

INSULATION STANDARDS

FOR

PIPING AND EQUIPMENT

This Publication was prepared expressly
for use by the Employees of The Dow
Chemical Company and its subsidiaries.



ENGINEERING DEPARTMENT
THE DOW CHEMICAL COMPANY

Midland, Michigan
December, 1952

ST0000334

THIS COPY ISSUED TO-----

SHEET. OF

MADE: W. A. D. C.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS
CHECKED: <i>W. A. D. C.</i>	TITLE SHEET	
APP'D: <i>E. J. D. C.</i>	REVISION DATE:	IN-000
DATE 12-12-52		

GENERAL NOTES

Piping and Equipment Insulation Standards have been prepared expressly for use by employees of The Dow Chemical Company and Contractors engaged by the Company. These Standards have been designed to fill requirements of the Engineering, Purchasing and Pipe Shop Departments of the Company and similar requirements of outside Contractors engaged in Company work.

1. DESIGN and BILLING NOTES

Designers shall pay particular attention to the various thicknesses for the different pipe sizes to insure providing necessary clearance between parallel piping, or piping close to walls, ceilings or equipment.

Designers shall specify size and quantity of insulation required for blocking across flanged pipe fittings and valves, weld-end valves, equipment nozzles and other equipment flanges which are to be insulated. These items are often overlooked and are not available unless they are billed, listed and purchased for respective applications.

Bills of Material shall list the following:

- Kind, type, size and quantity of insulation proper.
- Kind, type, size and quantity of insulation for blocking in flanged fittings, valves, nozzles, etc.
- Quantity of weatherproof felt if required.
- Quantity of galvanized sheet metal if required.
- Sundry materials shall be billed as "One lot of Sundries consisting of muslin, paste, staples, asphalt mastic ...etc." Refer to Sundries, IN-203.

2. JOB PREPARATORY WORK

- All surfaces shall be clean before applying insulation. All loose scale, dirt, etc., shall be removed, wire brushing where necessary.
- Vessels for hot insulation do not require sand blasting and painting unless in badly rusted condition.
- Vessels for cold insulation shall be sandblasted and painted one prime coat in the shop and a second coat of the same in the field.
- All piping and equipment shall be tight before insulation is applied. Testing for tightness, particularly in new construction, should precede application wherever practical and possible.
- Piping and equipment shall not be covered in wet or frosted condition. This shall be especially adhered to in cold insulation work.

3. INSULATION JOINTS

All insulation joints shall be true, even and firmly lapped together. Styrofoam and cork joints shall be sealed and made absolutely tight against entry of moisture.

MADE: R. I. P.

THE DOW CHEMICAL COMPANY, MIDLAND, MICH.

CHECKED: W. J. A.

APPD: S. J. A.

GENERAL NOTES

DOW 00131

INSULATION
STANDARDS

4. WIRE and BAND FASTENERS

All wires and bands shall be applied straight and drawn tight so as to prevent loosening. Kinking of wire loops in order to take up slack is prohibited.

5. GALVANIZED IRON SHEET. Uses and Application

A. PIPING No. 26 ga. galvanized iron sheet shall be used on insulated pipe as follows:

1. Wherever necessary to protect insulation from physical damage.
2. On covered lines to a point 8 ft. above floor or platform but only when necessary to protect them.
3. On all covered lines wherever it may be necessary for operators to step over them in line of duty.
4. Application Procedure.
Follow the same general procedure as outlined for Weatherproof Felt, IN-481. All laps shall be sized as specified on IN-482. All horizontal laps shall be positioned so as to shed water and shall be concealed as far as possible. All laps shall be fastened with size No. 7 x 1/2" RH sheet metal screws, (P-K or approved equal) placed on 4" centers. Use 7/64" drill.

For width dimensions of sheet metal strips for various covered pipe sizes refer to IN-482.

B. EQUIPMENT. Unless otherwise specified use No. 26 ga. galvanized iron sheet, fastened with No. 7 x 1/2" RH sheet metal screws (P-K or approved equal) on 4" centers. Paint as per Dow Painting Specs.

6. INDOOR and WEATHERPROOF FINISH.

See various Application sheets for detailed methods.

- a. Indoor Finish is designed for indoor use only where conditions provide general indoor protection.
- b. Weatherproof Finish is designed for out-of-doors or where insulation will be exposed to excessive moisture, water or corrosive conditions. Where such conditions exist indoors, weatherproof Finish shall be used.

7. PAINTING

Insulation shall be painted, where called for, according to the latest Dow Manual of Painting Specifications of the Midland Plant, unless otherwise specified. Copies of this manual are obtainable from the Dow Paint Department.

MADE: S.P.F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.		SHEET 2 OF 2
CHECKED: <i>WAT.</i>	GENERAL NOTES		INSULATION STANDARDS
APP'D: <i>PM</i>	DOW 00132		

ECONOMIC THICKNESS AND AMORTIZATION POLICIES

For the purpose of calculating the size and thickness of thermal insulations, pipe lines and equipment shall be classified and insulation shall be designed in accordance with the policies outlined below. Since it is not possible to list all conditions which may be encountered, this outline will serve as a guide for special cases.

1. Long Term Investment Class

Insulation for pipe and equipment in this class shall be designed to produce an "annual rate of return on the investment" of not less than 20 percent. This corresponds to an amortization period of 5 years on the total installed cost of the insulation.

Included in this class are:

- a. Steam distribution mains.
- b. Main steam lines and principle equipment in Power Houses, Pump Houses, Boiler Rooms, etc.
- c. Pipe lines and equipment in permanent laboratories, shops, etc.
- d. Permanent refrigeration and air conditioning system.

2. Short Term Investment Class.

Insulation in this class shall be designed for an annual rate of return on the investment of 35 percent, or an amortization period of within 3 years.

- a. Included here are branch or connecting lines from distribution mains to operating equipment.
- b. Include also process piping and process equipment in general. However, operating conditions may dictate the type, kind and thickness of insulation in order to meet process requirements.

3. Minimum Thickness Class

- a. Piping and equipment in pilot or semi-plants shall use minimum thickness of insulation, or be designed for 100 percent annual return (one year amortization) whichever results in the greater thickness.
- b. Pipe lines heated by steam or water tracer lines shall be covered with $\frac{3}{4}$ " thick 3 ply Air cell insulation. See IN-305.
- c. Insulation required for safety or protection of personnel shall be minimum thickness or greater if necessary, to insure outer surface temperatures of not over 135 degrees F.

SHEET 1 OF 2

MADE: W.A.D.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION
CHECKED: J.A.M.	ECONOMIC THICKNESS AND	STANDARDS
APP'D: C.D.M.	AMORTIZATION POLICIES	

DOW 00133

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The following tables have been prepared to simplify selection of type and thickness of insulations and may be used in most cases. However, for long pipe lines and large items of equipment, where the amount of insulation so justifies, separate economic studies should be made.

Piping Insulation Selection Chart
 Equipment Insulation Selection Chart
 85% Magnesia Thickness Table
 Kaylo Thickness Table
 High Temp. Thickness Table
 Fiberglass & Mineral Wool Thickness Table

IN-101
 IN-102
 IN-103
 IN-104
 IN-105
 IN-106

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SHEET 2 OF 2

MADE: W.A.D.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS IN-202-2
CHECKED: <i>Waz</i>	ECONOMIC THICKNESS AND AMORTIZATION POLICIES	
APP'D: <i>APM</i>		
DATE 3-10-50	REVISION DATE: 12-9-52	

8. ASPHALT MASTIC

- a. Where asphalt mastic is to be used on equipment insulation, the insulation is first covered with 1" hex mesh galvanized iron netting, laced on smooth and tight. The asphalt mastic shall be applied in two separate coats, each coat $\frac{1}{8}$ " thick. It shall be trowelled to a smooth finish and be $\frac{1}{8}$ " thick when dry.
- b. Valves and fittings, 14" and larger, shall be finished as per (a).
- c. Valves and fittings less than 14" size do not require the hex mesh netting.

9. SMALL DIAMETER VESSELS

For vessels 3'-0" in diameter and smaller, use molded pipe insulation (sectional) or curved blocks on the bodies, and flat blocks on the heads. On small dished heads with diameter 18" or less, mineral wool cement may be used as an alternate to blocks.

10. STANDARD PLANT WATER HEATERS

Bodies and heads of these units shall be insulated with 85% Magnesia and covered with $\frac{1}{4}$ " asbestos cement, finished rough, and overlaid with $\frac{1}{4}$ " hard finished cement trowelled smooth. For hard finish cement formula, refer to IN-201-2. Paint as per Dow Painting Specifications.

Coil flanges, hand holes or other removable openings used for maintenance shall not be covered.

MADE S. P. F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS IN-201-3
CHECKED: WAX 1.	GENERAL NOTES	
APPD: CPA		
DATE 8-10-50	REVISION DATE: 12-9-52	DOW 00135

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SHEET 3 OF 3

The following materials are required in the application of piping and equipment insulations. They are Dow Stock and/or Austin 5658 items. Respective stock code numbers are listed accordingly.

To simplify their handling on bills of material, it is not required to bill out sundries in detail with the exception of weatherproof felt. Refer to Design and Billing Notes, IN-201-1.

INSULATING CEMENTS

1. Forty Eight Cement

Dow Stock Code No. 200270
Austin 5658 Code No. 30028

A mineral wool cement for use up to 1800°F. Supplied by Forty Eight Insulations, Inc., in 50 Lb. bags. Coverage 25 sq. ft., 1" thk. per bag.

2. Super "66" Cement

Dow Stock Code No. 200294
Austin 5658 Code No. 30029

A mineral wool cement for use up to 1800°F. Supplied by Eagle Picher Co., in 50 Lb. bags. Coverage 25 sq. ft., 1" thk. per bag.

3. MW No. 50 Cement

Dow Stock Code No.
Austin 5658 Code No. 30030

A mineral wool cement for use up to 1800°F. Supplied by Philip Carey Mfg. Co., in 50 Lb. bags. Coverage 25 sq. ft., 1" thk. per bag.

4. B-H No. 1 Cement

Dow Stock Code No.
Austin 5658 Code No. 30031

A mineral wool cement for use up to 1800°F. Supplied by Baldwin-Hill Co., in 50 Lb. bags. Coverage 25 sq. ft., 1" thk. per bag.

5. 85% Magnesia Cement

Dow Code No. 200288
Austin 5658 Code No. 30032

A magnesia base cement for use up to 600°F. Available from Dow Stock in 50 Lb. Fiberpaks and J-M, Philip Carey and others in 50 Lb. bags. Coverage 30 and 35 sq. ft. respectively, 1" thk. per bag.

INSULATING FINISHING CEMENTS

6. No. 152 Cement

Dow Stock No.
Austin 5658 Code No. 30008

An asbestos base finishing cement for use up to 1000°F. Supplied by Armstrong Cork Co. in 100 Lb. bags. Coverage 19 sq. ft., 1" thk. per bag.

7. No. 352 Cement

Dow Stock Code No.
Austin 5658 Code No. 30008

An asbestos base finishing cement for use up to 1000°F. Supplied by Johns-Manville in 100 Lb. bags. Coverage 19 sq. ft., 1" thk. per bag.

8. No. 303 Cement (or 7M)

Dow Stock Code No. 200271
Austin 5658 Code No. 30010

An asbestos base finishing cement for use up to 1000°F. Supplied by Philip Carey Co., in 100 Lb. bags. Coverage 19 sq. ft., 1" thk. per bag. Also known as 7M cement.

SHEET 1 OF 5

MADE: S.P.F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS
CHECKED: <i>W.H.S.</i>	INSULATION SUNDRIES	
APP'D: <i>W.H.S.</i>	REVISION DATE: 12-9-52	IN-203-1
DATE 3-10-50		

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ASPHALT MASTIC CEMENTS

For Weatherproof Finish

13. Thermotex

Dow Stock Code No. 200263
Austin 5658 Code No. 30591

Supplied by Philip Carey Co. in 50,
100, 300 and 500 Lb. containers. Weight
10 Lbs. per gal. Coverage 55 sq. ft.
1/4" thk. wet, per 100 Lbs.

14. Insulkote

Dow Stock Code No.
Austin 5658 Code No. 30592

Supplied by Johns-Manville in 50, 100
and 500 Lb. containers. Weight 10 Lbs.
per gal. Coverage 55 sq. ft. 1/4" thk.
wet, per 100 Lbs.

15. Insulmastic

Dow Stock Code No.
Austin 5656 Code No. 30590

Supplied by Armstrong Cork Co. in 50,
300 and 500 Lb. containers. Weight
10 Lbs. per gal. Coverage 55 sq. ft. 1/4"
thk. wet, per 100 Lbs.

ADHESIVES CEMENTS

20. No. 340 Cement

Dow Stock Code No. 200260
Austin 5658 Code No. 30013

For cementing joints in Styrofoam and
cork. Supplied by Armstrong Cork Co. in
1 and 5 gal. cans. Weight 12 1/2 Lbs. per
gal. Coverage 30 sq. ft. per gal., trowel
application.

21. No. EC-921 Cement

Dow Stock Code No.
Austin 5658 Code No. 30014

For cementing joints in Styrofoam.
Supplied by Minnesota Mining & Mfg. Co.,
in 1 and 5 gal. cans. Weight 8 Lbs. per
gal. Coverage 20 sq. ft. 1/8" thk. per gal.
trowel application.

22. Trimedge Plastic Tile Cement

Dow Stock Code No.
Austin 5658 Code No. 30015

For cementing joints in Styrofoam.
Supplied by Trimedge Industries in 1
and 5 gal. cans. Weight 8 Lbs. per gal.
Coverage 25 sq. ft. 1/8" thk., trowel
application.

23. Plastic Klastigum

Dow Stock Code No. 300114
Austin 5658 Code No. 30016

For applying hair felt and sealing
laps of Weatherproof Felt. Supplied
by Barrett in 10, 50 and 500 Lb. con-
tainers. Weight 10 Lbs. per gal. Cover-
age 100 sq. ft. 1/8" thk. per 35-40 lbs.

24. No. 299 Cork Waterproof Cement

Dow Stock Code No.
Austin 5658 Code No. 30033

For cementing cork joints together.
Coat only one face of adjoining
surfaces. Acid and alkali resistant,
waterproof and quick setting. Furn-
ished by Armstrong Cork Co., cover-
age 35 sq. ft. of joint area per gal.

WATERPROOF FELT . For Weatherproof Finish

30. J-M Armor Felt

Dow Stock Code No. 200266
Austin 5658 Code No. 30135

Supplied by Johns-Manville in 85 Lb.
rolls 32" wide x 40 ft. long. Cover-
age 100 sq. ft. per roll. Order white
side out, rolls in one piece, felts
only. Also known as "Black & White"
felt.

SHEET 2 OF 6

MADE: S. P. F. —	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS
CHECKED: 11/17/51	INSULATION SUNDRIES	
APP'D: 12/1/51		IN-203-2
DATE 3-10-50	REVISION DATE: 12-9-52	

DOW 00137

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MISCELLANEOUS

35. Banding, Steel, Galvanized

Dow Stock Code No. 230205
Austin 5658 Code No. 30003

For fastening large piping and equipment insulation. Size 25 gal. 5/8" x .020" thk., galvanized, in 100 Lb. rolls equal to 2300 ft. Use Acme Steel Co. or approved equal. Fasten with seals. See item 46.

36. Banding, Steel, Blk. Painted

Dow Stock Code No. 230201
Austin 5658 Code No. 30006

Same as above except not galvanized and painted black. To be used where it will be overlaid with insulating cements or asphalt mastic for protection against corrosion. (Acme Steel Co. or approved equal)

37. Cork Granulated

Dow Stock Code No. 200269
Austin 5658 Code No. 30049

For filling voids around cork fitting and valve covers. Regranulated scrap cork supplied from Dow Stock in 50 Lb. bags. Also supplied by Armstrong Cork Co., their size No. 8/14 mesh in 35 Lb. bags. Weight 5 Lbs. per cu. ft.

38. Filler, Seam Cork

Dow Stock Code No.
Austin 5658 Code No. 30143

For filling and pointing cork joints. Supplied by Armstrong Cork Co. in 1 and 5 gal. cans. Weight 13 1/2 Lbs. per gal. (An alternate material is asphalt mastic mixed with cork dust) See IN-204.

39. Chalk Line

Dow Stock Code No. 10005
Austin 5658 Code No. 30863

For tying hair felt insulation. Supplied in 100 ft. rolls.

40. Muslin, 4 oz.

For covering insulation. Order unbleached. Furnished in bolts and rolls 36" wide, in varying lengths as required.

41. Muslin, 6 oz.

Dow Stock Code No.
Austin 5658 Code No. 30867

Same as No. 40. Furnished in bolts and rolls 36" wide, in varying lengths as required.

42. Netting, Hex Mesh Wire

Dow Stock Code No. 200254
Austin 5658 Code No. 30870

Used as a base for insulating cements and/or asphalt mastic. Order 20 gal. 1" hex mesh, "galvanized after weaving". Furnished 48" wide x 150 ft. rolls. Also known as poultry netting.

43. Paraffin Wax

Dow Stock Code No.
Austin 5658 Code No. 30882

Known as White Crude Scale Wax with melting point of 125°F. Furnished in 100 Lb. net cartons. (Kalamazoo Paraffin Co.)

SHEET 3 OF 5

MADE: S.P.P.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS
CHECKED: W.A.S.	INSULATION SUPPLIES	
APP'D: W.A.S.		
DATE: 3-10-50	REVISION DATE: 12-4-50	DOW 00138 — IN-203-3

MISCELLANEOUS continued

44. Parolite

Dow Stock Code No.
Austin 5658 Code No. 30884

For cementing Styrofoam to equipment. Melting point 125°F. Supplied by Standard Oil of Indiana in 100 Lb. cartons. Wt. 56 p.c.f. coverage, 80 Lbs. per 100 sq. ft. of surface coated.

45. Paste, Cold Water

Dow Stock Code No. 200262
Austin 5658 Code No. 30878

For pasting muslin over insulation. Also called "Dry Paste". Supplied by Jennison Hardware Co. in 100 Lb. bags under trade name "Red Stove Wheat Paste".

46. Seals, Fastening (Clips)

Dow Stock Code No. 011012
Austin 5658 Code No. 30038

For fastening steel banding. Use Acme Steel Co. open type No. 81, or approved equal. Supplied in lots of 2.5 and 10 M pcs.

47. Screws, Sheet Metal

Dow Stock Code No. 10037
Austin 5658 Code No. 40279

For fastening 26 ga. sheet metal. Use size No. 7 x 1 1/2", RH, Parker-Kalon or approved equal. Supplied in boxes of 1 gross. Use 7/16" drill.

48. Silicate, Sodium

Dow Stock Code No. 300209
Austin 5658 Code No. 30899

Use 40 Baume' type. Supplied in 50 gallon drums.

49. Skewers, Wood

Dow Stock Code No.
Austin 5658 Code No. 30890
30891
30892

Supplied by Armstrong Cork Co. (also available from butcher supply companies) Sizes in 14 pcs:

1/4" x 4" Wt. 5 lbs. per M.
1/4" x 5 1/2" Wt. 6.5 lbs. per M.
1/4" x 7" Wt. 10 lbs. per M.

50. Staples, Copper-clad

Dow Stock Code No. 200268
Austin 5658 Code No. 30897

Size 3/4" x 1", 208 pcs. per Lb. Supplied in 100 lb. kegs. (Jennison Hardware Co.)

51. Staples, Copper-clad

Dow Stock Code No. 200259
Austin 5658 Code No. 30898

Size 1" x 1 1/2", 140 pcs. per Lb. Supplied in 100 Lb. kegs (Jennison Hardware Co.)

52. Styrofoam, Granulated

Dow Stock Code No.
Austin 5658 Code No. 30905

Manufactured by Dow and stocked in No. 6-433 Bldg. Order Grind A type. Supplied in 10 cu. ft. boxes weighing 22 lbs.

53. Tape, Masking

Dow Stock Code No. 031401
Austin 5658 Code No. 30917
No. 30918.

For fastening sectional Styrofoam insulation. Size 1" wide. Supplied by Minnesota Mining & Mfg. Co. "Wetordry No. 280" brand, or by Industrial Tape Co., "Dermacel No. 77" brand.

SHEET 4 OF 8

MADE: S. P. F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS
CHECKED: WAT.	INSULATION SUPPLIES	
APP'D: <i>WAT</i>		IN-203-4
DATE 3-10-60	REVISION DATE: 12-8-52	

DOW 00139

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MISCELLANEOUS continued

54. Tape, Asbestos

Dow Stock Code No. 020101
Austin 5658 Code No. 30910
30911

Size 1" x .020" thk.
Size 1" x .125" thk.

55. Wire, Copper-clad, No. 14 Ga.

Dow Stock Code No.
Austin 5658 Code No. 30940

Order soft annealed. Weight 1.71 Lbs.
per 100 ft. Supplied in 100 lb. rolls
Use Copper-weld Steel Co., or approved
equal.

56. Wire, Copper-clad No. 12 Ga.

Dow Stock Code No.
Austin 5658 Code No. 30945

Order soft annealed. Weight 1.83 lbs.
per 100 ft. Supplied in 100 lb. rolls.
Use Copper-weld Steel Co., or approved
equal.

57. Wire, Iron No. 12 Ga. Blk.

Dow Stock Code No. 041009
Austin 5658 Code No. 41152

Order soft annealed. Weight 2.91 lbs.
per 100 ft. Supplied in 100 lb. rolls

58. Wire, Iron, No. 16 Ga. Blk.

Dow Stock Code No. 0411504
Austin 5658 Code No. 41151

Order soft annealed. Weight 1.04 Lbs.
per 100 ft. Supplied in 100 lb. rolls

59. Wire, Iron, No. 9 Ga. Blk.

Dow Stock Code No. 040613
Austin 5658 Code No. 41150

Order soft annealed. Weight 8.78 lbs.
per 100 ft. Supplied in 100 lb. rolls

60. Wire, Bare Copper, No. 9 Ga.

Dow Stock Code No. 200277
Austin 5658 Code No. 30951

Order soft annealed. Weight 25.28 ft.
per pound.

SHEET 5 OF 5

MADE: S.P.F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICH.	INSULATION STANDARDS
CHECKED: <i>War</i>	INSULATION SUNDRIES	
APPD: <i>SPM</i>		
DATE 3-10-50	REVISION DATE: 12-9-52	IN-203-5

DOW 00140

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INSULATING, WEATHERPROOF and ADHESIVE CEMENTS

- MISCELLANEOUS -

Hard Finish Cement

For use in indoor finish on flanged valves and fls, weld-end valves, size 8" and larger, and all flanged unions and equipment.

FORMULA; Mixture shall consist of three (3) parts of asbestos cement and one (1) part Portland cement by volume. (Note; Brick mortar cement may be used in place of Portland when a slower setting mixture is desired).

Sodium Silicate Asbestos Cement

For use in cementing 85% Magnesia and similar insulating materials to curved and irregular metal surfaces prior to fastening with wire or bands.

FORMULA; This cement is made by sifting asbestos cement into sodium silicate, 30 degree Baume', and mixing to the desired consistency.

Plastic Elastigum

A waterproof plastic asphalt cement for special use in hair-felt application as a vapor barrier and adhesive. For further data refer to Sundries. Coverage is 35 Lbs. per 100 sq. ft. per $\frac{1}{16}$ " thk.

Cork Waterproof Cement

A quick-setting cement for cork joints, and resistant to acids and alkalis. Coverage for joints is 35 sq. ft. per gal. For further data refer to Sundries.

Cork Seam Filler

A waterproof mastic filler for cork joints and cracks. It is generally furnished with cork purchases. For further information refer to Sundries.

Asphalt Mastic-Ground Cork Joint Filler

A waterproof mastic filler for cork joints and cracks. It is made by mixing ground cork, mesh size No. 8/14", with sufficient asphalt mastic cement to a stiff plastic consistency, i.e., where the mixture will just trowel without balling.

• If this size ground cork is not available, use granulated cork sifted thru ordinary insect screening.

Rev. 7-21-51

MADE: S.F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN	INSULATION STANDARDS
ENGINEER: W.B.	GENERAL PLANT STANDARDS	
APPROVED: J.E.H.	INSULATING, WEATHERPROOF and ADHESIVE CEMENT	
DATE: 7-15-49	SELECTION TABLE	IN-204-2

U.S. PAT. 2,311,111

DOW 00141

Sheet 2 of 2

ST0000346

INSULATING, WEATHERPROOF AND ADHESIVE CEMENT SELECTION TABLE

Manufacturer	Trade Name	Temp. Deg. F.	Coverage Sq. ft./100 Lb./1"	Coverage Sq. ft./Bq./1"	Pounds per bag
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MINERAL WOOL CEMENT

Forty-Eight Insulations, Inc.	"48"	1800	50	25	50
Eagle Picher Co.	Super "66"	1800	50	25	50
Philip Carey Mfg. Co.	NW No. 50	1800	50	25	50
Belovish-Hill	B-H No. 1	1800	50	25	50

For use in direct application to hot metal surfaces, both large & small areas; Valves, fittings and irregular shapes; pointing joints and cracks, and for first coat work.

This material is reusable when not exposed to temperatures over 1200° F.

85% MAGNESIA CEMENT

Dow Chemical Co.	85% Magnesia	600	58	29	50
Johns-Manville	"	600	58	35	60
Philip Carey Mfg. Co.	"	600	58	35	60

For use in first coat work on large and small areas; on valves, fittings and irregular shapes; pointing joints and cracks. It is not desirable as a finish cement nor for use in hard finish cement.

ASBESTOS CEMENT

Johns-Manville	No. 352	1000	19	19	100
Armstrong Cork Co.	No. 152	1000	19	19	100
Philip Carey Mfg. Co.	No. 303 or 7M	1000	19	19	100

For use in general finishing on small and large areas, in hard finish cement and for first coat preceding hard finish cement.

WEATHERPROOF ASPHALT MASTIC

		Sq. ft./100 Lb./1"	Sq. ft./gal./1/8"	Gals./Cent.
Philip Carey Mfg. Co.	Thermotex	55	5.5	5.10 & 50
Johns-Manville	Insulkote	55	5.5	5.15 & 50
Armstrong Cork Co.	Insulastic	50	5.0	5.30 & 50

For use in Weatherproof Finish on large and small areas.

Note: These materials become damaged on freezing and, accordingly, shall be protected both in application and storage.

ADHESIVE WATERPROOF CEMENT

		Sq. ft./gal./1/16"	Gals./Cent.
Armstrong Cork Co.	No. 340	30	1 & 5
Minn. Mining & Mfg. Co.	No. EC-921	25	1 & 5
Trimedge Industries	Plastic Tile Cement	25	1 & 5

For use in cementing Styrofoam joints and Styrofoam and cork to metal, concrete, plaster and wood surfaces.

Rev. 7-21-51

MADE: S.P.F.	THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN	INSULATION STANDARDS
CHECKED: <i>WLT</i>	GENERAL PLANT STANDARDS	
APPROV: <i>WLT</i>	INSULATING, WEATHERPROOF AND ADHESIVE CEMENT	
DATE: 7-15-49	SELECTION TABLE	IN-204-1

DOW 00142