

Industrial
Insulation for
Soaking Heats

RUBEROID Calsilite

MICH01374

01-0215590

RUBEROID Calsilite

Design Data All design data and recommended thicknesses have been developed to serve as a guide for using Calsilite. These are average figures for general conditions and should be adjusted to meet specific requirements and conditions.

Physical Characteristics							Single Layer			
Thermal Conductivity (BTU/sq ft./inch/hr./°F.)		at 200°F. (Mean)					IRON PIPE SIZE, Nominal Pipe Size			
		300°F. "					Actual Pipe Size			
		400°F. "					Nominal 1" Thick, Actual Thick in.			
		500°F. "					Nominal 1½" Thick, Actual Thick in.			
		600°F. "					Nominal 2" Thick, Actual Thick in.			
Density		(Average)					Nominal 2½" Thick, Actual Thick in.			
Moisture Absorption (Volume)		After 6 hours exposure in atmosphere of 90% relative humidity at 120°F. dry bulb temperature					Nominal 3" Thick, Actual Thick in.			
Flexural Strength		Lbs./sq. in. (average)					* Three segmental pieces 16" wide			
Resistance to Abrasion		Loss in Weight (Max.) After 10 min.					Two Layer — Nominal 2" Thick			
Change under Soaking Heat		Loss in Weight (Max.) After 20 min.					IRON PIPE SIZE, Nominal Pipe Size			
Linear Shrinkage		Loss of Weight 24 hrs. @ 1200°F.					Inner Layer, Pipe Size			
Compressive Strength		6 hrs. @ 1000°F.					Inner Layer, Nominal Thick.			
		5% deformation after immersion in water for 16 hours while wet (Min.)					Outer Layer, Pipe Size			
							Outer Layer, Nominal Thick.			
						Actual Thickness				
						Nominal Copper Tubing Size				
						Actual O.D. of Tubing				
						Nominal 1" Thick, Actual Thick in.				
						Two Layer — Nominal 3" Thick				
						IRON PIPE SIZE, Nominal Pipe Size				
						Inner Layer, Pipe Size				
						Inner Layer, Nominal Thick.				
						Outer Layer, Pipe Size				
						Outer Layer, Nominal Thick.				
						Actual Thickness				
						* Three segmental pieces 16" wide				
						Two Layer — Nominal 4" Thick				
						IRON PIPE SIZE, Nominal Pipe Size				
						Inner Layer, Pipe Size				
						Inner Layer, Nominal Thick.				
						Outer Layer, Pipe Size				
						Outer Layer, Nominal Thick.				
						Actual Thickness				
						* Three segmental pieces 16" wide				

Recommended Thickness for Commercial and Industrial Design										
Pipe Covering							Block			
temperature of pipe (°F)							ambient temperature 80°F			
pipe size	200°	400°	600°	800°	1000°	1250°	equip. temp. (°F)	commercial (110°F max. surface temp.)	power (130°F max. surface temp.)	process (150°F max. surface temp.)
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	200	1	1	1
1½	1	1½	2	2½	3	3½	300	1½	1	1
2	1	1½	2	2½	3½	3½	400	2½	1½	1
2½	1	1½	2	3	3½	3½	500	3½	2	1½
3	1	1½	2½	3	3½	4	600	4½	2½	1½
4	1	2	2½	3	3½	4	700		3	2
5	1½	2	2½	3	3½	4	800		4	2½
6	1½	2	2½	3	3½	4	900		4½	3
7	1½	2	2½	3	3½	4	1000		5½	3½
8	1½	2	2½	3	3½	4	1100		6	4
9	1½	2	2½	3	3½	4	1200		6½	4½
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				

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

Calsite-HI: For temperatures to 1800° For information regarding Calsite-HI, contact New York office.

Note: It is recommended that double layer application with staggered joints be used on all installations of 500° up.

Calsilite-MI: For temperatures to 1800° For information regarding Calsilite-MI, contact New York office.

MICH01375

U1-0215591

Packaging Data

Calsilite Insulation meets ASTM Specifications C-344-54T and C-345-54T for Block and Pipe Covering respectively. Calsilite Pipe Covering meets Specification MIL-I-2781-D. Calsilite Block meets Specification MIL-I-002819C.

Pipe Covering

SECTIONS PER CARTON

PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	5"	6"	7"	8"	9"	10"	11"	12"	14"	16"	18"
Nominal 1" Th.	42b	42b	25b	25b	20b	18b	13b	10b	8b	8b	9c	9c	6c	—	—	—	—	—	—	—	—	—
Nominal 1 1/2" Th.	20b	20b	18b	13b	13b	10b	10b	8b	8b	9c	9c	6c	3b	4c	3c	2d	1i	1i	1h	2e*	3c*	1a*
Nominal 2" Th.	13b	13b	10b	10b	8b	8b	9c	9c	6c	6c	6c	3b	4c	3c	2d	1i	1i	1b	1h	1a*	1a*	1b*
Nominal 2 1/2" Th.	10b	8b	8b	8b	8b	9c	9c	6c	6c	3b	3b	4c	3c	2d	1i	1b	1h	1b	2c*	2c*	1e*	1e*
Nominal 3" Th.	8b	9c	9c	9c	9c	6c	6c	3b	3b	4c	4c	3c	2d	1b	1i	1b	1h	—	—	—	—	—

AVERAGE GROSS WEIGHT PER CARTON (Pounds)

Nominal 1" Th.	68	65	57	52	55	57	44	41	48	42	65	53	42	—	—	—	—	—	—	—	—	—
Nominal 1 1/2" Th.	66	64	71	58	55	54	49	54	48	73	65	63	54	51	44	32	20	21	23	46	77	30
Nominal 2" Th.	63	62	63	61	67	65	96	88	76	70	65	41	62	53	39	25	26	28	29	33	37	40
Nominal 2 1/2" Th.	67	77	75	74	71	104	99	83	79	49	46	76	64	48	29	32	34	36	77	79	46	50
Nominal 3" Th.	77	113	112	110	108	92	88	55	53	85	81	73	55	33	36	39	41	—	—	—	—	—

* Covering Formed in Three Segmental Form

Code of Size of Cartons

a - Blocks Three Segmental and Regular Segmental—12 1/2" x 18 1/2" x 36 1/2" I.D.
b - Pipe Covering and Three Segmental—18 1/2" x 18 1/2" x 36 1/2" I.D.
c - Pipe Covering and Three Segmental—22 1/2" x 23 1/2" x 36 1/2" I.D.

d - Pipe Covering only—13 1/2" x 20 1/2" x 36 1/2" I.D.
e - Three Segmental—16" x 20 1/2" x 36 1/2" I.D.
f - Pipe Covering only—17 1/2" x 17 1/2" x 36 1/2" I.D.

i - Pipe Covering only—15 1/2" x 15 1/2" x 36 1/2" I.D.

Blocks

6" WIDE

Thick. Per Carton	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Square Feet	72	60	54	42	36	27	21	18	13.5
Pieces	48	48	36	24	24	18	14	12	9

Average Gross Weight of Carton—43 lbs.

All Blocks are packaged in "B" Cartons.

Curved Blocks (Segmental) 1 1/2" thick 24 per carton except 12", 18", 21"
2" thick 18 per carton
2 1/2" thick 14 per carton
3" thick 12 per carton

Copper Taping

SECTIONS PER CARTON

Pipe Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
Nominal 1" Th.	42b	42b	42b	42b	25b	25b	20b	18b	13b	10b

AVERAGE GROSS WEIGHT PER CARTONS (Pounds)

75	74	71	68	60	57	53	50	53	44	40
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Code of Size of Cartons

b - Pipe Covering and Three Segmental—18 1/2" x 18 1/2" x 36 1/2" I.D.
d - Pipe Covering only—13 1/2" x 20 1/2" x 36 1/2" I.D.

Segmental Pipe Covering

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NUMBER OF SEGMENTS PER SECTION

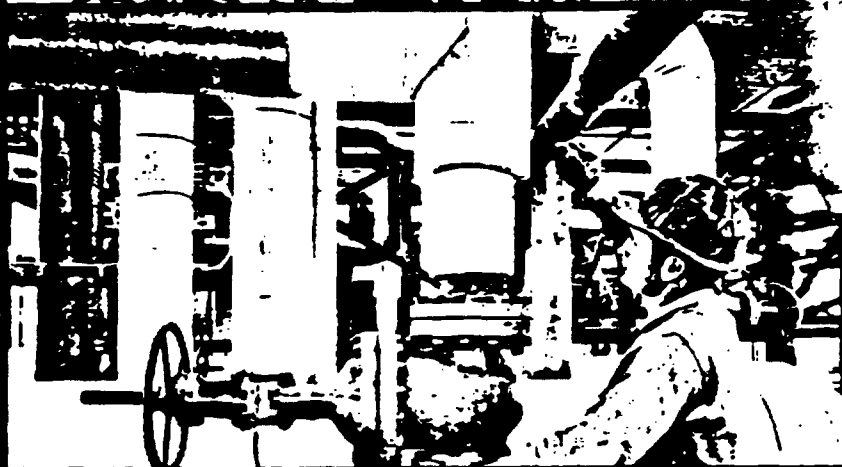
PIPE SIZE	12"	14"	15"	16"	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"
Nominal 1 1/2" Th.	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19
Act. O.D. of Cov.	16"	17"	18"	18"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"
Nominal 2" Th.	9	10	10	11	11	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20
Act. O.D. of Cov.	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"
Nominal 2 1/2" Th.	10	10	11	11	12	12	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20
Act. O.D. of Cov.	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"
Nominal 3" Th.	10	11	11	12	12	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21
Act. O.D. of Cov.	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"



Diameters for standard pipe sizes



Block form for a variety of surfaces



Sectional pipe covering is furnished in 36" lengths. In single layer insulation, two half-sectional pieces fit snugly over pipes up to 6" in normal 1" thickness; up to 12" in 1½" and 2" thickness and up to 10" in both 2½" and 3" thickness... all in single layer. Double layer Calsilite is available in sectional and three segmental pieces in nominal thicknesses of 2", 3", 4" and 5". Curved segmental blocks 6" wide are made available for pipe sizes up to 33" in diameter.

Sectional covering can also be furnished with 15 lb. or 30 lb. asbestos or asphalt saturated felt as well as 45 lb., 55 lb., or 65 lb. smooth roll roofing. Felt or roll roofing may either be attached to the covering or separately cut for a close, correct fit.

See the packaging charts for details of sizes, shapes and types available.

MICH01378

The RUBEROID Co.

Industrial Insulation Division: 733 Third Avenue, New York, N. Y. 10017

The RUBEROID Co.

INSULATION DIVISION
New York

Bulletin



March 10, 1955

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TO ALL APPROVED CONTRACTORS AND DISTRIBUTORS

Subject: 1955 RUBEROID INSULATION CATALOG

Enclosed herewith you will find a copy of the new Ruberoid Industrial Insulation Catalog which has just come off the press. It is complete with a full description of all of the insulation products which we manufacture for commercial and industrial purposes.

You will notice that it has been carefully arranged to assist in finding exact information concerning any of our insulation products at a quick glance. This catalog will assist you in offering fast, accurate information to your customers pertaining to descriptive data, technical characteristics, physical properties, and packaging information of all insulation products.

It is expected that you will place these catalogs in the hands of architects, engineers, industrials and government agencies as promptly as possible. Needless to say, the cost of producing a multi-colored catalog such as this does not warrant passing it out to people promiscuously where they obviously have no need for it.

If you will advise the number of copies of this catalog that you will require, together with the exact name, address, telephone number, etc., we will have these imprinted and sent to you promptly.

T. J. WALTERS

MICH01379

01-0215595



Product Data Sheet
RUBEROID CALSILITE
 High Temperature Thermal Insulation

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

Lightweight and strong, Calsilite is not soluble in water and not affected by most common acids and alkalis. It will not rot or support combustion and finishes smoothly to a neat, clean appearance.

Calsilite is available to fit all standard pipe and tubing... half-sectional up to 24" I.P.S. and segmental above 24" I.P.S. in all thicknesses up to and including 3". Calsilite Block is available in 6" and 12" widths in thicknesses up to 4".

Specifications. Calsilite Pipe Covering and Block meet specifications: ASTM C-533-64T, Federal Spec. HH-1-00523B (GSA-FSS), MIL-I-2781-D dated 6/13/63, MIL-I-2819D dated 8/9/63.

- Low Thermal Conductivity
- Sectional Design Applies Quickly
- Cuts Easily
- Mitres Cleanly
- Stronger
- Lightweight
- Non-soluble
- Full Size Range

Physical Characteristics

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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.	7.5%
	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

The RUBEROID Co. • INDUSTRIAL PRODUCTS DIVISION • 733 Third Avenue, New York, N. Y. 10017

01-0215596

Recommended Thickness for Commercial and Industrial Design

Pipe Covering						
Temperature of pipe (°F)						
pipe size	200°	400°	600°	800°	1000°	1200°
1/2	1	1 1/2	2	2 1/2	3	3
3/4	1	1 1/2	2	2 1/2	3	3
1	1	1 1/2	2	2 1/2	3	3
1 1/4	1	1 1/2	2	2 1/2	3	3 1/2
1 1/2	1	1 1/2	2	2 1/2	3	3 1/2
2	1	1 1/2	2	2 1/2	3 1/2	3 1/2
2 1/2	1	1 1/2	2	3	3 1/2	3 1/2
3	1	1 1/2	2 1/2	3	3 1/2	4
4	1	2	2 1/2	3	3 1/2	4
5	1 1/2	2	2 1/2	3	3 1/2	4
6	1 1/2	2	2 1/2	3	3 1/2	4
7	1 1/2	2	2 1/2	3	3 1/2	4
8	1 1/2	2	2 1/2	3	3 1/2	4
9	1 1/2	2	2 1/2	3	3 1/2	4
10	1 1/2	2	2 1/2	3	4	4 1/2
12	1 1/2	2	2 1/2	3 1/2	4	4 1/2
14	1 1/2	2 1/2	3	3 1/2	4	4 1/2
16	1 1/2	2 1/2	3	3 1/2	4	4 1/2
18	1 1/2	2 1/2	3	3 1/2	4	4 1/2
20	1 1/2	2 1/2	3	3 1/2	4	4 1/2
24	1 1/2	2 1/2	3	3 1/2	4	4 1/2

Block			
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	1 1/2	1	1
400	2 1/2	1 1/2	1
500	3 1/2	2	1 1/2
600	4 1/2	2 1/2	1 1/2
700		3	2
800		4	2 1/2
900		4 1/2	3
1000		5 1/2	3 1/2
1100		6	4
1200		6 1/2	4 1/2

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

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.

Packaging Data: Calcilite Pipe Covering

PIPE SIZE		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	4 1/2"	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	16	13	9	9	8	8	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Avg. Gross Wgt. per Ctn. (lbs.)	100	95	75	70	70	70	70	70	65	55	55	55	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nom. 1 1/2" Th.	Sections per Ctn	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	
	Avg. Gross Wgt. per Ctn. (lbs.)	90	85	80	95	90	100	80	70	85	75	75	55	45	55	35	35	40	45	45	25	25	25	30	30	—	—	—	—	—	
Nom. 2" Th.	Sections per Ctn	16	16	15	15	9	9	8	8	6	6	4	4	4	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	
	Avg. Gross Wgt. per Ctn. (lbs.)	105	105	115	120	95	85	100	90	85	80	70	60	70	40	45	50	50	55	30	30	35	35	35	40	40	40	45	45	50	
Nom. 2 1/2" Th.	Sections per Ctn	9	9	9	9	8	8	6	6	4	4	4	4	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1 1/2	
	Avg. Gross Wgt. per Ctn. (lbs.)	100	100	100	95	110	105	100	90	80	75	60	50	50	60	60	60	65	35	40	40	40	45	50	50	50	55	55	60	30	
Nom. 3" Th.	Sections per Ctn	8	8	8	8	6	6	4	4	4	4	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1 1/2	
	Avg. Gross Wgt. per Ctn. (lbs.)	120	115	115	110	105	100	85	80	95	90	55	55	60	65	70	75	40	45	50	50	50	55	55	60	60	65	70	35	35	
Code Size		102—18 1/2" x 12 1/4" I.D.	205—20 1/4" x 20 1/4" I.D.				210—20 1/4" x 15 1/4" I.D.				211—17 1/4" x 17 1/4" I.D.				215—24 1/4" x 24 1/4" I.D.				221—28 1/4" x 17 1/4" I.D.												
of Cartons		201—27 1/4" x 14" I.D.	206—22 1/4" x 22 1/4" I.D.				212—18 1/4" x 18 1/4" I.D.				216—25 1/4" x 25 1/4" I.D.				217—26 1/4" x 26 1/4" I.D.																
		202—21 1/4" x 21 1/4" I.D.	207—24" x 12" I.D.				213—18 1/4" x 18 1/4" I.D.				218—27 1/4" x 27 1/4" I.D.				219—28 1/4" x 28 1/4" I.D.																
		203—12" x 18" I.D.	208—28" x 13" I.D.				213—19 1/4" x 19 1/4" I.D.				218—27 1/4" x 27 1/4" I.D.				219—28 1/4" x 28 1/4" I.D.																
		204—27" x 18" I.D.	209—28 1/4" x 14 1/4" I.D.				214—23 1/4" x 23 1/4" I.D.																								

Packaging Data: Blocks & Pipes

Thickness Per Carton	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Square Feet	72	68	64	56	56	27	21	18	13.5
Pieces	48	48	36	28	24	18	14	12	9

Average Gross Weight of Carton—83 lbs.
All Blocks are packaged in No. 102 Cartons.

CURVED BLOCKS — SEGMENTS

1 1/2" thick 24 per carton
2" thick 18 per carton
2 1/2" thick 14 per carton
3" thick 12 per carton
All Segments are packaged in No. 102 Cartons

Packaging Data: Copper Tubing

PIPE SIZE		1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
Nom. 1" Th.	Sections per Ctn	45	45	45	25	25	21	18	16	15	9
	Avg. Gross Wgt. per Ctn. (lbs.)	75	74	71	68	60	57	53	70	70	65
		201	201	201	201	212	212	212	201	201	202

Packaging Data: Segmental Pipe Covering

		NO. OF SEGMENTS PER SECTION																											
PIPE SIZE		12"	14"	15"	16"	17"	18"	19"	20"	21"	22"	24"	26"	28"	30"	32"	34"	36"	38"	40"	42"	44"	46"	48"					
Nominal 1 1/2" Thick	Actual O.D. of Covering	5	5	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20				
		15"	17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"				
Nominal 2" Thick	Actual O.D. of Covering	9	10	10	11	11	12	12	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21				
		17"	18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"				
Nominal 2 1/2" Thick	Actual O.D. of Covering	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21				
		18"	19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"	41"				
Nominal 3" Thick	Actual O.D. of Covering	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22				
		19"	20"	21"	22"	23"	24"	25"	26"	27"	28"	29"	30"	31"	32"	33"	34"	35"	36"	37"	38"	39"	40"	41"	42"				

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