14	8
HEAVY DUTY (C)	Screwed fittings up to 6 in.	10	8
	Screwed fittings over 6 in. and flanged fittings.	18	12

Specification II

NOTE: For use in hotel kitchens, damp cellars, creameries, packing houses, etc., and wherever the atmosphere is saturated with moisture or steam. Essential for outdoor pipe lines where the cork covering is exposed to the weather.

Pipe, Fittings, Voids, Seams, Finish, Hangers, Spacing. Specifications under these headings same as Specification I.

Roofing Jacket. After the seams have been filled, there shall be applied . . . layers of . . . ply smooth surfaced roofing. Each joint shall be lapped not less than 2 in. The laps shall be sealed with asphalt paint and secured with staples or copper clad steel wire. All laps shall be laid in such a manner ~~as to form~~ a watershed.

Specification III

NOTE: A canvas and paint finish for neatness and to harmonize with surrounding decorations or equipment.

Pipe, Fittings, Voids, Seams, Hangers, Spacing. Specifications under these headings same as Specification I.

Canvas. After the seams have been filled, the pipe covering shall be wrapped with No. 8 Rosin Sized Paper, and the fittings shall be given a coat of asbestos cement, troweled on, and of sufficient thickness to give a smooth base for canvas. Over the pipe and fittings, a jacket of 8-oz. canvas shall be neatly sewn, using not less than three stitches to the inch. All seams shall be located along the line of minimum visibility.

Finish. The canvas jacket shall be sized and painted with two coats of lead and oil paint.

Specification IV

NOTE: Unsurpassed for low temperature piping, and offering an ideal surface protection to the mineral rubber finish on cork pipe covering.

Pipe, Fittings, Voids, Seams, Hangers, Spacing. Specifications under these headings same as Specification I.

Membrane Jacket. Over the fittings there shall be applied a layer of mineral rubber cloth, lapped not less than 2 in. and sealed with asphalt paint. Starting with a 2-in. lap upon the fittings, the straight pipe shall be wrapped spirally with a layer of rubberized adhesive membrane tape lapped not less than 1 in.

Finish. Finish to be either as in Specification I or Specification III.

Comparative Heat Losses

Only in rare instances does cork pipe covering fail to pay for itself, in refrigeration savings, before the end of the first year. Most installations have paid for themselves before the end of eight months.

The truth of the above statement can be easily verified from the data in the tables below:

TABLE 1

Heat Transmission for Pipes Insulated with Thicknesses of Cork Covering Indicated Below

Nominal Pipe Size, In.	Light Duty			Standard			Heavy Duty		
	Thickness, In.	O.D. Covering	Transmission, Btu hr. °F. for one linear ft.	Thickness, In.	O.D. Covering	Transmission, Btu hr. °F. for one linear ft.	Thickness, In.	O.D. Covering	Transmission, Btu hr. °F. for one linear ft.
⅛	1.35	3.25	.0802	1.85	4.25	.0713	2.88	6.31	.0611
¼	1.28	3.25	.0906	1.78	4.25	.0976	2.82	6.31	.0670
⅜	1.20	3.25	.304	1.70	4.25	.0895	2.75	6.31	.0742
½	1.35	3.75	.111	1.85	4.75	.0973	2.83	6.31	.0829
¾	1.47	4.25	.121	2.00	5.31	.105	2.97	7.23	.0823
1	1.48	4.62	.135	2.32	6.31	.110	3.10	7.87	.0959
1¼	1.42	4.75	.155	2.50	6.90	.116	2.99	7.87	.104
1½	1.47	5.31	.175	2.44	7.25	.131	3.25	8.87	.113
2	1.37	5.62	.207	2.50	7.87	.145	3.00	8.87	.132
2½	1.56	6.62	.215	2.68	8.87	.157	3.06	9.62	.147
3	1.62	7.25	.236	2.81	9.62	.167	3.56	11.12	.146
3½	1.68	7.87	.254	2.56	9.62	.192	3.31	11.12	.163
4	1.65	8.87	.300	2.78	11.12	.211	3.78	13.12	.173
5	1.81	10.25	.326	2.78	12.18	.238	4.00	14.62	.187
6	1.78	12.18	.400	3.00	14.62	.276	4.00	16.62	.227
8	1.93	14.62	.457	3.00	16.75	.329	4.00	18.75	.268
10	1.50	15.75	.656	3.00	18.75	.377	4.00	20.75	.303
12	1.50	17.00	.712	3.00	20.00	.415	4.00	22.00	.327
14	1.50	19.00	.819	3.00	22.00	.462	4.00	24.00	.363
16	1.50	21.00	.867	3.00	24.00	.509	4.00	26.00	.405
18	1.50	23.00	.972	3.00	26.00	.553	4.00	28.00	.438
20									

Computations in Table 1 reproduced from the ASRE Data Book.

TABLE 2

Heat Transmission for Sweating Bare Pipes — Expressed in BTU'S per Linear Ft. per Degree F. Diff.

1 Hour	24 Hours	Nominal Pipe Size, In.
.349	8.38	¼
.424	10.18	⅜
.514	12.34	½
.626	15.02	¾
.762	18.29	1
.935	22.44	1¼
1.06	25.44	1½
1.28	30.72	2
1.53	36.72	2½
1.81	43.44	3
2.08	49.92	3½
2.27	54.48	4
2.74	65.76	5
3.20	76.80	6
4.07	97.68	8
4.95	118.80	10
5.76	138.72	12
6.28	150.72	14
7.07	169.68	16
7.88	189.12	18
8.66	207.84	20

Table 2 computed by R. H. Heilman, Senior Fellow, Mellon Institute of Industrial Research.

The following example demonstrates how the two tables above should be used in computing refrigeration savings per year with Mundet Cork Pipe Covering.

ASSUMED CONDITIONS: 280 ft. of 2" brine line carrying brine at plus 10°F. Surrounding air temperature is 90°F. Temperature difference is 80°F.) Table 2 above shows the loss on uninsulated 2" bare pipe is 30.72 Btu's per linear foot per degree temperature difference for 24 hours.

Since there are 288,000 Btu's in 1 ton of refrigeration, the loss per year from bare pipe is calculated as follows:

$$\frac{30.72 \times 280 \times 80 \times 365}{288{,}000}$$ equals 872 tons of refrigeration per year lost.

To determine loss for pipe insulated with cork covering, calculate as follows: Table 1 shows the loss for 2" pipe insulated with standard cork covering is 0.131 Btu's per hr. or 3.14 Btu's per 24 hours. Compute annual refrigeration loss for the cork insulated pipe as shown below:

$$\frac{3.14 \times 280 \times 80 \times 365}{288{,}000}$$ equals 89 tons of refrigeration per year lost.

Under the two conditions above, the annual saving would be 783 tons of refrigeration per year with the cork insulated pipe. Thus with Mundet Cork Covering in the required thickness indicated savings are shown to be 90% of the bare pipe losses.

Knowing the cost of refrigeration per ton, it is easy to compute the dollar saving in using cork pipe covering. By comparing the figure with the actual cost of installing the cork pipe covering, you can determine how quickly the savings in refrigeration will pay for proper insulation protection.

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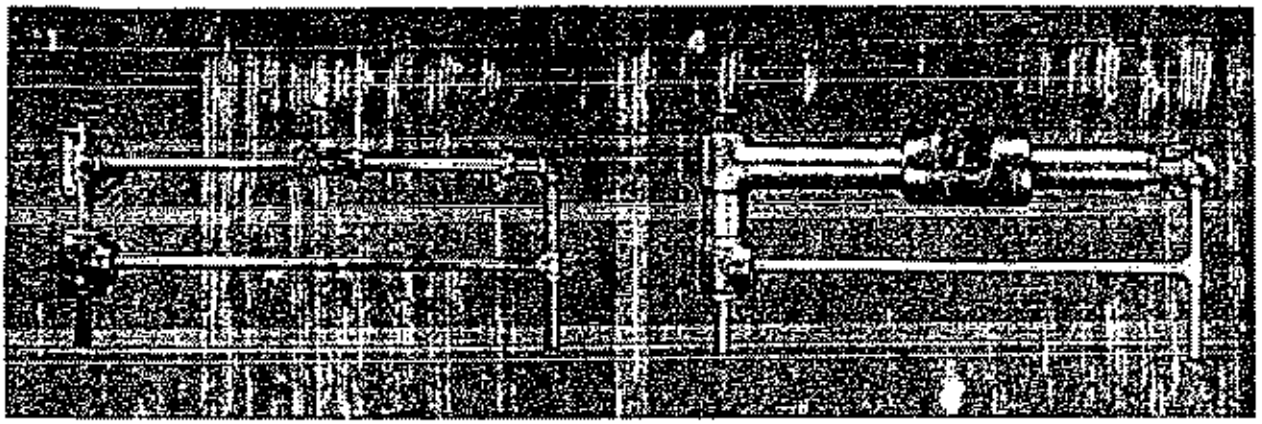
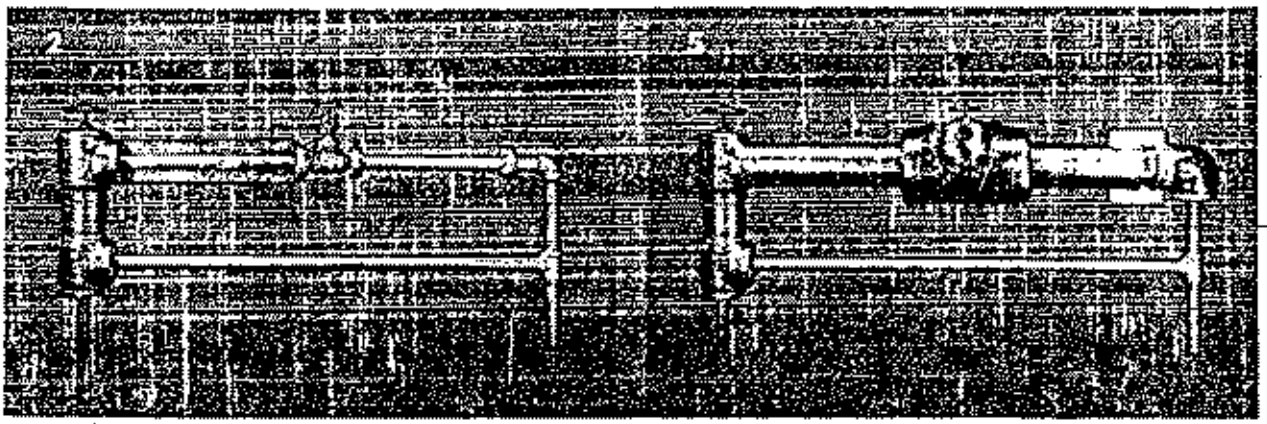
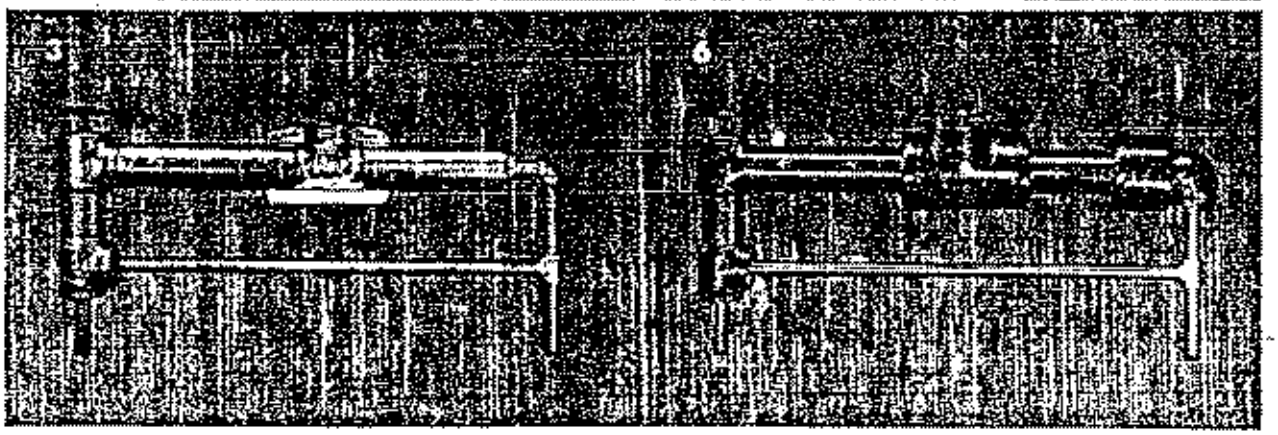
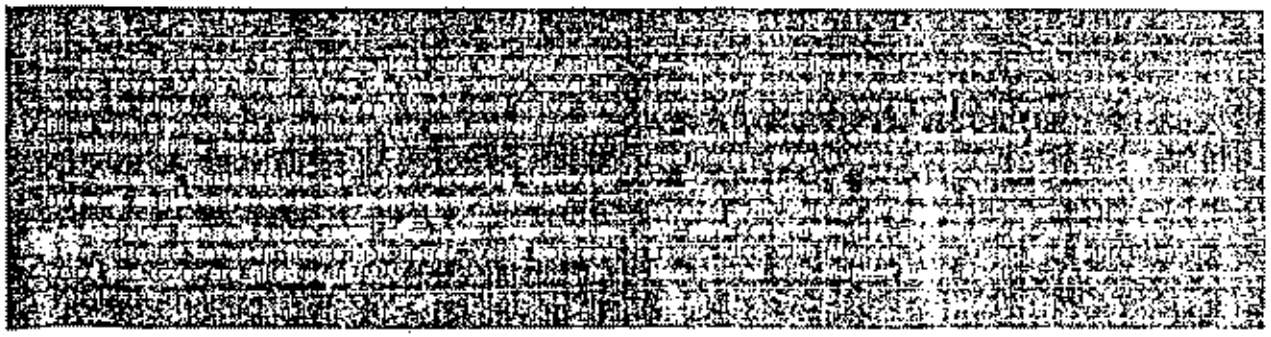
Pipe Covering Installation









Mundet "Jointite" Cork Lagging

"Jointite" bevelled cork lagging cut to fit any desired radius of tank is furnished in thicknesses of from 2" to 6" for the insulation of Brine Coolers and other low temperature tanks. The lagging comes in 36" lengths. "Jointite" corkboard discs are furnished in any diameter and any thickness required for the heads. Lags and discs are coated on either the outer or both sides with mineral rubber finish or if desired they can be furnished plain. Such insulation must be erected in the field.

In conjunction with "Jointite" Pipe Covering selected in accordance with the table of thicknesses as shown on Page 6, we recommend the following thickness of "Jointite" Bevelled Cork Lagging for use on tanks and other equipment.

For temperatures over 50° F. ..... 2" of Lagging
between 35 and 50° F. ..... 3" of Lagging
between 20 and 35° F. ..... 4" of Lagging
between 5 and 20° F. ..... 5" of Lagging
between —10° and +5° F. ..... 6" of Lagging

For temperatures lower than —10° F., the insulation should be designed for each specific job. The above recommended thicknesses are not to be considered as absolute recommendations as job and climatic conditions vary between localities. However, the thicknesses given here have been found economical for the average installation.

Mundet "Jointite" Bevelled Cork Lagging shall be erected in one or more layers as job conditions require; contact joints shall be sealed with Mundet Waterproof Cement and end joints shall be staggered.

Lagging shall be held in place by means of Acme steel bands and patented clips; the bands should be ¾" wide and either 0.020" or 0.035" thick, depending on the size of the equipment being insulated. The bands should be spaced approximately 8" on center. The lags should extend beyond the body of the equipment for a distance equal to the thickness of the lags so that the cork discs on the ends can be inserted inside the lagging on the body.

All "voids" between the equipment and the lagging shall be filled with Regranulated Cork packed solid.

All seams and chipped edges in the mineral rubber finish of the lagging shall be filled with Mundet Seam Filler and the surface made smooth.

After all seams have been filled, the entire surface shall receive one coat of Mundet Finish Paint.

In addition to the above, Bevelled Cork Lagging may be finished with a Roofing Jacket as outlined under Specification II for Pipe Covering on Page 6, or with a Canvas Jacket as indicated under Specification III for Pipe Covering on Page 6.

Bevelled Cork Lagging may also be finished with a ½" Asbestos Cement Plaster Finish. Before applying this finish, the lagged insulation surface shall first be covered with a 1" hexagonal galvanized iron wire mesh poultry netting securely wire-laced in place. The finish shall then be applied in two coats of approximate equal thickness to build up to a ½" final thickness. The first coat shall be applied over the wire mesh and scratched and shall be thoroughly dry before the second coat is applied. The second coat shall receive a smooth trowel finish. Metal corner beads should be used on all external edges of the insulation. The mortar for both coats should be mixed in the proportion of 100 lbs. of Portland Cement to 200 lbs. of Asbestos Cement.

Equipment located outside can be finished with a Standard Weatherproofed Mastic Finish, in which case the Specifications would be the same as that noted above for the Asbestos Cement Plaster Finish, with the exception that the final coat would be a ⅛" Standard Mastic coat.

Under extreme conditions of weather, or usage, equipment insulated with Cork Lagging may be finished with a Sheet Metal Jacket.

C Roof Insulation

Mundet "Jointite" Corkboard

The high resistivity to heat infiltration plus the other basic characteristics of Mundet "Jointite" Corkboard make this an ideal material for roof insulation.

Its lightness is of even greater value and allows various savings in material and installation of —a— walls, columns, girders, trusses and purlins that support the roof; —b— steel, wood and concrete members and material comprising the roof; and in —c— hoisting, handling and fitting insulation into place. All of these savings also mean a speeding of construction.

Heat Transmission

The primary purpose of roof insulation is to minimize heat transfer in either direction through the roof. In winter this saves fuel and prevents ceiling condensation; in summer it lessens the temperature rise in the building interior. The great reduction in heat transmission through the use of Mundet Corkboard of various thicknesses is shown in the Heat Loss Table on the opposite page.

Condensation

When moist air in contact with a cold roof is cooled until it reaches its point of total saturation or dewpoint, some of the moisture condenses on the cold surfaces. This "ceiling sweat" accumulates and drops to the floor where it may cause discomfort to workmen and damage to machinery, materials or finished products. The loss due to condensation must be considered separately from the direct loss due to heat leakage through the roof, the latter being present in all uninsulated construction while the former appears only when the humidity is relatively high or when the difference in temperature between the inside of the roof and the room is of considerable magnitude.

Losses Prevented by Insulation

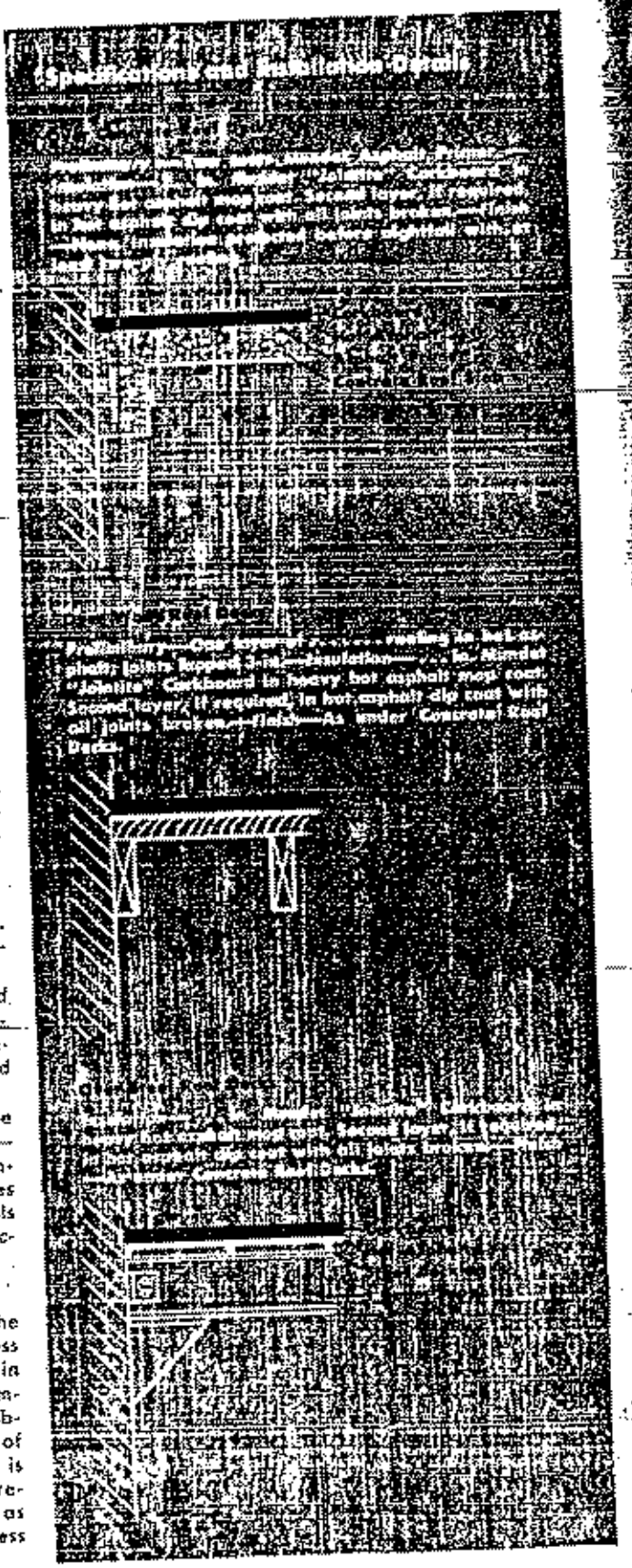
Direct—a—Heat transmitted through roof and walls. —b—Damage to goods in process of manufacture.—c—Decreased efficiency of labor.

Indirect—a—Damage to machinery.—b—Increased maintenance.—c—Deterioration of roof structure, especially if wooden.—d—Delay due to repairing or replacing goods.—e—Ill will of customers.—f—Lowered morale of labor.

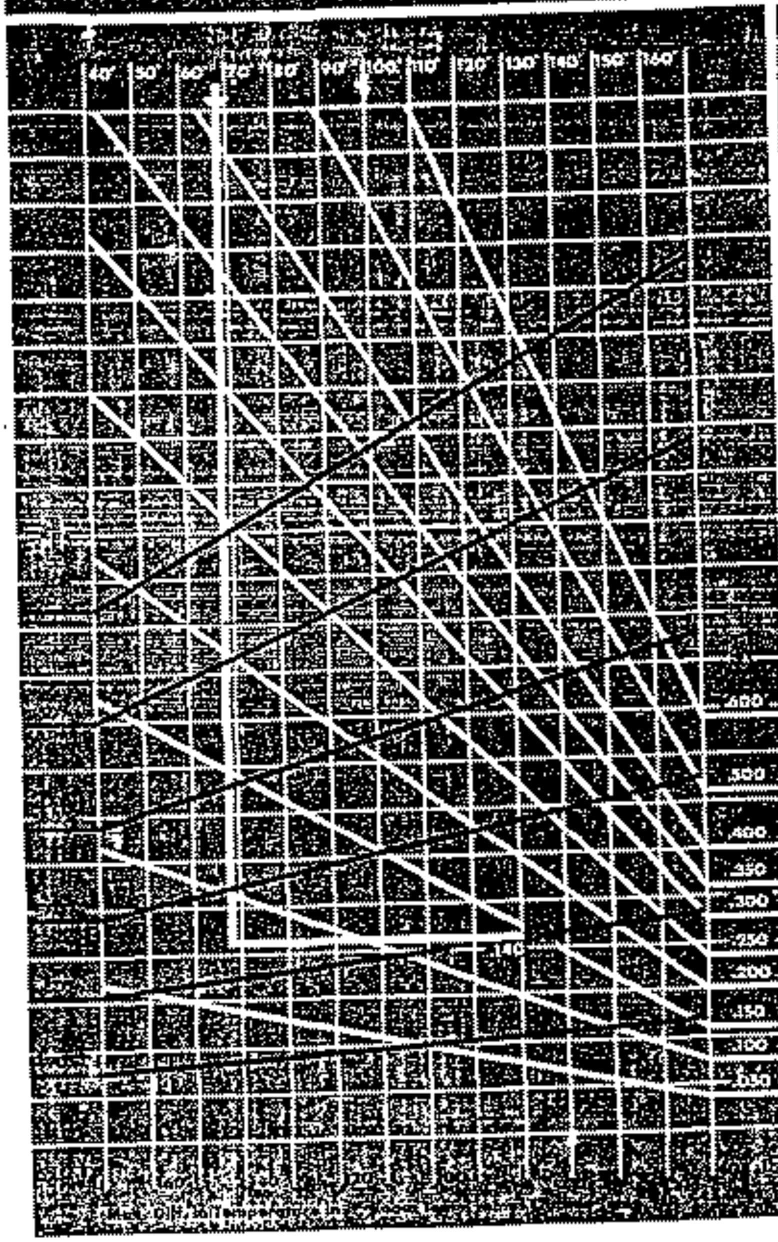
Uncontrolled condensation is a serious problem in the following types of industrial operations—Bakeries—Dairies—Dye Plants—Food Processing Plants—Laundries—Lumber Drying Rooms and Kilns—Packing Houses—Paper Mills—Power Houses—Indoor Swimming Pools—Textile Mills, cotton, wool and silk—Tobacco factories—Turkish Baths—Twine Mills.

Improved Working Conditions

When bringing to the attention of manufacturers the need for cork insulation in buildings, the greater stress has been laid in the past upon the resultant saving in fuel. Today, industrial executives in ever increasing numbers realize that a most important factor in their problem of keeping costs at a minimum is the attitude of their labor. A worker is never efficient when he is uncomfortable from heat, cold or dampness and therefore the use of insulation, while it may be considered as an intangible benefit from this angle, is nevertheless of vital import.



How to Determine the Thickness of Corkboard Needed



Type of Roof Construction	Heat Loss
[illegible]	
No Insulation	.638
1-in. Mundet Corkboard	.206
1½-in.	.153
2-in.	.122
3-in.	.087
4-in.	.067
[illegible]	
No Insulation	.610
1-in. Mundet Corkboard	.201
1½-in.	.151
2-in.	.120
3-in.	.086
4-in.	.067
[illegible]	
No Insulation	.568
1-in. Mundet Corkboard	.197
1½-in.	.148
2-in.	.118
3-in.	.085
4-in.	.066
[illegible]	
No Insulation	.500
1-in. Mundet Corkboard	.187
1½-in.	.143
2-in.	.115
3-in.	.083
4-in.	.065
[illegible]	
No Insulation	.345*
1-in. Mundet Corkboard	.160
1½-in. " "	.127
2-in. " "	.105
3-in. " "	.078
4-in. " "	.062
[illegible]	
No Insulation	.256*
1-in. Mundet Corkboard	.138
1½-in. " "	.112
2-in. " "	.095
3-in. " "	.072
4-in. " "	.055
[illegible]	
No Insulation	1.000†
1-in. Mundet Corkboard	.231
1½-in. " "	.167
2-in. " "	.130
3-in. " "	.091
4-in. " "	.067

*On yellow pine, nominal thickness specified, actual thickness used in tests.
†Factor as furnished by The Truscon Steel Co. No wind, smooth glass surface assumed.

Use of the Heat Loss Chart—Starting at top of chart follow down the specified Room Temperature line to point of intersection "A" with line of permissible Humidity. Proceed horizontally to point of intersection "B" with vertical line of Max. Temp. Difference extended upward from bottom of chart. This point "B" interpolated between adjacent Heat Loss Lines gives the Max. Allowable Heat Loss without condensation under the assumed conditions.

Use of Heat Loss Table—The above table gives the heat loss or transfer through different roofs insulated with various thicknesses of corkboard. Used with the Heat Loss Chart, the required thickness of corkboard for a given heat loss "B" is readily determined without further calculation.

Example—The Problem—A plant with [illegible] yellow pine roof and [illegible] roofing [illegible] temperature (dry bulb) [illegible] lowest outdoor temperature [illegible]

The Solution—Proceed (1) down the [illegible] Room Temperature line to the [illegible] Humidity diagonal [illegible] horizontally to the line of [illegible] Maximum Temperature Difference. (3) Interpolate heat loss value between adjacent Heat Loss Curves. [illegible] Table of Heat Loss for [illegible] yellow pine, the figure .140 lies between the value for [illegible] and 1½-in. Mundet Corkboard. Therefore 1½-in. Corkboard would be required to prevent condensation under the stated conditions.

d Vibration Isolation

Isolation of Machinery Vibration

Practical considerations prevent the machine designer from eliminating all vibration in industrial machines. But, whether these vibrations be of the sharp, impact type or the relatively small vibrations found in complex machines performing a variety of operations, it is possible and practical to keep such vibrations within the machine limits and so isolate them from the building structure. Likewise, the very high, sound-producing vibrations can be effectively damped.

Requirements of an Isolation Material

A satisfactory isolating medium must be able to:—1—Support the imposed loads without undue or variable rate of deflection.—2—Absorb vibration in the machine without transmitting it to the surrounding structure.—3—Withstand repeated loading without fatigue or permanent set.—4—Withstand action of air, water, oil, dilute acids or alkalies without deterioration.—5—Maintain its resilience with age.

Mundet Cork as an Isolation Material

Mundet Cork has proved itself to be pre-eminently fitted for vibration isolation use. Natural cork and three grades of corkboard provide a wide choice for the control of deflection due to load and the hermetically sealed air cell structure of cork (over 50% air by volume) gives it a practically straight line compression curve—deflection directly proportional to loading within wide limits. Thousands of installations, some over a quarter of a century old, under widely varying conditions of service prove the efficiency of Mundet Cork isolation. Among the installations are steam, gas, and Diesel engines, motors, generators, pumps, fans, blowers, presses, elevator machinery, mixers, grinders, etc.

Types of Mundet Isolation Cork

1 Natural Cork Isolation Mat

For loads of about 800 to 2000 lbs. per sq. ft.—Thickness usually used: 1½ to 2 in. for average vibrations, 3 or 4 in. for intense vibrations or shock loads. Blocks of natural cork of the required thickness are used to make an isolation mat in two ways—a—Held in a rigid steel frame—for use under a machine mounted on foundation or floor slab without side isolation;—b—Bound in asphalt paper applied in hot asphalt to the sides and bottom of the foundation blocks set flush with floor.

2 Manufactured Machinery Isolation Cork

For loads of about 2000 to 6000 (or more) lbs. per sq. ft.—Thickness usually used: 1½, 2, 3 and 4 in., depending on frequency and amplitude of the vibration.

Sheets of pure cork are made in various thicknesses and densities by a process similar to that of corkboard. It is structurally strong and must be loaded within the specified limits for proper isolation efficiency.

Commercial densities are Light, 1.00 - 1.30 for loads of 2000 to 3000 lbs./sq. ft.; Medium, 1.30 - 1.50 for loads of 3000 to 3500 lbs./sq. ft.; Heavy 1.50 - 1.70 for loads of 3500 to 6000 lbs./sq. ft. A Special 1.80 - 1.90 should be used only when recommended by Mundet engineers. For further information on vibration insulation write for our bulletin.

Mundet Cork Corporation

Insulation Division, 7 Hilltop, North Bergen, N. J.

Insulation Factory, Hillside, N. J.

● Mundet District Offices

● Mundet Distributors are Located in Principal Trading Cities