PLAINTIFF'S EXHIBIT DUP-1472

THERMAL INSULATION MATERIAL SPECIFICATION SERIES 100 PREFORMED BLOCK AND PIPE	STANDARD ENGINEERING SPECIFICATION ISSUED OCT. 1954 REVISED	SN 100 M Page 1 of 5

Code	101*	102*	103
Material	85% Magnesia	Calcium silicate	Diatomaceous earth
Material Description	Hydrated basic magnesium carbonate 80% by weight minimum	Steam, cellular, calcined fire clay base	Diatomaceous earth, asbestos fiber, wire bandi clay and cementing materials
Filler	Asbestos or glass fiber		
Binder	Clay or other cementing materials 5% by weight		
Temperature Range	100°F. to 500°F.	100°F. to 1200°F.	500°F. to 1800°F.
K Factor	500°F. - 0.55 max.	500°F. - 0.54 max.	500°F. - 0.77 max.
Density	11-14 lb. per cu. ft.	11 lb. per cu. ft.	24-27 lb. per cu. ft.
Compressive Strength			
Manufacturing Process	Machine molded or extru. Pipe mach. cut on diameter.	Machine extruded. Pipe mach. cut on diameter.	Machine molded. Pipe mach cut on diameter.
Resistance to breakage in handling	Good	Good	Good
Dimensions	ASTM C 312-53T	ASTM C 312-53T	To Specification
Other Qualifications		Good mechanical strength with low shrinkage.	

The following materials have proven satisfactory in field uses and proof has been furnished by the manufacturers that their product meets the above specifications.

* Bands are supplied at extra cost. Order must state "without bands" if not required. For 11" IPS and larger there is an additional charge for 2-oz. canvas cover. Material should be specified "without 2-oz. canvas" to avoid extra charge.	85% Mag. Philip Carey Mfg. Co.	Calsilite The Ruberoid Co.	High Temp. No. 19 Philip Carey Mfg. Co.
	Thermalite 85% Ehret Mag. Mfg. Co., Inc.	Kaylo Owens-Illinois Glass Co.	Endure Hi Temp. Ehret Mag. Mfg. Co., Inc.
	85% Mag. Johns-Manville Sales Corp.	Calsilux Pabco Products, Inc.	1199 Superex Johns-Manville Sales Corp.
		Thermobestos Johns-Manville Sales Corp.	High Temp. Keasby & Mattison Co.
	Featherweight Keasby & Mattison Co.	Kaylarm Keasby & Mattison Co.	
	85% Mag. Mundet Cork Corp.	Trimalite Mundet Cork Corp.	
	Precision-molded Pabco Products, Inc.		

Vendors and manufacturers designations are given to describe the materials and may not include all commercial products; however, no substitutions are to be made without the written approval of the authority sanctioning the use of this Specification.

REV. APR 1955 SUP. BY

DUP 0990027

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MATERIAL SPECIFICATION – SERIES 100

OCTOBER 1954

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Code	104	105	106
Material	Diatomaceous silicas	Asbestos molded	Asbestos and diatomaceous earth molded
Material Description	Diatomaceous silicas and asbestos fibers	Compressed fluffy asbestos sprayed with sodium silicate	Compressed fluffy asbestos sprayed with sodium silicate and diatomaceous earth sprinkled on the asbestos mat
Filler			
Binder			
Temperature Range	500°F. to 1500°F.	100°F. to 700°F.	700°F. to 1000°F.
K Factor	1000°F. – 0.77 max.	500°F. – 0.56 max.	500°F. – 0.58 max.
Density	20–24 lb. per cu. ft.	14 lbs. per cu. ft.	14 lbs. per cu. ft.
Compressive Strength			
Manufacturing Process	Machine extruded. Pipe mach. cut on diameter.	Formed and comp. on mandril. Pipe mach. cut on diam.	Formed and comp. on mandril. Pipe mach. cut on diam.
Resistance to breakage in handling	Good	Good	Good
Dimensions	To Specification		
Other Qualifications		Formed on a mandril to a predetermined wt. Pressed to obtain the desired density, and baked.	Formed on a mandril to a predetermined wt. Pressed to obtain the desired density, and baked.

The following materials have proven satisfactory in field tests and proof has been furnished by the manufacturers that their product meets the above specifications.

	Tempakeek Philip Carey Mfg. Co.	*Unibestos 750* Union Asbestos & Rubber Co.	*Unibestos 1200* Union Asbestos & Rubber Co.

Vendors and merchandise designations are given to describe the materials and may not include all acceptable products; however, no substitutions are to be made without the written approval of the authority initiating the use of this Specification.

DUP 0990028

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DESIGN

MATERIAL SPECIFICATION SERIES 100 PREFORMED BLOCK AND PIPE

THERMAL INSULATION STANDARD ENGINEERING SPECIFICATION

ISSUED OCT 1954

REVISED APRIL 1955

SN 100 M

Code	101*	102*	103
Material	85% Magnesia	Calcium silicate	Diatomaceous earth
Material Description	Hydrated basic magnesium carbonate 80% by weight minimum	Staple, cellular, calcined fire clay base	Diatomaceous earth, asbestos fiber, with bond clay and cementing materials
Filler	Asbestos or glass fiber		
Binder	Clay or other cementing materials 5% by weight		
Temperature Range	100°F. to 500°F.	100°F. to 1200°F.	500°F. to 1800°F.
K Factor	500°F. - 0.55 max.	500°F. - 0.54 max.	500°F. - 0.77 max.
Density	11-14 lb. per cu. ft.	11 lb. per cu. ft.	24-27 lb. per cu. ft.
Compressive Strength			
Manufacturing Process	Machine molded or extru. Pipe mach. cut on diameter.	Machine extruded. Pipe mach. cut on diameter.	Machine molded. Pipe mac cut on diameter.
Resistance to breakage in handling	Good	Good	Good
Dimensions	ASTM **	ASTM **	To Specification
Other Qualifications		Good mechanical strength with low shrinkage.	

The following materials have proven satisfactory in field uses and proof has been furnished by the manufacturers that their product meets the above specifications.

* Bands are supplied at extra cost. Order must state "without bands" if not required.	85% Mag. Philip Carey Mfg. Co.	Calsilite The Ruberoid Co.	High Temp. No. 10 Philip Carey Mfg. Co.
For 11" IPS and larger there is an additional charge for 2-in. canvas cover. Material should be specified "without 2-in. canvas" to avoid extra charge.	Thermalite 85% Ehret Mag. Mfg. Co., Inc.	Kaylo Owens-Illinois Glass Co.	Endura High Temp. Ehret Mag. Mfg. Co., Inc.
	85% Mag. Johns-Manville Sales Corp.	Calsilux Pabco Products, Inc.	J-M Superex Johns-Manville Sales Corp.
		Thermobestos Johns-Manville Sales Corp.	High Temp. Keasby & Mattison Co.
	Featherweight Keasby & Mattison Co.	Kaylux Keasby & Mattison Co.	
	85% Mag. Mundet Cork Corp.	Tricalite Mundet Cork Corp.	
** New Simplified Dimensional System sponsored by ASTM	Precision-molded Pabco Products, Inc.		

Vendors and merchandise designations are given to describe materials and may not include all commercial products. Substitutions are to be made only on approval of the authority governing the use of this Specification.

DUP 0990029

DU 045848

Code	104	105	106
Material	Diatomaceous silicas	Asbestos molded	Asbestos and diatomaceous earth molded
Material Description	Diatomaceous silicas and asbestos fibers	Compressed fluffy asbestos sprayed with sodium silicate	Compressed fluffy asbestos sprayed with sodium silicate and diatomaceous earth sprinkled on the asbestos mat
Filler			
Binder			
Temperature Range	500°F. to 1500°F.	100°F. to 700°F.	700°F. to 1000°F.
K Factor	1000°F. – 0.77 max.	500°F. – 0.56 max.	500°F. – 0.58 max.
Density	20–24 lb. per cu. ft.	14 lbs. per cu. ft.	14 lbs. per cu. ft.
Compressive Strength			
Manufacturing Process	Machine extruded. Pipe mach. cut on diameter.	Formed and comp. on mandril. Pipe mach. cut on diam.	Formed and comp. on mandril. Pipe mach. cut on diam.
Resistance to breakage in handling	Good	Good	Good
Dimensions	To Specification		
Other Qualifications		Formed on a mandril to a predetermined wt. Pressed to obtain the desired density, and baked.	Formed on a mandril to a predetermined wt. Pressed to obtain the desired density, and baked.
The following materials have proven satisfactory in field tests and proof has been furnished by the manufacturers that their product meets the above specifications.			
	Tempcheck Philip Carey Mfg. Co.	*Unibestos 750* Union Asbestos & Rubber Co.	*Unibestos 1200* Union Asbestos & Rubber Co.

Vendors and merchandise designations are given to describe the materials and may not include all acceptable products; however, no substitutions are to be made without the written approval of the authority initiating the use of this Specification.

DUP 0990030

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DU 045849