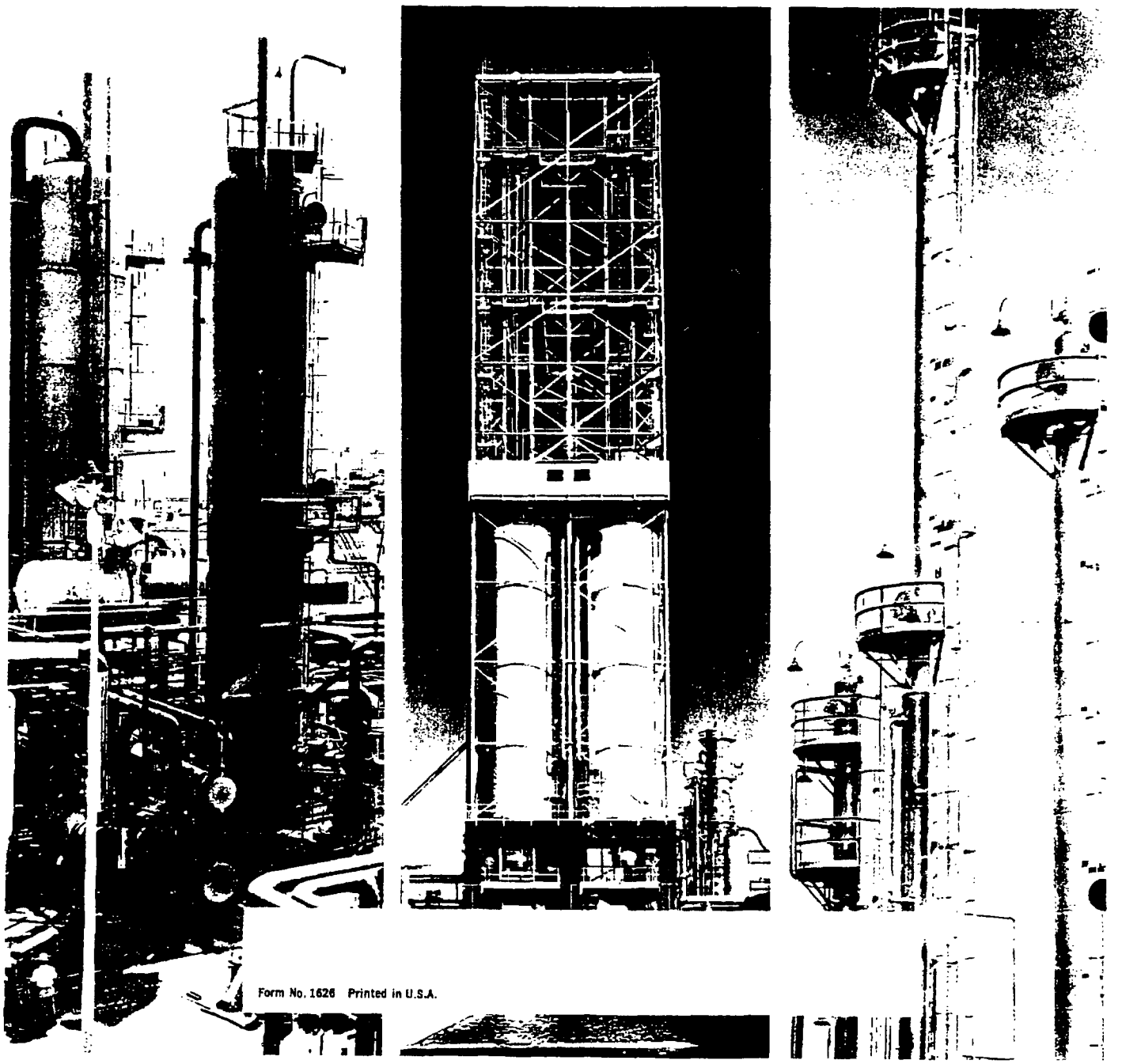
PLAINTIFF'S
EXHIBIT
GF-1779

Ruberoid Calsilite

THE MOST EFFECTIVE INSULATION CONTROL FOR SOAKING HEATS
IN ALL MAJOR CHEMICAL, POWER AND PROCESSING INDUSTRIES



Form No. 1626 Printed in U.S.A.

Ruberoid Calsilite is an improved calcium silicate insulation, precisely molded to fit accurately with fewer and tighter joints. It is uniform, smooth, and free of voids . . . cuts easily and mitres cleanly without special equipment . . . applies quickly to cut costs even on involved installations.

Calsilite is not soluble in water and is not affected by most normal acids and alkalis. It retains its shape even when completely saturated and returns to normal thermal efficiency when dry. Calisilite has an extremely low thermal conductivity, is chemically stable, will not rot, and will not support combustion.

Lightweight and strong, Calsilite handles easily and takes unusual punishment without serious damage. It finishes smoothly providing a clean, neat appearance. The new sectional design cuts job time and saves money by doing away with piece-by-piece installation. Its fine texture makes it easy to cut and fabricate without crumbling or breaking . . . reducing wasted time and materials. Compatible Ruberoid cements seal joints and fittings neatly.

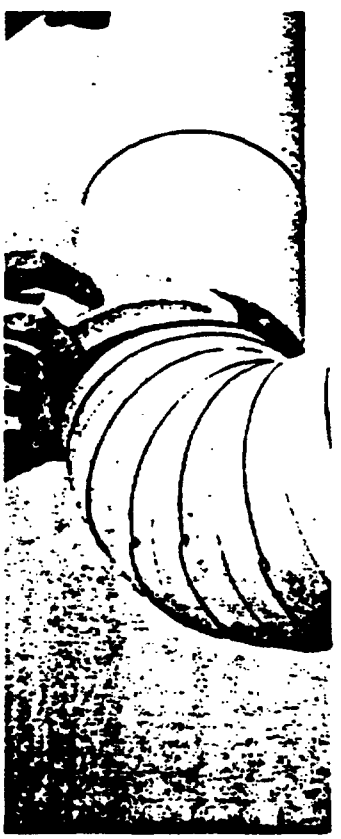
USES: The low K factor of Calsilite makes it perfect for application on industrial piping and equipment operating at temperatures up to 1250°F; its resistance to water damage allows its use on high moisture or high humidity installations, inside or out, below or above ground. Application in areas of high inflamability are safe because of the fireproof qualities of Calsilite.

AVAILABLE FORMS AND SIZES: Calsilite is available to fit all standard pipe and tubing. Half sectional Calsilite is available for pipe up to 24" IPS, segmental Calsilite above 24" IPS, in all thicknesses up to and including 3". Calsilite Block is available up to 4" thickness in 6" and 12" widths.
sealed blocks - P/C up to 4" thick

SPECIFICATIONS: Calsilite Insulation meets ASTM Specification C-533-64T and Federal Specification HH-I-00523B (GSA-FSS) for Block and Pipe Covering. Calsilite Pipe Covering meets Specification MIL-I-2781-D dated June 13, 1963. Calsilite Block meets Specification MIL-I-2819D dated August 9, 1963.



FORMS EASILY



TIGHTER JOINTS



FULL SIZE RANGE



NEAT APPEARANCE

01-0222[illegible]

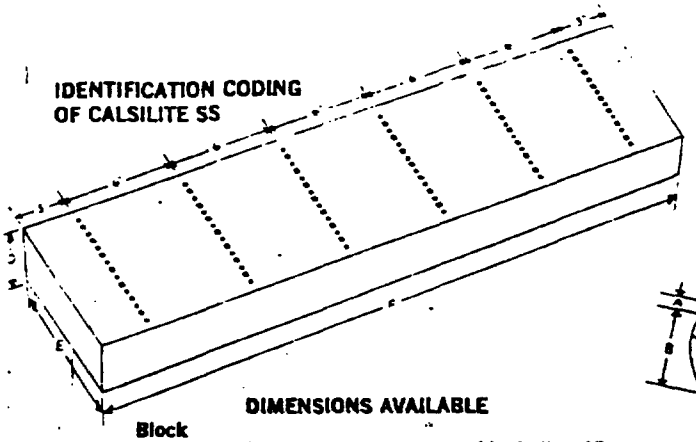
MICH08011

gaf Product Data Sheet

CALSILITE® SS

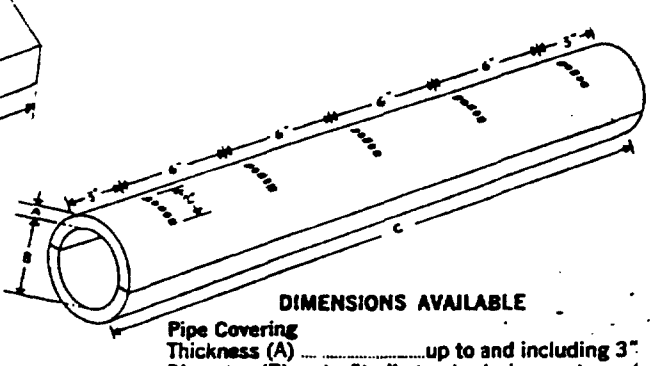
High Temperature Thermal Insulation for Use over Stainless Steel

IDENTIFICATION CODING OF CALSILITE SS



DIMENSIONS AVAILABLE

Block
Thickness (D) ..... up to and including 4"
Width (E) ..... 6", 12", 18", 24", 30" and 36"
Length (F) ..... 36"



DIMENSIONS AVAILABLE

Pipe Covering
Thickness (A) ..... up to and including 3"
Diameter (B) ..... to fit all standard pipe up to and including 24" I.P.S.
Length (C) ..... 36"

Calsilite SS has all of the advantages of standard Calsilite and additionally has been formulated with an inhibitor system designed to reduce the effect of outside elements on the stress corrosion of austenitic stainless steel. Calsilite SS passes the accelerated Dana stress corrosion test and has been approved for use over stainless steel by a major chemical manufacturer. It is coded for identification by periodic bands of circles and rectangles as shown in diagrams above.

Calsilite SS is an improved calcium silicate insulation in sectional design that eliminates multi-piece installation. Precisely molded, it fits accurately with fewer and tighter joints. It cuts easily without special equipment and without crumbling or breaking.

Calsilite SS is lightweight and strong. It is not soluble in water and is unaffected by most alkalis. It will not rot or support combustion and finishes smoothly to a neat, clean appearance.

Calsilite SS is available to fit all standard pipe and tubing... half-sectional up to and including 24" I.P.S. and segmental above 24" I.P.S. in all thicknesses up to and including 3". Calsilite SS Block is available in 6", 12" and 18" widths in thicknesses up to and including 4". It is available on special order in widths up to 36" in 6" increments.

Specifications. Calsilite SS Pipe Covering and Block meet specifications: ASTM C-533-64T, Federal Spec. HH-I-00523C (GSA-FSS), MIL-I-2781-D and MIL-I-2819D.

- Approved for Use Over Stainless Steel
- Low Thermal Conductivity
- Sectional Design Applies Quickly
- Cuts Easily
- Mitres Cleanly
- Stronger
- Lightweight
- Non-soluble
- Full Size Range

Physical Characteristics

Thermal Conductivity (BTU/sq. ft./inch/hr./°F.)	at 200°F. (Mean) ... 0.35 300°F. " ... 0.40 400°F. " ... 0.45 500°F. " ... 0.50 600°F. " ... 0.55
Density	(Average) ... 12.5 lbs./cu. ft.
Moisture Absorption (Volume)	After 6 hours exposure in atmosphere of 90% relative humidity at 120°F. dry bulb temperature ... 0.7%
Flexural Strength	Lbs./sq. in. (average) ... 100
Resistance to Abrasion	Loss in Weight (Max.) After 10 min. ... 10% Loss in Weight (Max.) After 20 min. ... 20%
Change under Soaking Heat	Loss of Weight 24 hrs. @ 1200°F. ... 8.5% 6 hrs. @ 1000°F. ... 7.0%
Linear Shrinkage	24 hrs. @ 1200°F. ... 1.5% 6 hrs. @ 1000°F. ... 0.8%
Compressive Strength	5% deformation after immersion in water for 16 hours while wet (Min.) ... 120 psi

MICH08743

GAF Corporation, Industrial Products Division, 140 West 51 Street, New York, N.Y. 10020

Recommended Thickness for Commercial and Industrial Design

Pipe Covering						
temperature of pipe (°F)						
pipe size	200°	400°	600°	800°	1000°	1250°
½	1	1½	2	2½	3	3
¾	1	1½	2	2½	3	3
1	1	1½	2	2½	3	3
1¼	1	1½	2	2½	3	3½
1½	1	1½	2	2½	3	3½
2	1	1½	2	2½	3½	3½
2½	1	1½	2	3	3½	3½
3	1	1½	2½	3	3½	4
4	1	2	2½	3	3½	4
5	1½	2	2½	3	3½	4
6	1½	2	2½	3	3½	4
7	1½	2	2½	3	3½	4
8	1½	2	2½	3	3½	4
9	1½	2	2½	3	3½	4
10	1½	2	2½	3	4	4½
12	1½	2	2½	3½	4	4½
14	1½	2½	3	3½	4	4½
16	1½	2½	3	3½	4	4½
18	1½	2½	3	3½	4	4½
20	1½	2½	3	3½	4	4½
24	1½	2½	3	3½	4	4½

Block			
available 36" long in 6", 12", 18", 24", 30" & 36" widths			
equip. temp. (°F)	commercial (110°F max. surface temp.)	power (130°F max. surface temp.)	process (150°F max. surface temp.)
200	1	1	1
300	1½	1	1
400	2½	1½	1
500	3½	2	1½
600	4½	2½	1½
700		3	2
800		4	2½
900		4½	3
1000		5½	3½
1100		6	4
1200		6½	4½

Note: It is recommended that double layer application with staggered joints be used on all installations of over 600° F.

Tabulated thicknesses are optimum thicknesses calculated on an economic basis* for heat conservation under average operating conditions and assure adequate temperature control. Other conditions may warrant the use of other thicknesses.

*From "How to Determine Economic Thickness of Insulation"—National Insulation Manufacturers Association.

Calsilite SS Pipe Covering: Packaging Data

	PIPE SIZE	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"	4½"	5"	6"	7"	8"	9"	10"	11"	12"	14"	15"	16"	17"	18"	19"	20"	21"	22"	23"	24"
Nom. 1" Th.	Sections per Ctn.	45	45	25	25	21	18	18	15	9	9	8	8	6																
	Av. Gross Wgt. per Ctn. (lbs.)	68	74	64	57	62	62	65	67	63	67	64	67	46																
	Ctn. Number	201	201	212	212	201	201	202	221	202	202	203	203	204																
Nom. 1½" Th.	Sections per Ctn.	21	21	16	16	12	9	9	9	6	6	6	4	4	4	3	3	3	2	2	2	1	1	1	1	1	1			
	Av. Gross Wgt. per Ctn. (lbs.)	61	70	64	48	66	66	67	72	66	70	77	66	68	58	55	57	46	49	55	51	51	56	55	58	61	64			
	Ctn. Number	201	201	201	212	212	212	212	213	203	204	204	205	206	207	208	208	209	210	203	211	211	212	213	205	205	202			
Nom. 2" Th.	Sections per Ctn.	12	12	8	8	6	6	6	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1
	Av. Gross Wgt. per Ctn. (lbs.)	61	70	67	48	62	67	67	72	66	70	77	66	68	58	55	57	46	49	55	51	51	56	55	58	61	64	64	68	68
	Ctn. Number	213	213	213	213	211	211	211	222	213	213	213	213	204	205	206	206	207	208	209	209	210	203	211	212	213	205	205	206	214
Nom. 2½" Th.	Sections per Ctn.	9	9	6	6	6	4	4	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1
	Av. Gross Wgt. per Ctn. (lbs.)	64	68	64	52	62	67	67	72	66	70	77	66	68	58	55	57	46	49	55	51	51	56	55	58	61	64	64	68	68
	Ctn. Number	222	222	222	222	213	213	211	211	211	206	205	210	206	207	209	209	210	202	211	212	213	205	205	206	214	215	216	217	218
Nom. 3" Th.	Sections per Ctn.	6	6	6	4	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Av. Gross Wgt. per Ctn. (lbs.)	64	73	68	52	66	70	68	71	67	71	77	73	67	64	66	70	70	72	68	70	72	67	66	68	71	74	74	77	77
	Ctn. Number	213	213	213	223	211	211	201	208	210	210	207	207	208	208	209	209	210	203	221	212	213	205	205	206	214	215	216	217	218

Code Size of Cartons

102—18½" x 12½" I.D.
201—27½" x 14" I.D.
202—21½" x 21½" I.D.
203—32" x 18" I.D.
204—37" x 18" I.D.
205—30½" x 20½" I.D.
206—22½" x 22½" I.D.
207—24" x 13" I.D.
208—28" x 15" I.D.
209—28½" x 14½" I.D.
210—30½" x 25½" I.D.
211—23¾" x 17½" I.D.
212—18½" x 18½" I.D.
213—19½" x 18½" I.D.
214—23½" x 23½" I.D.
215—24½" x 24½" I.D.
216—25½" x 25½" I.D.
217—26½" x 26½" I.D.
218—27½" x 27½" I.D.
219—28½" x 28½" I.D.
221—29½" x 17½" I.D.
222—29½" x 13½" I.D.
223—13" x 18½" I.D.
224—14½" x 18½" I.D.
225—6½" x 36½" I.D.
226—8" x 36½" I.D.
227—12½" x 34½" I.D.
228—16½" x 34½" I.D.
229—6½" x 30½" I.D.
230—8" x 30½" I.D.

Blocks: Packaging Data

	THICKNESSES	1"	1½"	2"	2½"	3"	3½"	4"
Block Width 6"	Sq. Ft./Ctn.	54	36	27	21	18	15	13.5
	No. Pieces	18	24	18	14	12	10	9
	Av. Gross Wgt./lbs.	71	71	71	71	71	71	71
	Carton No.	102	102	102	102	102	102	102
Block Width 12"	Sq. Ft./Ctn.	54	36	27	21	18	15	12
	No. Pieces	18	12	9	7	6	5	4
	Av. Gross Wgt./lbs.	71	71	71	71	71	71	71
	Carton No.	102	102	102	102	102	102	102
Block Width 18"	Sq. Ft./Ctn.	54	36	27	22.5	18	18	13.5
	No. Pieces	12	8	6	5	4	3	3
	Av. Gross Wgt./lbs.	66	66	66	69	66	75	66
	Carton No.	102	102	102	223	102	224	102
Block Width 24"	Sq. Ft./Ctn.	72	48	36	24	24	18	18
	No. Pieces	12	8	6	4	4	3	3
	Av. Gross Wgt./lbs.	67	67	67	73	67	79	67
	Carton No.	227	227	227	228	227	228	227
Block Width 30"	Sq. Ft./Ctn.	45	30	22.5	22.5	15	15	15
	No. Pieces	6	4	3	3	2	2	2
	Av. Gross Wgt./lbs.	57	57	57	68	57	68	74
	Carton No.	229	229	229	230	229	230	230
Block Width 36"	Sq. Ft./Ctn.	54	36	27	27	18	18	18
	No. Pieces	6	4	3	3	2	2	2
	Av. Gross Wgt./lbs.	67	67	67	82	67	77	67
	Carton No.	225	225	225	226	225	226	226

CURVED BLOCKS — SEGMENTS

1½" thick 24 per carton 2½" thick 14 per carton
2" thick 18 per carton 3" thick 12 per carton
All Segments are packaged in No. 102 Cartons

Copper Tubing SECTIONS PER CARTON : Packaging Data

	PIPE SIZE	¾"	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
Nom. 1" Th.	Sections per Ctn.	45	45	45	25	25	25	21	18	18	15	9
	Av. Gross Wgt. per Ctn. (lbs.)	75	74	71	68	60	57	53	70	70	70	65
	Ctn. Number	201	201	221	201	212	212	212	201	202	221	202

Segmental Pipe Covering

(NO. OF SECTIONS PER SECTION)

Packaging Data

PIPE SIZE	12"	14"	15"	16"	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	38"	40"	42"	44"	46"	48"
Nominal 1½" Thick	9	9	10	10	11	11	12	13	13	14	15	15	15	16	16	17	17	18	18	19	19	19	20	21	22	23	24	25	26	27
Actual O.D. of Covering	16"	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	41"	43"	45"	47"	49"	51"
Nominal 2" Thick	9	10	10	11	11	12	13	13	14	15	15	15	16	16	16	17	17	18	18	19	19	20	20	21	22	23	24	25	26	27
Actual O.D. of Covering	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"	42"	44"	46"	48"	50"	52"
Nominal 2½" Thick	10	10	11	11	12	13	13	14	15	15	15	16	16	16	17	17	18	18	19	19	20	20	21	21	23	24	25	26	27	28
Actual O.D. of Covering	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"	41"	43"	45"	47"	49"	51"	53"
Nominal 3" Thick	10	11	11	12	12	13	14	14	15	16	16	16	17	17	18	18	19	19	20	20	21	21	22	22	24	25	26	27	28	29
Actual O.D. of Covering	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"	41"	42"	44"	46"	48"	50"	52"	54"

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