PLAINTIFF'S EXHIBIT JM-2459

RETURN TO J-M RESEARCH FILE ROOM

MANUFACTURING SPECIFICATIONS

Asbestos PLANT

Rigid Shingle DEPT.

PRODUCT: #607 Durabestos Roofing Shingles
#656 Durabestos Starters
#697 Durabestos Hip and Ridge

DIVISION Can

SPEC. NO. 1

PAGE NO. 1 on 5

PAPER PIPE BOARD DIVISION MAY 16 1950 G.B.L.

#607 Durabestos Roofing Shingles) – Grey Blend
#656 Durabestos Starters) – Black Blend
#697 Durabestos Hip and Ridge) – Red Blend
– Brown Blend
– Green Blend

(Smooth Grain Method)

FORMULA:

P. S. No.	Materials	Batch Quantities	%
–	6D20 Asbestos Fibre	300# (3 bags)	20.2
61281	J.M. Special Silica Flour	300 (3 bags)	20.2
61061	Portland Cement (Std)	457 (3 bags	29.4
–	*Ground Shingle Scrap	450 (3 bags)	30.2
		1487#	100.0%

*Up to 22% (approx. 100# per batch) of the ground shingle scrap may be replaced by an approved low cost mineral filler (e.g. mastic sand, trap rock, etc.,)

NOTES:

(a) Proportionately smaller batches may be made as necessary.
(b) Total scrap shall not exceed 35% of the total batch, lesser quantities being employed when the supply is inadequate. It is necessary to avoid frequent or extreme variations in the quantity of scrap per batch.
(c) Up to 50# of machine drop may be added to the batch.

BASE INGREDIENTS - MIXING PROCEDURE:

Put the ingredients into the bucket elevator hopper in quantities and sequence first shown in column #1, then as in column #2, and then as in column #3.

Ingredients	Column #1	Column #2	Column #3
6D20 Asbestos Fibre	1 bag	1 bag	1 bag
Portland Cement	2 bags	2 bags	1 bag
Silica Flour	1 bag	1 bag	1 bag
Shingle Scrap	1 bag	2 bags	2 bags

MT-000423

MANUFACTURING INSTRUCTIONS:

1. Use warm water (150 - 160° F) on machine belt immediately before the picker roll.

2. Adjust picker roll so that the weight of 15 pressed slabs at the take-off will be between 66 - 68 lbs.

RECEIVED MAY 8 1950 RESEARCH LABORATORY

X— INDICATES CHANGE — REASON: Eliminate Textured type for Smoothtone type of shingles.

AUTHORITY FOR CHANGE — Product Proposal Asbestos Plant #151 - approved April 2[illegible]

FILE-HOLDERS	Indust. Engrg.		Rigid Shingle Department.	SUPR. QUAL. CONTROL	PROD. SUPT.	PLANT FINANCE OFFICE	RESEARCH LAB.	MGR. QUAL. CONTROL	DIR. QUAL. CONTRO

SUPERSEDES: Cancels entire specification for #607, 656 & 697, pages #1, 3, 4, and 5 issued 8/7/48, page #2 of 2/9/48, and #3 of 11/29/49. Also notice of change #128 dated 1/23/50 (2 pages)

DATE ISSUED 5/4/50

JM 80132-10 NTED IN U.S.A.

MANUFACTURING SPECIFICATIONS

Rigid Shingle DEPT.

Asbestos PLANT

PRODUCT: DIVISION Can

#607 Durabestos Roofing Shingles
#636 Durabestos Starters
#697 Durabestos Hip and Ridge

SPEC. NO. RS-1

PAGE NO. 1 on 5

423

CANCELLED 1-25-52

PAPER PRODUCTS BOARD RESEARCH SEP 18 1951

X #607 Durabestos Roofing Shingles) - Tweed Gray
X #636 Durabestos Starters) - Weathered Slate
X #697 Durabestos Hip and Ridge) - Coral Red
X - Sea Green
X (Smooth Grain Method) - Tampico Tan

FORMULA:

P.S. No.	Materials	Batch Quantities	%
-	6D20 Asbestos Fibre	300# (3 bags)	20.2
61281	J.M. Special Silica Flour	300 (3 bags)	20.2
61061	Portland Cement (Std)	437 (5 bags)	29.4
-	*Ground Shingle Scrap	450 (5 bags)	30.2
		1487#	100.0%

*Up to 22% (approx. 100# per batch) of the ground shingle scrap may be replaced by an approved low cost mineral filler (e.g. limestone, trap rock, etc.,)

NOTES:

(a) Proportionately smaller batches may be made as necessary.
(b) Total scrap shall not exceed 35% of the total batch, lesser quantities being employed when the supply is inadequate. It is necessary to avoid frequent or extreme variations in the quantity of scrap per batch.
(c) Up to 50# of machine drop may be added to the batch.

Base Ingredients - Mixing Procedure

Put the ingredients into the bucket elevator hopper in quantities and sequence first shown in column #1, then as in column #2, and then as in column #3.

Ingredients	Column #1	Column #2	Column #3
6D20 Asbestos Fibre	1 bag	1 bag	1 bag
Portland Cement	2 bags	2 bags	1 bag
Silica Flour	1 bag	1 bag	1 bag
Shingle Scrap	1 bag	2 bags	2 bags

MANUFACTURING INSTRUCTIONS:

1. Use warm water (130 - 160° F) on machine belt immediately before the picker roll

2. Adjust picker roll so that the weight of 15 pressed slabs at the [illegible] will be between 66 - 68 lbs.

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X— INDICATES CHANGE — REASON: X. Redesignation of Colour names

AUTHORITY — FOR CHANGE X. Merchandize Management (G. A. Hall)

MT-000422

FILE-HOLDERS	Indust. Engrg.		Prod. Dept.		SUPR. QUAL. CONTROL	PROD. SUPT.	PLANT FINANCE OFFICE	RESEARCH LAB.	MGR. QUAL. CONTROL	DIR. QUAL. CONTROL

SUPERSEDES: Page #1, same titled specification issued 5/4/50, also Notice of Deviation #177 dated 10/23/50

DATE ISSUED 8/17/51

M 50132-10 PRINTED IN U.S.A.

MANUFACTURING SPECIFICATIONS	PRODUCT: DIVISION	SPEC. NO.
Rigid Shingle DEPT.	#607 Durabestos Roofing Shingles #636 Durabestos Starters #697 Durabestos Hip and Ridge	RS- 1
Asbestos PLANT	Can 4-73	PAGE NO. 1 of 5

#607 Durabestos Roofing Shingles } = Tweed Grey
#636 Durabestos Starters } = Weathered Slate
#697 Durabestos Hip and Ridge } = Coral Red
= Sea Green
= Tampico Tan

CANCELLED 5-20-52

(Smooth Grain Method)

X FORMULA:

P. S. No.	Materials	Batch Quantities	%
-	6D20 Asbestos Fibre	300# (3 bags)	17.4
61281	J.M. Special Silica Flour	300 (3 bags)	17.4
61061	Portland Cement (Std)	525 (6 bags)	30.4
-	*Ground Shingle Scrap	600 (6 bags)	34.8
		1725#	100.0%

*Up to 22% (approx. 130# per batch) of the ground shingle scrap may be replaced by an approved low cost mineral filler (e.g. limestone, trap rock, etc)

NOTES:

(a) Proportionately smaller batches may be made as necessary.
(b) Total scrap shall not exceed 35% of the total batch, lesser quantities being employed when the supply is inadequate. It is necessary to avoid frequent or extreme variations in the quantity of scrap per batch.
(c) Up to 50# of machine drop may be added to the batch.

Base Ingredients - Mixing Procedure

Put the ingredients into the bucket elevator hopper in quantities and sequence as shown in column #1, then as in column #2, and then as in column #3.

Ingredients	Column #1	Column #2	Column #3
6D20 Asbestos Fibre	1 bag	1 bag	1 bag
Portland Cement	2 bags	2 bags	2 bags
Silica Flour	1 bag	1 bag	1 bag
Shingle Scrap	2 bags	2 bags	2 bags

MANUFACTURING INSTRUCTIONS:

MT-000421

1. Use warm water (150-160° F) on machine belt immediately before the picker roll.

2. Adjust picker roll so that the weight of 15 pressed slabs at the take-off will be between 66 - 68 lbs.

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APR 7 1952

X—INDICATES CHANGE — REASON: X. Cheaper formulation.

AUTHORITY FOR CHANGE: X. Product Proposal Asbestos #160 (H.S.A. 1/14/52)

FILE-HOLDERS	Indust. Engrg.	A.S.G.	Prod. Dept.		SUPR. QUAL. CONTROL	PROD. SUPT.	PLANT FINANCE OFFICE	RESEARCH LAB	MGR. QUAL. CONTROL	DIR. QUAL CONTR

SUPERSEDES: Page #1, same titled specification issued 8/17/51, and Notice of Change #205 dated August 17, 1951.

DATE ISSUED 1-25-52

50132-10 PRINTED IN U.S.A.

MANUFACTURING SPECIFICATIONS

Rigid Shingle DEPT.

Asbestos PLANT

PRODUCT: #607 Durabestos Roofing Shingles
#636 Durabestos Starters
#697 Durabestos Hip and Ridge

DIVISION Can

SPEC. NO. RS-1

PAGE NO. 1 on 5

CANCELLED 12/53

#607 Durabestos Roofing Shingles) - Tweed Gray
#636 Durabestos Starters) - Weathered Slate
#697 Durabestos Hip and Ridge) - Coral Red
- Sea Green
(Smooth Grain Method) - Tampico Tan

JUN 3 1952 G. B. BROWN

FORMULA:

P.S. No.	Materials	Batch Quantities		%
-	6D20 Asbestos Fibre	300#	(3 bags)	17.4
61281	J.M. Special Silica Flour	300	(3 bags)	17.4
61061	Portland Cement (Std)	525	(6 bags)	30.4
-	*Ground Shingle Scrap	600	(6 bags)	34.8
		1725#		100.0%

X *Up to 22% (approx. 130# per batch) of the ground shingle scrap may be replaced by an approved low cost mineral filler (e.g. Asbestos Mill tailings, Limestone, Mastic sand, trap rock, etc.,), with preference in order named.

NOTES:

(a) Proportionately smaller batches may be made as necessary.
(b) Total scrap shall not exceed 35% of the total batch, lesser quantities being employed when the supply is inadequate. It is necessary to avoid frequent or extreme variations in the quantity of scrap per batch.
(c) Up to 50# of machine drop may be added to the batch.

Base Ingredients - Mixing Procedure

Put the ingredients into the bucket elevator hopper in quantities and sequence as shown in column #1, then as in column #2, and then as in column #3.

Ingredients	Column #1	Column #2	Column #3
6D20 Asbestos Fibre	1 bag	1 bag	1 bag
Portland Cement	2 bags	2 bags	2 bags
Silica Flour	1 bag	1 bag	1 bag
Shingle Scrap	2 bags	2 bags	2 bags

MANUFACTURING INSTRUCTIONS:

1. Use warm water (150 - 180° F) on machine belt immediately before the picker roll.
2. Adjust picker roll so that the weight of 15 pressed slabs at the take-off will be between 66 - 68 lbs.

RETURN TO J-M RESEARCH

MT-000420

RECEIVED JUN 2 1952 R. WILLIAMS

X—INDICATES CHANGE — REASON: X. To show Asbestos Mill tailings as an approved filler

AUTHORITY FOR CHANGE: X. Product Proposal Asbestos #127 - Supp. #1 (U.S.A. 5/5/52)

FILE-HOLDERS	Indust. Engrg.	R.S.O.	Prod. Dept.		SUPR. QUAL. CONTROL	PROD. SUPT.	PLANT FINANCE OFFICE	RESEARCH LAB.	MGR. QUAL. CONTROL	DIR. QUAL. CONTR

SUPERSEDES: Page #1, same titled specification issued 1/25/52

DATE ISSUED 5/20/52

M 50132-10

MANUFACTURING SPECIFICATIONS

_____ DEPT.

_____ PLANT

PRODUCT:

DIVISION

SPEC. NO.

PAGE NO.

423

OBSOLETE 4/12/56

PIPE AND BOARD DEPARTMENT
MAY 5 1953
G. B. BROWN

RETURN TO
I-M RESEARCH

X— INDICATES CHANGE — REASON:

AUTHORITY FOR CHANGE

MT-000419

FILE-HOLDERS					SUPR. QUAL. CONTROL	PROD. SUPT.	PLANT FINANCE OFFICE	RESEARCH LAB.	MGR. QUAL. CONTROL	DIR. QUAL. CONTROL

RSEDES:

DATE ISSUED

11/3/67

80132-F

MANUFACTURING SPECIFICATIONS

~~Asbestos~~ PLANT

~~Rigid Shingles.~~ DEPT.

PRODUCT: DIVISION

#407 Durabestos Roof Shingles
436 Durabestos Starters
#497 Durabestos Hip and Ridge.

SPEC. NO. 423:10 ~~RS - 1~~

PAGE NO. 1 on 6

COLOURS: Black Blend Red Blend Green Blend Brown Blend.

FORMULA:

P. S. No.	MATERIALS	BATCH QUANTITIES	%
-	6D 20 Asbestos Fibet	300# (3 bags)	15.0
61281	JM Special Silica Flour	400 (4 bags)	20.0
61061	Portland Cement (Standard)	600 (6 bags + 75#)	30.0
-	*Ground Shingle Scrap	700 (7 bags)	35.0
		2000#	100.0%

*Up to 22% (approx. 150# per batch) of ground shingle scrap may be replaced by an approved mineral filler (e.g. 8T Mill Tailings, Limestone, trap rock etc.)

Notes:

Total scrap shall not exceed 35% of the total batch, lesser quantities being employed when the supply is inadequate. It is necessary to avoid frequent or extreme variations in the quantity of scrap per batch. Up to 50 lbs. of machine drop, or material from the dust collectors may be added to any batch.

MIXING INSTRUCTIONS:

1. Set scale beams on the automatic batcher for the proper batch weights or Portland Cement and Silica Flour.
2. Empty bags of fiber and shingle scrap into the mixer feed elevator, using sequences and quantities of ingredients as listed under 1 and 2 below.

Ingredients	Column 1	Column 2
6D20 Asbestos Fiber	2 bags	1 bag
Portland Cement	3 bags + 75#	3 bags
Silica Flour	2 bags	2 bags
Shingle Scrap	4 bags	3 bags

3. When the batching cycle is completed, empty batch form the 10 ft. mixer to the 5 ft. mixer. Repeat cycle as necessary to keep 5 ft. mixer filled to level of sight glass.

INSTRUCTIONS FOR GRAIN ROLL MACHINE OPERATIONS:

1. Apply warm water (125-150°F.) to the machine belt, together with a light coating of sand to prevent sticking.
2. Drop the mixed stock on to the moving belt, and adjust picker roll so that slabs at take-off will weight between 61 - 65 lbs. net per 10 slabs.

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J-M RESEARCH
FILE ROOM

MT-000418

X— INDICATES CHANGE — REASON: To replace #607 with #407 Durabestos Roof Shingles.

AUTHORITY — FOR CHANGE: Product Proposal Asbestos #961 - 238 (H.S.A. 3/19/56)

FILE-HOLDERS	I.E.	R.S.G.	Dept.		SUPR. QUAL. CONTROL	PROD. SUPT.	PLANT FINANCE OFFICE	RESEARCH LAB.	CONTROL	DIR. QUAL. CONTROL

SUPERSEDES: Page 1, specification for #607 Roof Shingles issued 4/2/53

DATE ISSUED 6/12/56

50132-10
TED IN U.S.A.

COPY FORM	INITIALS	DATE
		12/3/2000

BOX NUMBER	SEGMENT NO.	REQUESTING PARTY
P-444		Boron & Budd

NOTES

MT-000417