

1/1/41

STANDARDS

FS-MFG

FSPM 1-2

PER HR.

SQS. FACTORY SQ

PLAINTIFF'S EXHIBIT

BIR-652

4 - Asphalt Felt 15#	126	110	504	440
2 - Asphalt Felt 30#	176		352	
1 - Universal 55#, 45#, 35#	368		368	
1 - Waterdyke 65# 45#	263	368	263	368
1 - Old Reliable 55#	320		320	
1 - Paroid 65#	302		302	
1 - Base Sheet 55#, 45#	337		337	
1.98 - Paroid Cap Sheet	186		368	
1 - Mineral 105#, 90#, 75#	344		344	
1.135 - Art Graft	206		233	
1.232 - Hex Butt Weatherex 36"	187		230	
1.975 - Neponset Cap Sheet	187		370	
1.135 - 19" Prostate 36"	274		311	
1.805 - American Hex	172		310.5	
1.85 - Tri Tab Hex	205	(140)	379	(259)
2.22 - #21 & #24 Masterbilt	177		393	
1.35 - Copper Clipt	262	(175)	354	
1.94 - Special Hex	167		325	
2.37 - Custom Built Blanks	80		190	
2.34 - Neponset Hex	166		388	
1.665 - Anchored Strip	206		344	
2.745 - Standard Individual	92		253	
14 1/2" Hexagon	166			
12 - 1/3" Hexagon	166			
1 - 85# Min. Surface Gov't	344		344	
1 - 45# Smooth Surf. Gov't	320		320	
1 - 55# Smooth Surf. Gov't	320		320	
2.79 - Giant Individuals	89		248	
2.22 - 3-1 Strip Gov't Spec. (36")	132		293	
(48")	176		391	
1.13 - 19" Paroid 3" Selvage	274		310	
1.03 - Al. S.W. Solder Curve	100		154	
1.0 - Al. Brie Corner Piece Stock	100		200	
1.05 - 36" Prostate 4" Selvage	326		342	
1.19 - Hex Butt Weatherex	195		332	
2.0 - Universal Cap Sheet	180		360	
1 - Neponset 110" Cap Sheet	274		344	

BIRD 005904

1-1/4" 41	STANDARDS	PER HOUR	PER 100
FPM-1-2			
1 - Asphalt Felt 15#	126 rolls	504	
2 - Asphalt Felt 30#	176 "	352	
1 - Universal 55#, 45#, 35#	368 "	368	
1 - Old Reliable 55#	320 "	320	
1 - Waterdyke 65#	263 "	263	
1 - Paroid 65#	302 "	302	
1 - Base Sheet 55#, 45#	337 "	337	
1 - Paroid Cap Sheet	186 "	216	
1 - Mineral 105#, 90#, 75#	344 "	344	
1.135 - Art Craft	206 "	233	
1.232 - Hex Butt Wtex	187 "	230	
1.975 - Neponset Cap Sheet	187 "	370	
1.135 - 19" Proslate	274 "	311	
1.005 - American Hex	172 squares	310.5	
1.85 - Tri-Tab Hex	205 "	307.5	
2.12 - #21 Masterbilt and #24	177 "	393	
1.15 - Copper Clipt	252 "	354	
1.70 - Special Hex	167 "	325	
2.37 - Custom Built Blanks	80 "	190	
2.10 - Neponset Hex	166 "	388	
1.75 - Anchored Strip	208 "	344	
2.24 - Standard Individual	92 "	153	
142" Hexagon	166 "		
12-1/3" Hexagon	166 "		
1 - 85# Slate Surface Gov't	344 rolls	344	
1 - 45# Smooth Surface Gov't	320 "	320	
1 - 55# Smooth Surface Gov't	320 "	320	
2.79 - Giant Individuals	89 squares	242	
2.22 3-1 Strip Kent Spec (36") 1.22 sq		293	
(48") 1.71 sq		391	
FSPM-4			
Headening Felt 3/4", 1", 1 1/2" 70 rolls			
FSPB			
Custom Built	1 square		
FSPM-5			
Hip Ridge Individuals	3		
190 Paroid 3" Selvage	27	310	

Date 9/15/44

FS - FL

RAW MATERIAL SPECIFICATIONS

No. 26 Felt

1. Composition

This felt must be made from well beaten fibres properly cleaned and free from unsaturable materials or unbeaten fibres.

2. Weight per 480 Sq. Ft.

Standard - 28#	Bone Dry
Maximum - 29#	Minimum
Minimum - 27#	26#

3. Width

36" Maximum Variation 1/16"

4. Caliper

.026" Minimum
.029" Standard
.030" Maximum

5. Tensile Strength

Minimum 18

6. Kerosene Test - 1.000 Factor

Minimum 159%
Maximum 188% (Maximum desirable)

7. Moisture

Maximum 4% - Bird & Son reserves the right to test samples for moisture at the time and place of manufacture of the felt.

8. Ash

Maximum 10%

9. Pliability

A strip cut parallel to the fibres and 1" wide shall bend around an G.8" mandrel without cracking or visible separation of fibres.

Supersedes specifications #26 Felt

Dated 9/28/44

1/1/43
FSPM 1-2

STANDARDS

FS-MFG
PER HOUR

SQS/UNIT	PRODUCT	SQS.	FACTORY
4	Asphalt Felt 15#	120 110	480 440
2	Asphalt Felt 30#	176	352
1	Universal 35#	368	368
1	Waterdyke 45#	368	368
1	Old Reliable 55#	320	320
1	Paroid 65#	302	302
1	Base Sheet 55#	337	337
1.98	Paroid Cap Sheet	186	368
2.0	Universal Cap Sheet	180	360
1	90# Mineral	344	344
1.05	36" Proslat 4" Selv.	326	342
1.19	Hex Butt Wtex(36")	250	298
1	110# Cap Sheet	344	344
1.03	Roll Bric Siding & Soldier Course	150	154
2.0	Roll Bric Corner Piece Stock	100	200
1.85	Tri Tab Hex W-tex	150	278
2.22	#21 Masterbilt W-tex	177	393
1.35	Copper Clipt	262	354
2.745	Standard Individual	92	253
2.22	3-1 Strip Fed.Spec.	177	393
	36" Felt	132	293
1	85# Min.Surf.Fed.Sp.	344	344
1	45# Smooth Surf. Fed.	320	320
1	55# Smooth Surf. Fed.	320	320
1.87	Roll Bric	70	97

3/14/60

FS-PL

STANDARD SPECIFICATIONS

QUICK SETTING LAP CEMENT

<u>Formula</u>	<u>% By Wt.</u>	<u>Lbs.</u>	<u>Gallons</u>
#21 Asphalt	42.0	1680	224
Kerosene	10.5	420	64
Naphtha (Gulf VM&P)	10.5	420	69
Glenwood Filler	31.0	1240	
Asbestos 7M	6.0	240	

Yield - 3840#. 413 Gallons - 9.1#/Gallon.

Loss - 4%

Consistency - Schutte @ 77° - 6 - 12 seconds.

Flash Point - 110°F., Minimum - C. O. C.

Process:

Run #21 into mixer, add Filler and Asbestos. When Temp. is below 300°F. add Kerosene. When Temp. is below 200°F. add Naphtha. Each batch must be approved by Laboratory.

Containers

1# Caulking cartridges packed 24 to box - 24.#

1 Qt. Metal, lithographed, packed 12 to case, no filler pieces - 32#.

1/2 Gal., Metal, lithographed, packed 6 to case - 35#.

1 Gal., Metal, lithographed, packed 6 to case, 3 filler pieces to case - ~~40#~~ 44.5#

5 Gal. Metal, lithographed. Shipping Wt. - 51.0#

Supersedes Specification dated 9/1/51.

RNP/ae

3/14/60

FS-FL

STANDARD SPECIFICATIONS

Special Flashing Cement

<u>Formula</u>	<u>% by Wt.</u>	<u>Lbs.</u>	<u>Gallons</u>
#13-1/2 Asphalt	52.0	2080	285
Kerosene	13.0	520	80
Std. Oil #14 Naptha	13.0	520	83
Asbestos 5 R	15.0	600	
Asbestos 7 M	7.0	280	

Yield 3935# 9# per gallon
Loss - 4% Min Max
Consistency @ 77°F-Shutte 5 Sec. 10 Sec.

Process

#13-1/2 Ran into mixer, when temperature is below 325°F add kerosene, when thoroughly mixed and temperature is below 200°F, add Naptha, and then the Asbestos.

Containers

44# Drums - Metal, Lithographed - Shipping Wt. 49#.
265# Drums - Plain Black - Labels pasted on -
Shipping Wt. - 295#
465# Drums - Plain Black - Labels pasted on -
Shipping Wt. - 515#

Supersedes Specification dated 3/22/51.

BNP/ae

3/14/60

FS-PL

STANDARD SPECIFICATIONS

LAP CEMENT

<u>FORMULA</u>	<u>% BY WT.</u>	<u>lbs.</u>	<u>AMOUNT</u>
#13-1/2 Asphalt	65.0	2600	347
Kerosene	22.0	880	135
Naphtha-Stoddard	7.5	300	48
Asbestos - 7M	5.5	220	

Yield - 3800# 8.1# per gallon
Loss - 5%

Consistency - Schutte - 3/4" Orifice -
6 Sec. @ 86°F.

Process:

Run #13-1/2 into mixer. When temperature is below 300°F., add Kerosene and Asbestos. When temperature is below 200°F., add Naphtha. Fill containers when temperature is below 160°.

Containers:

1 pt. cans
1 gal. cans - plain - labels pasted on. Packed
6 to case, 3 filler pieces per case. Wt. - 42#
5 gal. drums - black - labels pasted on.
Shipping Wt. - 42.0#.
30 gal. drums - black - labels pasted on.
Shipping Wt. - 265#.
52 gal. drums - black - labels pasted on.
Shipping Wt. - 475#.

Supersedes Specification dated 3/22/51.

RNF/ae

3/14/60

FS-PL

STANDARD SPECIFICATIONS

NEPONSET COLD CEMENT

<u>Formula</u>	<u>% By Wt.</u>	<u>Lbs.</u>	<u>Amount (Gal.)</u>
#13-1/2 Asphalt	65.0	2600	347
Kerosene	22.0	880	135
Naphtha-Stoddard	7.5	300	48
Asbestos - 7 M	5.5	220	

Yield - 3800# 8.1# per gallon
Loss - 5%

Consistency - Schutte 3/4" Orifice 6 Sec. @ 86°.

Process:

Run #13-1/2 into mixer. When temperature is below 300°F add Kerosene and Asbestos. When temperature is below 200°F., add Naphtha. Fill containers when temperature is below 160°.

Containers:

- 1 Gal. cans - Plain - Labels pasted on. Packed 6 to case, 3 filler pieces per case - ~~400~~ 60.00
- 5 Gal. pails - Black - Labels pasted on. Shipping Wt. - 42#.
- 30 Gal. Drums - Black - Labels pasted on. Shipping Wt. - 265#.
- 52 Gal. Drums - Black - Labels pasted on. Shipping Wt. - 475#.

Supersedes Specification dated 3/22/51.

RNP/ae

3/14/60

PS-PL

STANDARD SPECIFICATION

ASPHALT PROTECTIVE COATING

<u>FORMULA</u>	<u>% BY WT.</u>	<u>LBS.</u>	<u>GALLONS</u>
#21 Asphalt	49.6	2310	308
Naphtha (Stoddard)	50.4	2350	374

Yield - 634 Gallons

Loss - 4%

Process:

Run #21 Asphalt into Mixer. When temperature is below 225°F. add Naphtha. Each batch must be tested and approved by the laboratory.

Consistency - Schutte - 3/4" Orifice - 1-1/2-1-2/3 Sec. @ 62 degrees F.

Containers:

- 1 gal. Metal, plain, labels pasted on. Packed 6 to case, 3 filler pieces per case - ~~30.5#~~ 50.5#
- 5 gal. Metal, black, labels pasted on. Shipping Wt. - 40.5#.
- 30 gal. Metal, black, labels pasted on. Shipping Wt. - 260#.
- 52 gal. Metal, black, labels pasted on. Shipping Wt. - 451.0#.

Supersedes Specification "Non-Fibred Roof Coating" dated 3/25/48.

RNP/ae

3/14/60

FS-PL

STANDARD SPECIFICATIONS

PLASTIC CEMENT

<u>Formula</u>	<u>% By Wt.</u>	<u>Lbs.</u>	<u>Amount (Gallon)</u>
#13-1/2 Asphalt	39.0	1560	204
Kerosene	14.0	560	86
Stoddard Naphtha	5.0	200	32
7 M Asbestos	5.0	200	
6 D Asbestos	2.5	100	
5 R Asbestos	2.5	100	
Ga. Talc	32.0	1280	

Yield - 3840# Wt. per Gal. - 9.98#

Loss - 4%

Consistency - Schutte @ 77° - 4 - 8 Sec.

Process

Run #13-1/2 Asphalt into mixing tank. When temperature is below 300°F., add Kerosene, Talc, and Asbestos. When temperature is below 200°F. add Naphtha. Run mixer at least 10 minutes after all material has been added before taking sample. Each batch must be approved by laboratory.

Containers:

- 1# Lithographed Cans, packed 12 to case, with no filler pieces - 17.75#.
- 2-1/2# Lithographed Cans, packed 12 to case, with 5 filler pieces - 38#.
- 5# Lithographed Cans, packed 6 to case, with 3 filler pieces - 34.75#.
- 10# Lithographed Cans, packed 6 to case, with 3 filler pieces - 63.6#.
- 50# Metal, lithographed - Shipping Wt. - 56.0#.
- 300# Metal, Black, Labels pasted on. Shipping Wt. - 335#.
- 530# Metal, Black, Labels pasted on. Shipping Wt. - 585#.

Supersedes Specification dated 3/22/51.

3/12/38

FS PL

STANDARD SPECIFICATIONS

Artificially colored surfacings.

#9 Brown

This must be a clean, uniform colored granule equal in color to the standard sample.

It shall all pass a 6 mesh screen and not more than 2% shall pass a 28 mesh screen.

It shall show an analysis on Tyler Standard Screen between the following limits:

Tyler Standard Screens	P E R C E N T		
	Min	Std	Max.
Retained on 6 mesh screen	0	0	0
8	5	8	10
10	50	56	60
14	15	21	25
20	7	10	12
28	2	5	8
Pass on 28	0	0	2

It shall contain not more than 0.5% moisture.

It shall be permanent in color.

It shall be uniform in shipments. Failure to meet any of the above specifications forms a basis for adjustment and is subject to rejections.

RW/jt

7/19/49

FS-PL

STANDARD SPECIFICATIONS

Shade Mixture - #11 Granules

Buff for Roll Brick Siding.

100% 3M #67 Cream

New Specification.

DATE 3/22/45

FS-PL

STANDARD SPECIFICATIONS

Shade Mixture - #11 Granules

Tropical Blende for 90# Mineral - 100 Sq.

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>	<u>Amount</u>
2	80	3M Colonial Gr.	3 ⁴⁰
	20	3M Brite Red	86
3	80	3M Brite Red	3 ⁴⁰
	20	3M Colonial Gr.	86
4	33-1/3	Funk. Black	9 ⁴⁰
	33-1/3	3M Colonial Gr.	9 ⁴⁰
	33-1/3	3M Brite Red	9 ⁴⁰

Cam Setting

#2 Hopper - 70° - Cam Starts at 0
#3 Hopper - 40° - Cam Starts at 30

% Slate per Square:

3M Colonial Green	37.2%
3M Brite Red	27.2%
Funk. Black	25.6%

Spacing Blocks - Painted yellow.

#2 Hopper - 3-4" openings. From center of block to end, 2" opening each way, 8" block, 4" opening block to end.
#3 Hopper - 3-8" openings. From center of block to end, 4" opening each way, 4" block, 8" opening block to end.

New Specification

RNP/cd

Date 5/17/45 *015-...-...-...*

FS-PL

STANDARD SPECIFICATIONS

Shade Mixture - #11 Granules

Russet Glo for Copper Clipt- 100 Sq.

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>	<u>Amt.</u>
2.	20	3M Brite Red	118
	80	3M Brown	470
3.	20	3M Brite Red	118
	80	3M Buff	470
4.	100	3M Brite Red	3558

Cam Setting.

Hopper #2 - 70°, starts at 0°
Hopper #3 - 40°, starts at 30°

% Slate per Sq.

3M Buff - 9.9%
3M Brown - 9.9%
3M Brite Red - 80.2%

Spacing Blocks - Painted Red.

#2 Hopper - Block has 3-4" openings. From center of block out to end, 2" openings each way, 12" block, 4" opening, block to end.
#3 Hopper - Block has 6-2½" openings. From center of block to end, 1½" block each way, 2½" opening, 8" block, 2½" opening, 3" block 2½" opening, block to end.

Supersedes specification - "Shade Mixture-#9 Granules - Russet Glo for Copper Clipt"- dated 3/5/42.

Date 1/28/47

DISCONTINUED
3/1/50

FS-PL

STANDARD SPECIFICATIONS

Shade Mixture - #11 Granules

Slate Blende for Copper Clint - 100 Sq.

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>	<u>Amt.</u>
2.	20	Funk Green	118
	80	Funk Black	470
3.	40	Funk Black	235
	60	Staso Red	353
4.	10	Funk Black	35 ⁴
	10	Staso Red	35 ⁴
	80	Funk Green	2850

Cam Setting

#2 Hopper - 70°, Cam starts at 0°
#3 Hopper - 40°, Cam starts at 30°

% Slate per Sq.

Staso Red - 14.9%
Funk Black - 22.4%
Funk Green - 62.7%

Spacing Blocks.

#2 Hopper - Block has 3-4" openings. From center of block out to end, 2" opening each way, 12" block, 4" opening, block to end.
#3 Hopper - Block has 6-2¹/₂" openings. From center of block to end, 1¹/₂" block each way, 2¹/₂" opening, 8" block, 2¹/₂" opening, 3" block, 2¹/₂" opening, block to end.

Supersedes specification dated 5/26/45.

RNP:lc

Date 11/25/43 *DISCONTINUED*
3/150

FS-PL

STANDARD SPECIFICATIONS

Shade Mixture - #11 Granules

Tropical Blende for Copper Clipts - 100 Sq.

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>	<u>Amt.</u>
2.	80	3M #11 Col. Gr.	470
	20	3M #11 Brite Red	118
3.	80	3M E11 Brite Red	470
	20	3M #11 Col. Gr.	118
4.	33-1/3	3M #11 Brite Red	1186
	33-1/3	3M #11 Col. Gr.	1186
	33-1/3	Funk #11 Black	1186

CAM SETTING

#2 Hopper - 70°, starts 0
#3 Hopper - 40°, starts 30

% Slate Per Sq.

3M #11 Col. Green - 37.4%
3M #11 Brite Red - 37.4%
Funk #11 Black - 25.2%

SPACING BLOCKS - PAINTED RED

#2 Hopper - Block has 3-4" openings.
From center of block out to end, 2" opening each way, 12" block, 4" opening, block to end.

#3 Hopper - Block has 6-2½" openings.
From center of block out to end, 1½" block each way, 2½" opening, 8" block, 2½" opening, 3" block, 2½" opening, block to end. Supersedes specification - Shade Mixture - #9 Granules, Tropical Blde for Copper Clipt, issued 3/5/42.

2/9/43

DISCONTINUED 2/1/50.

FS-PL

STANDARD SPECIFICATIONS

Shade Mixture - #11 Granules - Trop. Blde.
 Std. Individual Hip & Ridge 100 Sq.s

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>	<u>Amt.</u>
1.	80	3M Col. Green	2110
	20	3M Brite Red	530
2.	70	3M Col. Green	2600
	20	Funk. Black	740
	10	3M Brite Red	380
3.	65	3M Brite Red	2420
	30	3M Col. Green	1115
	5	Funk. Black	185

CAM SETTING

Hopper #1 - Starts 220°, stops 265°
 Hopper #2 - Starts 120°, stops 210°
 Hopper #3 - Starts 0°, stops 90°
 (SAME AS TRI TAB HEX)

% Slate per Sq.

3M Col. Green. - 57.2%
 3M Brite Red - 33.4%
 Funk. Black - 9.4%

Supersedes Specification Shade Mixture #11
 Granules Tropical Blde. for Ind. Shingles -
 Issued 7/20/38.

RNP/lc

7/11/49

DISCONTINUED
STANDARD SPECIFICATIONS

FS-PL

Shade Mixture - #11 Granules

Tropical Blende - Tri Tab Hex W-Tex - 100 Sq.

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>
1	80	3M Col. Green
	20	3M Brite Red
2	70	3M Col. Green
	20	Funk. Black <i>GREENWOOD</i>
	10	3M Brite Red
3	65	3M Brite Red
	30	3M Col. Green
	5	Funk. Black
4	Spillover	

Cam Setting

Hopper #1 - Starts 220°, Stops 265°
Hopper #2 - Starts 120°, Stops 210°
Hopper #3 - Starts 0°, Stops 90°

% Slate per Square

3M Col. Green - 57.2%
3M Brite Red - 33.4%
Funk. Black - 9.4%

Order of Operation: 3-2-1

Supersedes Specification dated 2/27/42.
RNP:lc

3/1/52

FS-PL

STANDARD SPECIFICATIONS

SHADE MIXTURE - #11 GRANULES

Meadow Green
~~SLIDE #325 - GREEN PASTEL - #21 M. B.,~~
162# COPPER CLIPT

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>
1	40	3M Col. Green
	30	3M White
	30	Funk. Sea Green
2	50	3M White
	50	Funk. Sea Green
3	20	3M Col. Green
	40	3M White
	40	Funk. Sea Green
4		Spillover

Cam Setting

Hopper #1 - Starts 220° - Stops 265°
Hopper #2 - Starts 120° - Stops 210°
Hopper #3 - Starts 0° - Stops 65°

% Slate per Sq.

3M Col. Green - - 15.5%
3M White - - - - 42.2%
Funk. Sea Green - 42.3%

New Specification.

RNP/ae

3/1/52

FS-PL

STANDARD SPECIFICATIONS

SHADE MIXTURE - #11 GRANULES

Dawn Red

BLDE #21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

162# COPPER CLIFT

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>
1	40	3M Brite Red
	48	3M White
	12	3M Gray
2	45	Funk. Sea Green
	45	3M White
	10	3M Brite Red
3	20	3M Brite Red
	40	3M White
	40	Funk. Sea Green
4	Spillover	

Cam Setting

Hopper #1 - Starts 220° - Stops 265°
Hopper #2 - Starts 120° - Stops 210°
Hopper #3 - Starts 0° - Stops 65°

% Slate per Sq.

3M Gray - - - 2.7%
3M B. Red - -19.9%
3M White - - 44.1%
Funk Sea Green - 33.3%

New Specification.

RNP/ae

3/1/52

PS-PL

STANDARD SPECIFICATION

SHADE MIXTURE - #11 GRANULES

~~BLIND #317~~ ^{Dawn Red} RED PASTEL - TWIN LOCK

<u>Hopper No.</u>	<u>%</u>	<u>Kind of Slate</u>
1	40	3M Brite Red
	48	3M White
	12	3M Grey
2	45	3M White
	45	Funk. Sea Green
	10	3M Brite Red
3	20	3M Brite Red
	40	3M White
	40	Funk. Sea Green
4		Spillover

Cam Setting

Hopper #1 - Starts 220° - Stops 265°
Hopper #2 - Starts 120° - Stops 210°
Hopper #3 - Starts 0° - Stops 90°

% Slate Per Sq.

3M Gray - - - - 3.0
3M Brite Red - 21.2
3M White - - - 43.9
Funk. Sea Green 31.9

New Specification.

RNP/ae

12/1/52

FS-PL

STANDARD SPECIFICATIONS

GIANT INDIVIDUAL DUTCH-LAP 135# (NOT WEATHERTEXTED)

Color as specified

Size 12" x 16". Sq. Ft. Material per sq. - 149.
Shingles per sq. - 112, per Bundle - 56.

<u>RAW MATERIALS PER SQ.</u>	<u>NET</u>	<u>GROSS</u>
Felt - 50 lb. x 48	15.3	17.0
Saturation - #14½-185%	28.3	29.7
Coating - #21½	21.0	22.1
Filler - 45%	17.1	18.0
Surfacing - #11 Oiled	48.1	50.5
Backing - Ga. Talc.	2.4	2.5
Net Wt.	132.2	
Finishing Materials	2.8	
Shipping Wt.	135.0	

Variation in Shipping Wt. - Min. - 65.0.
Max. - 70.0

Each Bdle. tied in two places with wire-.2#/Sq.

No Direction Sheet

½ Sq. Class C Underwriters Label per bundle.

2 Plain Corrugated wraps per Sq.

Size - 33" x 32½" (Each Bdle. has double pile of
shingles 28 count each pile)

Run on special order only.

Wt. of sheet per 100 Sq. Ft. - 86.0#

Prod. per hour - 250 Sq.

New Specification.

RNP/ae

6/15/50

FS-PL

STANDARD SPECIFICATIONS

COPPER CLIFT SHINGLES - DOUBLE COATED AND
SURFACED - COLONIAL GREEN, BRITE RED, BLACK,
RUSSET GLO, SLATE BLEND, EBONY BLUE, BROWN
BLEND, MOUNTAIN GREEN

Size - 16" X 16"

Exposure - $13\frac{1}{2}" \times 13\frac{1}{2}"$, Sidelap $2\frac{1}{2}"$, Headlap $3\frac{1}{2}"$
Sq. Ft. Material per Sq. - Gross - 145.7
Net --144.8

Shingles per Sq. - 82
Bundles per Sq. - 2 (41 Shingles each)
Nails per Sq. - 164
Clips per Sq. - 82
or
Bird Quick Set Cement per Sq. - 1 Qt.

Raw Material Per Sq.	Net	Gross
Base: 145.7 Sq. Ft.		
Felt - #50 X $47\frac{7}{8}"$	15.1	16.8
Saturation - #14 $\frac{1}{2}$ - 185%	27.9	29.3
Coating - #21 $\frac{1}{2}$	11.8 ⁸⁰	12.4
Filler - 35%	6.3	6.6
Surfacing - #11 Oiled	32.5 ^{22.3}	34.1
Backing - Ga. Talc	2.5	2.6
Gross Wt. Base 145.7 Sq. Ft.	96.1	

Scale - 48

4/20/53

PS-PL

STANDARD SPECIFICATIONS

165# GIANT INDIVIDUAL DUTCH LAP
SPECIAL RUN MATERIAL - 100 SQ. MIN. ORDER

COLORS: - Russet Glo., Mt. Green, Blue Blde., Col.
Green.

Size: 12" x 16". Sq. Ft. Material per Sq. - 149.
112 Shingles per Sq., 2 bdls. per Sq., 56 shgls/bdle.
To Be Shipped No Fixtures.

<u>RAW MATERIALS PER SQ.</u>	<u>NET</u>	<u>GROSS</u>
Felt - 50# x 48"	15.3	17.1
Saturation - #14½ - 185%	28.3	29.7
Coating - #21½	10.5	11.0
Filler - 40%	7.0	7.4
Surfacing - #11 oiled	37.3	39.2
Backing - Ga. Talc	2.4	2.5
Net Wt. 149 Sq. Ft.	100.8	

<u>OVERLAY - 149 SQ. FT.</u>		
Coating - #21½	15.2	16.0
Filler - 40%	10.2	10.7
Surfacing - #11 oiled	37.3	39.2
Net Wt.	163.5	
Finishing Materials	1.5	
Shipping Wt.	165.0	

Variation in Shipping Wt. - Min. - 80.5
Max. - 84.5

Each Bdle. tied in two places with wire - .2#/Sq.

Date of Manufacture, Color, each Bdle.

Underwriters Label ½ Sq., Class C each Bdle.

Nt. of Sheet per 100 Sq. Ft. - 109.7#

2 Printed Corr. Wraps per Sq. - 32½" x 32-3/4"

Production per Hour - 250 Sqs.

New Specification

RNP/ae

<u>Overlay 145.7 Sq. Ft.</u>	<u>Net</u>	<u>Gross</u>
Coating - #21 $\frac{1}{2}$	19.0	20.0
Filler - 35%	10.3	10.8
Surfacing - #11 Oiled	36.4	38.2
Gross Wt. per 145.7 Sq. Ft.	161.8	
Less Cut-Outs - .9 Sq. Ft.	1.0	
Net Weight	160.8	
Finishing Material	1.2	
Shipping Wt.	162.0	

Variation in Shipping Wt. - Max - 83 #/Bal.
Min - 79 #/Bal.

Each bundle has one printed corrugated top, one plain corrugated bottom.
Size Top - 16 1/8" x 26 $\frac{1}{2}$ ", 5" Flap each side.
Size Bottom - 16 1/8" x 22 $\frac{1}{2}$ ", 3" Flap each side.
Each bundle tied in two places with wire-.20#/Sq.
Underwriters Label - $\frac{1}{2}$ Sq. Class C, each Bundle
Date of Manufacture, Color, each Bundle.
Direction Sheet every 5th Bundle.
Wt. of sheet per 100 sq. ft. - 111.0#.
Production per hour - 275 Sq.

Supersedes Specification dated 3/1/50.

RNP/aa

10/15/53

FS-PL

SPECIAL SPECIFICATIONS

WATERDYKE SMOOTH SURFACE ROOFING - 90# per 216
SQ. FT.

Note: This is special run material for Gov't.
order with minimum wt. of 45# per 108
sq. ft. and minimum wt. of moisture free
Felt shall be 7.5# per 108 sq. ft.

<u>RAW MATERIAL PER ROLL</u>	<u>NET</u>	<u>GROSS</u>
Felt 35 lb. x 35-7/8	15.6	17.4
Saturation-#14½-160%	25.0	26.3
Coating-#21½-Smooth	25.8	27.1
Filler - 30%	11.0	11.6
Surfacing-Ga. Talc	12.6	13.2
Net Wt. per 216 Sq. Ft.	90.0	
Fixtures	4.5	
Shipping Wt.	94.5	

Variation in Shipping Wt. Max - 96.5#
Min - 94.5#

No Underwriters Label.

Direction Sheet each roll.

Printed Wrappers - 2 color, black and red.

Wrapper to show Gov't. order no. and
Requisition No.

Fixtures:

2 pt. Lap Cement in pint cans.

2 pkg. nails 7/8" Galv., 12 Ga., 252 count.

4 corrugated fixture holders - 2" x 15" each
roll.

Length of roll - 72'0". No extra allowance for
two piece rolls. Not more than 3% to be two
piece rolls.

Wt. of Sheet per 100 Sq. Ft. - 41.7#

Prod. per Hour - 150 rolls.

Supersedes specification dated 10/12/53.

RNP/ae

STANDARD SPECIFICATIONS

155 COPPER CLIPP SHINGLES - SHOWN WHITE, BLACK, CRANIAL GREEN, MEADOW MIST, BERRY RED

Size: 18" x 16"
Exposure: 13-1/2" x 13-1/2", Sidelap 2-1/2", Headlap 3-1/2"

Sq. Ft. Material per Sq. - Gross - 145.7
Net - 144.8

Shingles per Sq. - 82
Bundles per Sq. - 2 (82 shingles each)
Nails per Sq. - 164
Lines per Sq. - 82

Ord. Paint per Square per Sq. - 1 Qt.

NET WT 100

ALL MATERIALS PER SQ.	NET	GROSS	SQ. FT.
155 - 500 x 48"	16.4	18.3	11.3
155 - 1/2" - 175%	28.7	29.7	19.7
155 - 1/2" - 175%	29.0	29.7	19.7
155 - 1/2" - 175%	32.7	33.7	21.7
155 - 1/2" - 175%	47.9	50.3	32.3
155 - 1/2" - 175%	1.0	1.7	0.7
155 - 1/2" - 175%	154.8	164.0	144.8
155 - 1/2" - 175%	1.0	1.7	0.7
155 - 1/2" - 175%	155.8	165.0	145.8

Shipping Material
Variation in Shipping Wt.
Max. - 14.50 %
Min. - 7.50 %

Each bundle has 2 printed corrugated wrappers one color - Blue

Size of Top Wrapper - 16-1/8" x 24-1/4", 4" Flap each side

Size of Bottom Wrapper - 16-1/8" x 20-1/4", 2" Flap each side

Each side tied in two places with wire - 1/4" x 1/4" Sq.

Underwriters Label - Class C Shingles 1962 Standard printed on wrapper

Date of Manufacture, Color, each side

PAGE # 2 155# COPPER CLAD SHEET

Directions printed on bottom

Wt. of sheet per 100 Sq. Ft. 16.4#

RCD Production Rate - 435 S

NOTE: Back must have minimum 1.0#/100 Sq. Ft.
filled coating.

Supersedes Specification dated 1/1/66.

RNE/ew

MEMORANDUM
SHREVEPORT

For
Chicago-PSL-Gach
E. Hall-ACM-Edison

In Reply to

Date 6/13/49

From PSL-Petter

To E. Hall-ACM-Edison

Subject

STANDARD SPECIFICATION REVISION

W. H. Williams

Listed below are production per hour changes to be effective 7/1/49 on Shreveport products.

Standard	Issue Date	Old Prod. /hr.	Change from to New Prod. /hr.
45# Waterdyke	5/1/48	403	470
55# Old Reliable	5/1/48	368	450
65# Paroid	5/1/48	346	400
45# Base Sheet	5/1/48	328	450
90# Mineral	5/1/48	388	400
16" Proclate	3/26/48	385	400
19" Proclate	11/1/48	285	350
Hex Butte	5/1/48	265	280
Roll Sidings	4/1/49	255	290
#30 Asphalt Felt	5/1/48	196	220
#15 Asphalt Felt	4/1/48	132	140
#21 Masterbilt	5/1/48	209	230
Tri Tab Hex	3/3/49	180	210
Copper Clipt	5/1/48	285	290

RHP/jm

1.48

1.48

Revised

2/18/49

FE-MFG.

STANDARDS

<u>FSPM-1-2</u>		<u>PER HOUR</u>	
<u>SQS/UNIT</u>	<u>PRODUCT</u>	<u>SQS.</u>	<u>FACTORY</u> <u>SQS.</u>
4.0	#15 Asphalt Felt	132	528
2.0	#30 Asphalt Felt	196	392
4.63	Waterproofed Bldg.		
	Paper	91	421
1.0	45# Waterdyke	403	403
1.0	55# Old Reliable	368	368
1.0	65# Paroid	346	346
1.0	90# Mineral	388	388
1.03	36" Proslate	385	397
1.13	19" Proslate	285	322
1.05	19" Proslate (Spec)	285	299
1.19	36" Hex Butt W-Tex	265	315
1.0	Nep. Double Coverage	281	281
1.0	Mineral Surfaced		
	Cap Sheet	358	358
1.03	Roll Bric Siding	255	263
1.03	Roll Bric Siding		
	S.C.	150	155
1.85	Tri Tab Hex	190	352
1.35	Copper Clipt	285	385
2.75	Std. Individual	86	237
2.22	#21 Master-Bilt	209	464
1.0	45# Base Sheet	328	328

Supersedes specification dated 3/13/45.

RNP:lc

MEMORANDUM
SHREVEPORT

L.L. Williams
Gen. Supt. Works
Chgo. & St. Louis
E. Val. & N. B. Iron

In Reply to _____ Date 1/10/49 From FSL-Potter To _____
Subject STANDARD SPECIFICATION REVISIONS

Please change standard per hour on the following specifications, effective 1/1/49, as follows:

Product	Issued	Std. per hr.	
		From	To
Mineral Surfaced 90#	5/1/48	362	388
Bird 19" Froalate	11/1/48	274	285
Bird 36" Froalate	3/24/48	351	385
Waterdyne, 45#	5/1/48	400	403
Old Reliable, 55#	5/1/48	357	368
Paroid, 65#	5/1/48	342	346
#15 Asphalt Felt	4/1/48	125	132
#30 Asphalt Felt	5/1/48	192	196
Waterproof Bldg. Paper	1/21/47	85	91
45# Base Sheet	5/1/48	312	328
Tri Tab Max	5/13/47	181	190
Copper Clift	5/1/48	272	285
#21 Master-Bilt	5/1/48	191	209

RHP:10

FSC *Mr. Williams*
1-1-49 STANDARD PRODUCTION

PRODUCT	Std. Per Man Hr.	Labor Unit Cost
1 Pint Quick Set	120	.0089
1 Qt Quick Set	118	.0090
1 Gal. Quick Set (Sales)	34	.0312
1 Gal. Quick Set (Fixtures)	28	.0379
3½ Gal. Quick Set.	18	.0589
5 Gal. Quick Set.	14	.0758
1# Plastic Cement	175	.0060
2½# Plastic Cement	120	.0089
5# Plastic Cement	48	.0221
10# Plastic Cement	33	.0305
50# Plastic Cement	14	.0758
300# Plastic Cement	2.4	.4417
50# Plastic Cement	1.5	.7067
1 Pint Lap Cement	220	.0048
1 Gal. Lap Cement	21	.0505
5 Gal. Lap Cement	16	.0667
30 Gal. Lap Cement	2.5	.4240
52 Gal. Lap Cement	2.3	.4609
1 Gal. Roof Coating	40	.0265
5 Gal. Roof Coating	20	.0530
30 Gal. Roof Coating	2.8	.3786
52 Gal. Roof Coating	2.4	.4240
1 Gal. Non-Fib. Rf Coat.	20	.0530
5 Gal. Non-Fib. Rf Coat.	14	.0758
52 Gal. Non-Fib. Rf. Coat.	2	.5300
44# Special Flashing	14	.0758
260# Special Flashing	2.5	.4240
465# Special Flashing	2.4	.4417
1 Gal. Asphalt Primer	23	.0460
5 Gal. Asphalt Primer	12	.0884
52 Gal. Asphalt Primer	2	.5300
Built Up Asphalt	18	.0589
Supersedes Standards dated 1-5-48		
DLO:McM		

2/1-37

FC PL

-STANDARD SPECIFICATIONS-

Nails

The following nails will be used for purpose specified:

Roll Roofing

Product	Length	Gauge	Finish	Kind	Count	
					# per sq.	per lb.
75# Slate	7/8"	12	Galv.	Plain	230	316
90# Slate	7/8"	12	Galv.	Plain	252	316
Proslate 36"	7/8"	12	Galv.	Plain	150	316
Horiz. Print	7/8"	12	Galv.	Plain	252	316
Verti. Print	1 1/4"	12	Galv.	Plain	252	180
Art-Hex	1 1/4"	12	Galv.	Plain	320	211
Hex-Butt	1 1/4"	12	Galv.	Plain	360	180*
Art-Edge	1 1/4"	12	Galv.	Plain	177	180*
Diamond Point	1 1/4"	12	Galv.	Plain		
Old Rel. 35#	7/8"	12	Galv.	Spiral	200	328
Old Rel. 45-55-						
65	7/8"	12	Galv.	Spiral	252	328
Waterdyke 45#	3/4"	12	Bright	Plain	200	390
"55# - 55#	7/8"	12	Galv.	Plain	252	316
Univ. 35-45-55#	3/4"	12	Bright	Plain	200	390
Paroid 55-65-						
75#	7/8"	12	Galv.	Spiral	252	322
Paroid 18" 72-						
82#	7/8"	12	Galv.	Spiral	504	328
Slate 18"	7/8"	12	Galv.	Plain	504	316
Proslate 19"	7/8"	12	Galv.	Plain	275	316

(*) NOT PACKED

Supersedes specification dated 9/17-36

EGACH:AD

FIXTURES PER ROLL

ROLL ROOFING

Printed
Wrappers
Per Roll
+1.016

Flat Cans

Flags of

Conced

Tape

Used

Material

Holders

Holders

Universal	1.016 1-0	1.016	1.016 7/8-3	16"-Red	10"x10"	1.016
Waterdym	1.016 2-0	1.016	1.016 7/8-3	16"-Red	10"x10"	1.016
Old Rollable	1.016 1-0	1.016	1.016 7/8-3	52"-Orange	11"x11"	1.016
Farold	1.016 2-0	1.016	1.016 7/8-3	56"-Blue	12"x12"	1.016
Asphalt Felt	1.016 1-0					
Deposet Cap Sheet	1.016 2-0					
Base Sheet	1.016 2-0					
9-18-18"-Ridge	1.016 2-					
Presulate	1.016 2-0	1.016 03	1.016 9/8-3			1.016
90% Mineral	1.016 2-0	1.016	1.016 7/8-3			1.016
Roll Bris	1.016 1-0					

* Used with or without fixtures

1.016 - 1.016

FINISHING MATERIALS USED ON SHINGLES PER SQUARE

(1) Shingle		(2)		Shingle		Shingle Shingle Std. Ind.	
Bottom		Fibre		Bottom		Bottom Top Fibre Boards	
Board		Bottom Bd.		Board		Bd. T.F. Bd. T.F.	
T. B.		12"x36"		3"x12"		12"x36"	
12"x36"		12"x36"		12"x36"		12"x36"	
2.032		2.032		2.032		2.032	
Masterbilt	2.032	2.032	2.032	2.032	2.032	2.032	2.032
Tri Tab						2.032	2.032
Standard Individ.						6.032	
Copper Clap							2.032

WEIGHT PER SQUARE

Masterbilt	.18 lbs
Tri Tab	.18 lbs
Standard Individ.	.32 lbs
Copper Clap	.22 lbs

When (1) is used Do not use No. (2)

	Blender of Slate	Total Lbs. Slate	Bird Base Slate	Filler Tale	#169 Tale	Sand	Parold Tale
Masterbilt			54.2	18.8	4.		
Funkhouser Black		31.50					
3M White Red		31.50					
3M Colonial Green		31.50					
3M Brown		31.50					
Heavy Blue							
F. Black	15.25						
3M Blue	16.25						
Brown Blende							
3M White Red	4.25						
3M Buff	1.39						
3M Brown	25.96						
Mt. Green							
3M Col. Green	22.68						
3M White Red	2.04						
Funk. Black	4.41						
3M Blue	2.37						
Emmett Glc							
3M White Red	19.65						
Funk. Black	4.10						
3M Buff	7.75						

	Blends Of Slate	Total Slate	3rd case Slate	Filler	#169 Tale	Sand	Pure Tale
Masterbilt Cont'd							
Slate Blends -							
Pink Black	14.14						
Staso Sea Gr.	13.10						
Staso Red	<u>4.26</u>						
Tri Tabs				13.9	3.7		
3M Col. Green		65.10					
Pinkhouse Black		65.10					
3M Brite Red		65.10					
Slate Blends							
Pink. Black	26.04						
Staso Sea Gr.	29.75						
Staso Red	<u>2.11</u>						
Rimset Glo							
3M Brite Red	39.39						
Pink. Black	9.89						
3M. Buff	<u>15.82</u>						
Treycol Blends							
3M Col. Green	37.24						
3M. Brite Red	21.74						
Pink. Black	<u>6.12</u>						

	Blendes of Slate	Total Slate	Base Bird Slate	Filler	#169 Talo	Sand Talo	Paralel Talo
Tri Tab Gent'd							
Mt. Green.							
3M Col. Green	44.85						
3M White Red	5.01						
Funk. Black	10.09						
3M Blue	<u>5.15</u>						
Ebony Blue							
Funk. Black	33.46						
3M Blue	<u>31.64</u>						
				16.4	2.6		
Copper Cliph							
3M Colonial Green		47.40					
Funkhouse Black		47.40					
3M White Red		47.40					
Tropical Blende							
3M Col. Green	17.73						
3M White Red	17.73						
Funk. Black	<u>11.24</u>						
Russet Ole							
3M White Red	38.01						
3M Blue	4.69						
3M Brown	<u>4.70</u>						
Slate Blende							
Funk. Black	10.62						
Slate Sen Gr.	29.52						
Slate Red	<u>6.96</u>						

	Blondes of Slate	Tot Slate	Bird Base Slate	Miller	#169 Tale	Band Tale
Standard Indivld.						
Pink. Black		103.50		21.3	5.4	
3M Colonial Green		103.50				
3M Bright Red		103.50				
Russet Ole						
3M White Red	62.62					
Pink. Black	15.73					
3M Buff	<u>25.15</u>					
Tropical Blonde						
3M Col. Green	59.80					
3M White Red	34.57					
Pink. Black	<u>9.72</u>					

	Total Lbs. Slate	Base Slate	Filler	#169 Tale Sand	Parold Tale
Preslate					
Pumthener Blank	33.40				
3M Brite Red	33.40				
Stase	33.40		8.6	2.1	.8
Sea Green					
Russet Ole					
(3M Brite Red	20.71				
(2. Black	5.38				
(3M. Buff	7.36				
Box Brite			9.3	2.3	
3M Colonial Green	43.40				
3M Brite Red	43.40				
Stase Sea Green	43.40				
Mt. Green					
3M Colonial Green	17.36				
3M Brite Red	8.68				
3M Blue	17.36				
Roll Brite			14.6	2.6	
3M Brite Red	32.70				
Western Brite Buff	32.70				

STANDARD SPECIFICATIONSWASTE ALLOWANCES FOR COMPUTING GROSS WEIGHTS

<u>MATERIAL</u>	<u>ALL PRODUCTS</u>
	<u>2</u>
Felt - Std. Air Dry Wt.	6
Saturation	3
Coating	3
Filler	3
Glenwood Base Granules	5
Colored Slate for Thick Butts	10
Colored Slate for Flat Shingles and Rolls	7
Glenwood Fines	20
#36 EMG Talc for Flat Shingles, Thick Butt and Mineral Roll Goods	70
#36 EMG Talc for Smooth Surfaced Roofing	10
#37 EMG Talc	8.5
Anti-Stick (Wind Seals)	0
Wind Seal Adhesive	0

Supersedes Specification dated 1-1-66.

RNP/cw

STANDARD SPECIFICATIONSWASTE ALLOWANCES FOR COMPUTING GROSS WEIGHTS

<u>MATERIAL</u>	<u>ALL PRODUCTS</u> <u>%</u>
Felt - Std. Air Dry Wt.	6.0
Saturation	3.0
Coating	3.0
Filler	3.0
Base Slate for T. B.	5.0
Colored Slate for T. B.	10.0
Slate for All Other Products	7.0
Glenwood Fines	10.0
#36 Talc, Backing for Shingles, and Mineral Surfaced Rolls	70.0
#36 Talc, Smooth Surfaced Roofing	10.0
#37 Talc	8.5
Wind Seal Adhesive	0.0
Anti-Stick (Wind Seals)	0.0

Supersedes specification dated 2-1-66.

2/1/66

FS-PL

STANDARD SPECIFICATIONS

WASTE ALLOWANCES FOR COMPUTING GROSS WEIGHTS

<u>MATERIAL</u>	<u>ALL PRODUCTS</u>
Felt - Bone Dry	2
Plus 5.5% Moisture	6
Saturation	3
Coating	3
Filler	5
Glenwood Base Granules	0
Colored Slate for Thick Butts	10
Colored Slate for Flat Shingles and Rolls	7
Glenwood Fines	20
#36 EMG Talc for Thick Butts	100
#36 EMG Talc for Flat Shingles and Mineral Roll Goods	70
#36 EMG Talc for Smooth Surfaced Roofing	10
#37 EMG Talc	8.5
Anti-Stick (Wind Seals)	50
Wind Seal Adhesive	0

Wupersedes Specification dated 1/1/66.

RNP/ae

6/1/56

FS-MFG.

STANDARDS

FSPM-1

PER HOUR

<u>SQS./UNIT</u>	<u>PRODUCT</u>	<u>SQ.</u>	<u>FACTORY SQ.</u>
4.0	Pl., Perf. #15		
	Asphalt Felt	140	560
2.0	#30 Asphalt Felt	250	500
4.63	Waterproofed Bldg.		
	Paper	100	463
1.0	45# Waterdyke	450	450
1.0	55# Old Reliable	450	450
1.0	65# Paroid	400	400
1.0	90# Mineral	450	450
1.03	36" Proslate	440	453
1.13	19" Proslate	350	396
1.19	36" Hex Butt	280	333
1.0	Hex. Cap Sheet	375	375
1.03	Roll Sidings	320	330
1.85	Tri Tab Hex	220	407
1.35	162# Copper Clipt	325	439
2.20	Double Cvgs. Twin		
	Lock	145	319
1.67	Std. Twin Lock	180	302
2.75	Std. Individual	100	275
2.22	#21 Masterbilt	300	666
2.22	#21 M. B. Snow White		
	Winter White	275	611
2.78	King Tab Architect	170	473
1.0	55# Base Sheet	450	450

Supersedes Specification dated 3/1/55.

RNP/ae

2/9/43

FS-PL

STANDARD SPECIFICATIONS
WRAPPERS FOR ROLL GOODS

<u>KIND</u>	<u>FT.</u> <u>OF</u> <u>PAPER</u>	<u>SIZE</u> <u>OF</u> <u>BAND</u>	<u>SIZE</u> <u>OF</u> <u>BAND</u>	<u>COLOR</u> <u>OF</u> <u>BAND</u>	<u>COLORS</u>
<u>90# Mineral</u>					
Sea Green	50	35 $\frac{3}{4}$ "x40"	3"x33"	Green	G&R
Cedar Red	50	"	"	Red	R&B
Colonial Green	50	"	"	Green	R&G
Bright Red	50	"	"	Red	R&B
Black	50	"	"	Black	R&B
<u>36# PROSLATE</u>					
Black	50	35 $\frac{3}{4}$ "x40"	3"x35"	Black	R&B
Bright Red	50	"	"	Red	R&B
Colonial Green	50	"	"	Green	R&G
<u>36# M B U-TEX</u>					
Bright Red	50	35 $\frac{3}{4}$ "x46"	3"x37"	Red	R&B
Colonial Green	50	"	"	Green	G&R
Mt. Green	50	"	"	Blue	R&Blue
Russet Glo	50	"	"	Blue	R&Blue
<u>ROLL BRIC SIDING</u>					
Buff	50	30 $\frac{1}{2}$ "x44"	3"x37"	Blue	Blue
Bright Red	50	"	"	Red	Red
Roll Bric Sid- ing Soldier Cou- res	50	"	NO	NO	Plain
<u>HEP CAP SHEET</u>					
<u>HEAVY</u>					
Sea Green	50	35 $\frac{3}{4}$ "x40"	3"x33"	Green	R&G
Black	50	"	"	Black	R&B
Colonial Green	50	35 $\frac{3}{4}$ "x40"	3"x33"	Green	R&G

BIRD 005948

STANDARD SPECIFICATIONS
WRAPPERS FOR ROLL GOODS

KIND	WT. OF PAPER	SIZE	SIZE OF BAND	COLOR OF BAND	COLORS
35# Universal	40	35" x 30"	NO	NO	Green
45# Waterdyke	40	"	NO	NO	R&B
55# Old Reli- able	50	35" x 36"	NO	NO	Blue.
65# Paroid	50	"	NO	NO	Blue&R
55# Base Sheet	50	"	3" x 30"	Black	B&R
Universal Cap Sheet	50	35" x 40"	NO	NO	Plain

Supersedes Specification dated 1/21/43.

RNP/MW

Gunman tape on
Paroid - Blue
Waterdyke - Red
Old Reli-able - Orange

5/1/63

FS-PL

STANDARD SPECIFICATIONS

WASTE ALLOWANCES FOR COMPUTING GROSS WEIGHTS

<u>Material</u>	<u>All Products</u>
Felt - Bone Dry	$\frac{7}{2}$
Plus 6% Moisture	5
Saturation	5
Coating	5
Filler	5
Glenwood Base Granules	5
Surfacing #11 & #9	8.5
Ga. Talc.	150.0
E. M. 37 Talc	8.5
Sand	12.5

Supersedes Specification dated 2/14/44.

RNP/ae

1/22/48

FS-PL

STANDARD SPECIFICATION

SCALE SETTINGS - ALL PRODUCTS

<u>PRODUCT</u>	<u>SETTING</u>
#21 Masterbilt	45.25
Tri Tab Hex	40.50
Copper Clipt	50.00
90# Mineral	31.00
36" Proslate	30.50
Roll Bric	30.50
65# Paroid	21.00
55# Old Reliable	
45# Base Sheet	13.50
45# Waterdyke	13.25

Acetic. Div.

TE ROLLS

1/1/64

FS-PL

STANDARD SPECIFICATIONS -
MINERAL SURFACED ROOFING - 80# - 32" OR 36" - 108 SQ. FT.
Colors: White, Colonial Green, Black or color as specified

RAW MATERIALS PER SQ.	NET	GROSS	NET/100 SQ. FT.
Felt - 35# x 36" or 32"	7.9	8.8	7.3
Saturation - #14 1/2 - 160%	12.6	13.2	11.7
Coating - #21 1/2	10.8	11.3	10.0
Filler - 50%	10.8	11.3	10.0
Surfacing - #11 Oiled	34.9	37.9	32.3
Backing - Ga. Talc	.9	2.3	.8
Net Wt.	77.9		
Wrapper	.1		
Shipping Wt.	78.0		

Min. Wt. - 75.0#
Max. Wt. - 80.0#

All rolls to be shipped without fixtures in rolls.

No Underwriters' Label.

Plain Wrapper 35-3/4" x 36" - 40# Kraft.

Wrapper to be stencilled - "Bird 80# Mineral - Color".

FIXTURES: Packed separately.

Packed in units of 20 - 20 Bags of nails, 20 pints of Lap Cement.

Approximately shipping wt. - 32#

Length of Rolls - 36'-0" for 36" Rolls. (No extra allowance for two piece rolls.)

Wt. of Sheet per 100 Sq. Ft. - 72.1#.

Production per Hour - 475 Rolls

Supersedes Specification dated 3/1/63

RNP/ae

1-1-71

STANDARD SPECIFICATIONS

PS-PL

Colors: MINERAL SURFACED ROOFING - 50# - 32" OR 36" - 108 SQ. FT.
 Colonial Green, Black, White Red, Brown, Slate Blende, Russet Glo, Dawn
 Mist, Meadow Mist, Gray, Frost Blende, Snow White, Desert Brown, Shadow
 Green, Blue, Wood Blende.

RAW MATERIALS PER SQ.

Est - 50# x 36" or 32"
 Saturation - #14-1/2 - 160%

Casting - #21-1/2

Filler - 53%

Surfacing - #11 Oiled

Backing - Pioneer Talc

Net Wt.

Wrapper

Clipping Wt.

All rolls to be shipped without fixtures in rolls.

Underwriters' Label - Class C Sheet Roofing printed on wrapper.

7 Printed wrapper, each roll. Color coded Green and Black.

Direction sheet printed on wrapper.

Fixtures: Packed separately.

Packed in units of 20. 20 bags of nails, 20 pints of Lap Cement.

Approx. Shipping Wt. - 32#

Length of Rolls - 36'0". (No extra allowance for two piece rolls).

Wt of Sheet per 100 Sq. Ft. - 81.5#

Minimum Wt. of Roll - 86.0#

NET	GROSS	NET/100 SQ. FT.
11.3	12.6	10.5
18.1	18.6	16.8
11.2	11.5	10.4
12.6	13.0	11.7
33.8	36.2	31.3
1.0	1.7	0.9
88.0		
1		
88.1		

SPEC # 2 MINERAL SURFACED ROOFING - 904

NOTE: Sheet must have minimum 3.04 filled coating/100 Sq. Ft. on back.

MCD Production Rate - 695 Rolls

Supersedes Specification dated 1/1/66

Review

1/1/66

FS-PL

STANDARD SPECIFICATIONSBIRD RANCH ROOF - 114 SQ. FT. (2 - 1/4 SQ. ROLLS)

COLORS: - - - Meadow Mist, Frost Blende,
Snow White.

Length of Rolls - 38 Ft. Width 18"

(Wrapped two 18" strips in each roll)

10" Coated, Surfaced and hot Embossed Selvage Edge.

8" Exposure

			NET PER
RAW MATERIAL PER 2-1/4			100
SQ. ROLLS	NET	GROSS	SQ. FT.
Felt - 50# x 36"	11.9	13.3	10.4
Saturation - #14-1/2 - 160%	19.0	19.6	16.7
Coating - #21-1/2	17.2	17.7	15.1
Filler - 45%	14.0	14.7	12.3
Surfacing-Exposed Portion-			
#11 Oiled	18.5	19.8	31.3
Surfacing - Selvage -			
Glenwood Black	12.3	12.3	23.6
Lacking - Talc EMG 36	1.0	1.7	.9
Net Wt.	93.9		
Wrapper	.1		
Shipping Wt.	94.0		
Variation in Shipping Wt. - Min.	- 92.0		
Max.	- 96.0		

Printed Wrapper Bands - 2 color, direction sheet
printed on wrapper. Size 35-3/4" x 36".

Fixtures - Packed separately.

For 1 Sq. - 2 - 1 Gal. Quick Set Cement

2 - Pkg. Nails - 7/8" Brite - 155
count each pkg.

Underwriters' Label - 1/2 Sq. Class C, each roll.

Wt. of Sheet per 100 Sq. Ft. - 82.4#

Material to be reverse rolled.

Rolls must have minimum 3.0# back coating per 100
Sq. Ft.

Production per Hour - 460 Rolls (1/2 Sq.)

Supersedes Specification dated 1/1/64.

RNP/ae

1/1/66

FS-PL

STANDARD SPECIFICATIONS

9" MINERAL SURFACE STRIPS - SAME AS 90#

Cut on machine from 36" width material.

Sq. Ft. Material per Sq. - 108
per Roll - 27

<u>RAW MATERIALS PER SQ.</u>	<u>NET</u>	<u>GROSS</u>	<u>NET WT. PER 100 SQ. FT.</u>
Felt 50 Lb x 35-7/8"	11.3	12.6	10.5
Saturation-#14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2	13.1	13.5	12.1
Filler - 45%	10.7	11.2	9.9
Surfacing #11 Oiled	33.8	36.2	31.3
Backing - Talc EMG 36	1.0	1.7	0.9
Net Wt.	88.0		
Finishing Material	.1		
Shipping Wt.	88.1		

Length of rolls - 36'-0"

Width of Rolls - 9"

36" Sheet slit into 4 pieces 9" wide.

Each roll wrapped with 3" gummed strip - 0.1# per
Sq.

Rolls must have minimum of 3.0# backing per 100
Sq. Ft.

Wt. of sheet per 100 Sq. Ft. - 81.5#

Date of manufacture and color in each roll.

No Direction Sheet.

No Underwriters' Label.

Production per Hour - 800 Rolls

Supersedes "9" Mineral Surface Strips dated 1/1/64.

NP/ae

1/1/66

FS-PL

STANDARD SPECIFICATIONS12" MINERAL SURFACED STRIPS - SAME AS 90#

Cut on machine from 36" width material.

Sq. Ft. Material per Sq. - 108
 per Roll - 36

RAW MATERIALS PER SQ.	NET	GROSS	NET WT. PER 100 SQ. FT.
Felt - 50 Lb. x 35-7/8"	11.3	12.6	10.5
Saturation - #14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2	13.1	13.5	12.1
Filler - 45%	10.7	11.2	9.9
Surfacing - #11 Oiled	33.8	36.2	31.3
Packing - Talc EMG 36	1.0	1.7	0.9
Net Wt.	88.0		
Finishing Material	.1		
Shipping Wt.	88.1		

Length of rolls - 36' - 0"

Width of rolls - 12"

36" Sheet slit into 3 pieces 12" wide.

Each roll wrapped with 3" gummed strip-0.1# per sq.

Rolls must have minimum of 3.0# back coating per
100 Sq. Ft.

Wt. of sheet per 100 Sq. Ft. - 81.5#

Date of manufacture and color in each roll.

No Direction Sheet.

No Underwriters' Label.

Production per Hour - 700 Rolls

Supersedes 12" Mineral Surfaced Strips dated 1/1/64.

RNP/ae

1/1/66

FS-PL

STANDARD SPECIFICATIONS18" MINERAL SURFACED STRIPS - COLOR SAME AS 90#

Cut on machine from 36" width material.

Sq. Ft. material per Sq. - 108

per Roll - 54

		NET WT. PER 100 SQ. FT.	
<u>RAW MATERIALS PER SQ.</u>		<u>NET</u>	<u>GROSS</u>
Felt - 50 Lb. x 35-7/8"		11.3	12.6
Saturation - #14-1/2 - 160%		18.1	18.6
Coating - #21-1/2		13.1	13.5
Filler - 45%		10.7	11.2
Surfacing - #11 Oiled		33.8	36.2
Backing - Talc EMG 36		1.0	1.7
Net Wt.		88.0	
Finishing Material		.1	
Shipping Wt.		88.1	

Length of Rolls - 36'-0"

Width of Rolls - 18"

36" Sheet slit in 2 pieces 18" wide.

Each roll wrapped with 3" gummed paper - 0.1#/Sq.

Rolls must have minimum of 3.0# back coating per
100 Sq. Ft.

Wt. of Sheet per 100 Sq. Ft. - 81.5#

Date of Manufacture and Color each roll.

No Direction Sheet.

No Underwriters' Label.

Production per Hour - 700 Rolls.

Supersedes 18" Mineral Surface Strips dated 1/1/64.

RNP/ae

STANDARD SPECIFICATIONSNEPONSET CAP SHEET

2 Sq. rolls, 108 Sq. Ft. per Roll, 216 Sq. Ft. per Sq. Coated and surfaced 21", Saturated Felt 15".
 Not embossed to give 17" exposed surfacing.
 Embossed portion to be sanded. Coated and surfaced on back.

Colors: Black, Colonial Green, Meadow Mist, White

RAW MATERIALS PER ROLL	NET PER 100		
	NET	GROSS	SQ. FT.
Felt - 50# x 36"	11.3	12.6	10.5
Saturation - #14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2	5.0	5.2	7.4
Filler - 53%	5.7	5.9	9.0
Surfacing - #11 Oiled	15.7	16.8	24.9
Glenwood Fines (for 4" Embossing)	.6	.7	1.0
Backing - Talc Pioneer 36	1.0	1.1	.9
White Paint		0.1	
Net Wt.	57.4		
Finishing Materials	.1		
Shipping Wt.	57.5		
Variation in Shipping Wt. - Max.		59.0#	
		Min. - 56.0#	

1 'Underwriters' Label - Type 30 Built Up, Printed on Wrapper.

Length of Roll - 36'0". No extra allowance for two piece rolls.

Finishing Materials - 1 Printed Wrapper - 2 color, Red on White - 35-1/2 x 36"

Variation in width of selvage - + or - 1/2".

NOTE: A white paint line 17" in from surfaced edge must be on each roll.

Wt. of Sheet per 100 Sq. Ft. - Coated and surfaced - 80.2#.

RCD Production Rate - 650 Rolls

Supersedes Specification dated 1/1/66.

RNP/ew

STANDARD SPECIFICATIONS9" MINERAL SURFACE STRIPS - SAME AS 90#

Cut on machine from 36" width material.

Sq. Ft. Material per Sq. - 108

per Roll - 27

RAW MATERIALS PER SQ.	NET	GROSS	NET WT.
			PER 100
			SQ. FT.
Felt - 50 Lb. x 35-7/8"	11.3	12.6	10.5
Saturation - #14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2	11.2	11.5	10.4
Filler - 53%	12.6	13.0	11.7
Surfacing - #11 Oiled	33.8	34.2	31.3
Backing - Talc Pioneer 36	1.0	1.7	0.9
Net Wt.	88.0		
Finishing Material	.1		
Shipping Wt.	88.1		

Length of rolls - 36'0"

Width of rolls - 9"

36" Sheet slit into 4 pieces 9" wide.

Each roll wrapped with 3" gummed strip - 0.1# per sq.

Rolls must have minimum of 3.0# backing per 100

Sq. Ft.

Wt of sheet per 100 Sq. Ft. - 81.5#

Date of manufacture and color in each roll.

No Direction Sheet.

No Underwriters' Label.

MCD Production Rate - 800 Rolls.

Supersedes 9" Mineral Surface Strips dated 1/1/66.

RNP/ew

1-1-71

FS-PL

STANDARD SPECIFICATIONS12" MINERAL SURFACED STRIPS - SAME AS 90#

Cut on machine from 36" width material.

Sq. Ft. Material per Sq. - 108

per Roll - 36

RAW MATERIALS PER SQ.	NET	GROSS	NET WT. PER 100 SQ. FT.
Felt - 50 Lb. x 33-7/8"	11.3	12.6	10.5
Saturation - #14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2	11.2	11.5	10.4
Filler - 53%	12.6	13.0	11.7
Surfacing - #11 Oiled	33.8	36.2	31.3
Backings - Talc Flosser 36	1.0	1.7	0.9
Net Wt.	88.0		
Finishing Material	.1		
Shipping Wt.	88.1		

Length of rolls - 36'0"

Width of rolls - 12"

36" Sheet slit into 3 pieces 12" wide.

Each roll wrapped with 3" gummed strip - 0.1# per sq.

Rolls must have minimum of 3.0# back coating per
100 Sq. Ft.

Wt. of sheet per 100 Sq. Ft. - 81.5#

Date of Manufacture and color in each roll.

No Direction Sheet.

No Underwriters' Label.

RCD Production Rate - 780 Rolls.

Supersedes 12" Mineral Surfaced Strips dated 1/1/66.

BNP/ew

1-1-71

FS-PL

STANDARD SPECIFICATIONS

18" MINERAL SURFACED STRIPS - COLOR SAME AS 90#

Cut on machine from 36" width material.

St. Ft. material per SQ. - 108

per Roll - 54

RAW MATERIALS PER SQ.	NET	GROSS	NET WT. PER 100 SQ. FT.
Felt - 50 Lb. x 35-7/8"	11.3	12.6	10.5
Saturation - #14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2	11.2	11.5	10.4
Filler - 53%	12.6	13.0	11.7
Surfacing - #11 Oiled	33.8	36.2	31.3
Backing - Talc EMS 36	1.0	1.7	0.9
Nt. Wt.	88.0		
Finishing Material	.1		
Shipping Wt.	88.1		

Length of Rolls - 36'0"

Width of Rolls - 18"

36" Sheet slit in 2 pieces 18" wide.

Each roll wrapped with 3" gummed paper - 0.1#/Sq.

Rolls must have minimum of 3.0# back coating per
100 Sq. Ft.

Wt. of Sheet per 100 Sq. Ft. - 81.5#

Date of Manufacture and Color each roll.

No Direction Sheet.

No Underwriters' Label.

PCD Production Rate - 750 Rolls.

Supersedes 18" Mineral Surface Strips dated 1/1/64.

RNP/ew

12/1/50

FS-PL

STANDARD SPECIFICATIONS

HEX BUTT-105# - 128 SQ. FT. ~~BROWN-RED~~, MT. GREEN,
RUSSET GLO, COL. GREEN.

RAW MATERIALS PER SQ.	NET	GROSS	NET	GROSS
Felt 50 lb x 35 7/8"	13.3	14.8		
Felt 56 lb x 35 7/8"			13.8	15.4
Saturation-#14 1/2-175%	23.3	24.5	24.2	25.4
Coating- #21 1/2	13.1	13.8	12.4	13.0
Filler - 47%	11.7	12.3	11.0	11.6
Surfacing-#11 Oiled	41.3	43.4	41.3	43.4
Backing-Ga. Talc	2.2	2.3	2.2	2.3
Net Weight	104.9		104.9	
Finishing Materials	.1		.1	
Shipping Wt.	105.0		105.0	

Variation in shipping wt. - Min. 103.0#

Max. 107.0#

Underwriters' Label - 1 Sq. Class C.

Direction Sheet, date mark, each roll.

Length of rolls - 42'8". No extra allowance for
two piece rolls.

Size of Hex - 3-7/8" x 9-1/3".

Fixtures: - Packed separately.

1-1/2 Gal. Can Quick Setting Lap Cement

1 pkg. 1-3/4" Galv. Nails-12 ga.-360 count.

Printed wrapper-bands printed on wrapper. 2 color.

Wt. of sheet per 100 sq. ft. - 81.9#.

Production per hour - ~~265~~ 260 (7/31/58)
280 (1-1-59)

Supersedes specification dated 10/1/49.

RNP/ae

SMOOTH SURFACE

STANDARD

WEIGHT

1 Gallon Water
1 Quart Water
32 Ounces
28.35 Grams

8.336 pounds
2.034 pounds
Quart
1 Ounce

$\# \text{ lb.} = \text{wt. of dry sample} \times 9.031$

$\% \text{ consistency} = \frac{\# / \text{gal}}{83.3} \times 100 \quad \text{OR} \quad (\text{wt. of dry sample}) \times 105.8$

$\% \text{ c.c.} = \frac{\text{wt. of sat}}{\text{wt. of dry sample}} \times 100$

$\# / \text{lb.} = \text{wt. in grams} \times 1.057$

$\# \text{ lb.} = \frac{\text{c.c. of kerosene}}{\text{wt. of dry sample}} \times 100$

#1 705
#2 1420
#3 1025
3150

STANDARD SPECIFICATIONS

BIRD BOMBED BASE SHEET - 36" WIDE
2.0¢ PER 100 SQ. FT. - 88.7¢ PER 228 SQ. FT.

TO BE RUN AS 2 SQ. MATERIAL

			NET WT. PER 100 SQ. FT.
RAW MATERIALS PER ROLL	NET	GROSS	
Felt - #27 x 36"	12.8	14.3	5.6
Saturation - #14-1/2 - 150%	19.2	19.8	8.4
Coating - #21-1/2	20.2	20.8	8.9
Filler - 50%	20.3	20.9	8.9
Glenwood Fines	11.4	12.5	5.0
Backing - Pioneer 36 Tale	4.8	5.3	2.1
Net Wt.	88.7		
Finishing Materials	.1		
Shipping Wt.	88.8		

No Excess Glenwood Fines on Finished Sheet.

Finishing Materials:

Printed Wrapper - 35-1/2" x 39", Color Coded,
 Black on Orange.

Underwriters' Label, Type 15 B. U., Printed on
 wrapper.

FD fixtures.

White Paint Lines, 2", 4", 17", 19", 32" and 34"
 from each edge.

Length of Rolls - 76'0"

No extra allowance for two piece rolls.

Two piece rolls to have a red flag at lap of two
 pieces.

Wt. of Sheet per 100 Sq. Ft. - 38.9¢

RCD Production Rate - 330 Rolls.

NOTE: Coating to be equally distributed front and
 back.

Supersedes Specification dated 1/1/70.

RNP/ew

1-1-71

FS-PL

STANDARD SPECIFICATIONSBIRD NO. 33 COATED FELT - 36" WIDE32.5# PER 108 SQ. FT. - 65# PER 216 SQ. FT.TO BE RUN AS 2 SQ. MATERIAL - 216 SQ. FT.

<u>RAW MATERIALS PER ROLL</u>	<u>NET</u>	<u>GROSS</u>	<u>NET WT.</u>
			<u>PER 100</u>
			<u>SQ. FT.</u>
Felt - 27# x 36"	12.1	13.6	5.6
Saturant - 150%	18.1	18.6	8.4
Coating - #21-1/2	12.8	13.2	5.9
Filler - 50%	12.9	13.3	6.0
Surfacing - #36 Pioneer Talc	9.1	10.0	4.2
Net Wt.	65.0		30.1
Finishing Materials	0.1		
Shipping Wt.	65.1		

Finishing Materials:

Printed Wrapper - 35-1/2" x 36". Color coded
Black on Tan.

Underwriters' Label - Type 15 B. U., Printed on
wrapper.

No Fixtures.

White Paint Lines 2", 8-1/2", 11-1/4", 17", 19",
24-3/4", 27-1/2" and 34" from each edge.

Length of Rolls - 72'0".

No extra allowance for two piece rolls.

Two piece rolls to have a red flag at lap of two
pieces.

Wt. of Sheet per 100 Sq. Ft. - 30.1#.

RCD Production Rate - 310 Rolls.

NOTE: Coating to be equally distributed front
and back.

Supersedes Specification dated 6/1/68.

RNP/ew

1-1-71

78-PL

SPECIAL SPECIFICATIONS
COATED BASE SHEET NO. 43

(RUN ON SPECIAL ORDER FOR KOPPERS COMPANY)

**42.0# per 108 Sq. Ft. - 88.7# Per 228 Square Foot
Roll**

TO BE RUN AS 2 SQ. MATERIAL

<u>RAW MATERIAL PER ROLL</u>	<u>NET</u>	<u>GROSS</u>	<u>NET WT. PER 100 SQ. FT.</u>
Felt - #27 x 36"	12.8	14.3	5.6
Saturation - #14-1/2 - 150%	19.2	19.8	8.4
Coating - #21-1/2	20.2	20.8	8.9
Filler - 50%	20.3	20.9	8.9
Glenwood Fines	11.4	12.5	5.0
Docking - Pioneer 36 Talc	4.8	5.3	2.1
Net Wt.	88.7		
Finishing Materials	.1		
Shipping Wt.	88.8		
<u>No Excess Glenwood Fines on Finished Sheet.</u>			

FINISHING MATERIALS:

1 - Plain 40# Kraft Wrapper - 35-1/2" x 39"
 1 - 4-1/4" x 10" Printed Label - Furnished by
 Koppers - Pasted on Wrapper.
 Underwriters' Label - Type 15, Pasted on Each
 Wrapper.
 Underwriters' Code - R-11778 - Stamped on each
 Wrapper.
 No Fixtures.
 White Paint Lines, 2", 4", 17", 19", 32", 34"
 from each edge.
 Length of Rolls - 76'0"
 No extra allowance for two piece rolls.
 Wt. of Sheet per 100 Sq. Ft. - 38.9#
 Production Per Hour - 330 Rolls
**NOTE: Coating to be equally distributed front and
back.**

Supersedes Specification dated 2/1/70.

RNP/ew

STANDARD SPECIFICATION
COATED BASE SHEET - 36" WIDE
 (RUN ON SPECIAL ORDER FOR KOPPERS COMPANY)
42# PER 100 SQ. FT. - 66.5# PER 171 SQ. FT. ROLL
TO BE RUN AS 1-1/2 SQ. MATERIAL

RAW MATERIALS PER ROLL	NET	GROSS	NET WT.
			100 SQ. FT.
Talc - #27 x 36"	9.6	10.7	5.6
Saturation - #14-1/2 - 155%	14.4	14.8	8.4
Coating - #21-1/2	15.1	15.6	8.8
Filler - 50%	15.2	15.7	8.9
Glenwood Fines	8.6	9.5	5.0
Backing - Pioneer 36 Talc	3.6	4.0	2.1
Net Wt.	66.5		
Wrapper	.1		
Shipping Wt.	66.6		

No Excess Glenwood Fines on Finished Sheet.
Finishing Materials:

1 - Plain 40# Kraft Wrapper - 35-1/2" x 36"
 1 - 4-1/4" x 10" Printed Label. Furnished by
 Koppers. Pasted on wrapper.
 Underwriters' Label - Type 15 B. U. - Pasted on
 wrapper.
 Underwriters' Code - R-11778 - Stamped on each
 wrapper.
 No Fixtures.
 White Paint Lines 2", 4", 17", 19", 32", 34" from
 each edge.
 Length of Rolls - 37'0".
 No extra allowance on two piece rolls.
NOTE: All two piece rolls to have a red flag at
 lap of two pieces.
 Wt. of Sheet per 100 Sq. Ft. - 38.9#
 RCD Production per Hour - 420 Rolls
Coating to be distributed equally front and back.

Supersedes Specification dated 2/1/70.

RNP/ew

1-1-71

FS-PE

STANDARD SPECIFICATIONS

BIRD BONDED BASE SHEET - 36" WIDE

42.0# PER 108 SQ. FT. - 66.5# PER 171 SQ. FT.

TO BE RUN AS 1-1/2 SQ. MATERIAL

<u>RAW MATERIALS PER ROLL</u>	<u>NET</u>	<u>GROSS</u>	<u>NET WT. PER 100 SQ. FT.</u>
Felt - #27 x 36"	9.6	10.7	5.6
Saturation - #14-1/2 - 150Z	14.4	14.8	8.4
Coating - #21-1/2	15.1	15.6	8.8
Filler - 50Z	15.2	15.7	8.9
Glenwood Fines	8.6	9.5	5.0
Backing - Pioneer 36 Talc	3.6	4.0	2.1
Net Wt.	66.5		
Finishing Materials	0.1		
Shipping Wt.	66.6		

No Excess Glenwood Fines on Finished Sheet.

Finishing Materials:

Printed Wrapper. Color keyed. Blue on White,
35-3/4" x 36".

Underwriters' Label - Type 15 B. U., Printed on
wrapper.

No Fixtures.

White Paint Lines - 2", 4", 17", 19", 32", 34" from
each edge.

Length of Rolls - 57'0"

No extra allowance on two piece rolls.

NOTE: All two piece rolls to have a red flag at
lap of two pieces.

Wt. of Sheet per 100 Sq. Ft. - 38.9#

Coating to be distributed equally front and back.

RCD Production per Hour - 420 Rolls.

Supersedes Specification dated 1/1/70.

RNP/ew

STANDARD SPECIFICATIONS

OLD RELIABLE ROOFING - 55# - 108 SQ. FT.
(GOV'T ORDER ONLY)

			NET PER 100 SQ. FT.
<u>RAW MATERIALS PER SQ.</u>			
Felt - 50# x 36"	<u>NET</u> 11.3	<u>GROSS</u> 12.6	10.5
Saturation - #14-1/2 - 160%	18.1	18.6	16.8
Coating - #21-1/2 - Smooth	9.0	9.3	8.3
Filler - 53%	10.1	10.4	9.4
Surfacing Talc ENG 36	<u>4.5</u>	5.0	4.2
Net Wt.	53.0		
Wrapper	<u>.1</u>		
Shipping Wt.	53.1		

Variation in Shipping Wt. - Min. - 51.0#
 Max. - 54.0#

No Underwriters' Label.

Directions printed on Wrapper.

Printed Wrapper - 2 color.

Fixtures: Packed Separately.

1 Pt. Lap Cement in pt. or #2 cans.

1 bag 7/8" Galv. 11 Ga. Nails, 162.
 count.

NOTE: Fixtures packed in units of 20. 20 bags of
 nails, 20 pints of Lap Cement. Approx.

Shipping Wt. - 32#.

Length of Rolls: - 36'0". No extra allowance for
 two piece rolls.

Wt. of Sheet per 100 Sq. Ft. - 48.6#.

RCD Production Rate - 640 Rolls.

Supersedes Specification dated 1/1/66

RNP/ew

1-1-71

FS-PL

STANDARD SPECIFICATIONS
BIRD MULTI-PLY - 36" WIDE

40.0# PER 108 SQ. FT. - 80.0 PER 216 SQ. FT.

TO BE RUN AS 2 SQ. (216 SQ. FT.) MATERIAL

			NET WT. PER 100 SQ. FT.
<u>RAW MATERIALS PER ROLL</u>	<u>NET</u>	<u>GROSS</u>	
Felt - #27 x 36"	12.1	13.6	5.6
Saturation - #14-1/2 - 150%	18.2	18.7	8.4
Coating - #21-1/2	20.3	20.9	9.4
Filler - 50%	20.3	20.9	9.4
Surfacing - Pioneer #36 Talc	9.1	10.0	4.2
Net Wt.	80.0		
Finishing Material	.1		
Shipping Wt.	80.1		

Finishing Materials:

Printed Wrapper - 35-1/2" x 39". Color coded.
 Black on Purple.

Underwriters' Label - Type 15 B. U. printed on
 wrapper.

No Fixtures.

White Paint Lines, 3", 11-1/4", 17", 19", 24-3/4",
 33" from each edge.

Length of Rolls - 72'0"

No extra allowance for two piece rolls.

Two piece rolls to have a red flag at lap of two
 pieces.

Wt. of Sheet per 100 Sq. Ft. - 37.0#

MOD PRODUCTION RATE - 300 Rolls

**NOTE: Coating to be equally distributed front and
 back.**

Supersedes Specification dated 1/1/70.

WSP/ew

STANDARD SPECIFICATIONS

#50 OLD RELIABLE ROOFING - 108 SQ. FT.

COATED AND SURFACED BOTH SIDES, COATING RIBBED

RAW MATERIALS PER SQ.	NET	GROSS	NET PER
			100
			SQ. FT.
Felt - #27 x 36"	6.1	6.8	5.6
Saturation - #14-1/2 (150%)	9.1	9.4	8.4
Coating - #21-1/2	14.0	14.4	13.0
Filler - 53%	15.8	16.3	15.1
Surfacing - Pioneer #36 Talc	4.5	5.0	4.2
Net Wt.	49.5		
Finishing Materials	.1		
Shipping Wt.	49.6		

Variation in Shipping Wt. - Min. - 48.0#
Max. - 51.0#

to Underwriters' Label.

Directions printed on wrapper.

Printed Wrapper - 2 color.

Fixtures: Packed separately.

1 Pt. Lap Cement in Pt. or #2 Cans.

1 Bag 7/8" Galv. #11 Ga. Nails - 162 Count.

NOTE: Fixtures packed in units of 20. 20 Bags of Nails, 20 Pt. of Lap Cement. Approx.

Shipping Wt. - 32#.

Length of Rolls - 36'0". No extra allowance on two piece rolls.

Wt. of Sheet per 100 Sq. Ft. - 45.9#.

RCD Production Rate - 635

Supersedes Specification dated 3/4/70

RNP/ew

3/4/70

FS-PL

STANDARD SPECIFICATIONS

#50 OLD RELIABLE ROOFING - 108 SQ. FT.

COATED AND SURFACED BOTH SIDES, COATING RIBBED

<u>RAW MATERIALS PER SQ.</u>	<u>NET PER</u>		
	<u>NET</u>	<u>GROSS</u>	<u>100</u>
			<u>SQ. FT.</u>
Felt - #27 x 36"	6.1	6.8	5.6
Saturation-#14-1/2 (150%)	9.1	9.4	8.4
Coating-#21-1/2	16.4	16.9	15.2
Filler-45%	13.4	14.1	12.4
Surfacing-Pioneer #36 Talc	4.5	5.0	4.2
Net Wt.	49.5		
Finishing Materials	.1		
Shipping Wt.	49.6		
Variation in Shipping Wt. - Min.	- 48.0#		
	Max. - 51.0#		

No Underwriters Label.

Directions printed on wrapper.

Printed Wrapper - 2 Color.

Fixtures: Packed separately.

1 Pt. Lap Cement in Pt. or #2 Cans.

1 Bag 7/8" Galv. #11 Ga. Nails - 162 Count.

NOTE: Fixtures packed in units of 20. 20 Bags of Nails, 20 Pt. of Lap Cement. Approx.

Shipping Wt. - 32#

Length of Rolls - 36'-0". No extra allowance on two piece rolls.

Wt. of Sheet per 100 Sq. Ft. - 45.9#

RCD Production Rate - 635

Supersedes Specification dated 12/1/68.

RNP/ac

PABOID

Product	PERCENT INCREASE	NEW STANDARDS AS OF 1-1-49	Actual 12 Months Production	Potential Top Machine Speed	Percent Production 1948
Masterbilt W/Tex & Plain 4-Wide	9.39	209	232.1	366	121.4
41 Tab Hex 6-Wide*	5.00	190	238.1	439	131.6
41 Tab Hex 4-Wide	5.00	190		293	-0-
Standard Individual	0.00	86	65.6	247	76.5
Copper Clift	5.00	285	287.4	603	105.7
Wall Eric Siding	.0	255	290.7	555	114.0
Box Butt	0.00	265	198.1	563	74.7
6" Proslate	9.59	385	338.9	649	96.6
19" Proslate	4.17	285	257.3	620	93.9
90# Mineral	7.24	388	358.8	667	99.1
65# Paroid	1.27	346	376.1	667	109.9
55# Old Reliable	2.97	368	351.7	667	98.5
45# Waterdyke	.64	403	352.3	667	88.1
15# Asphalt Felt	5.26	132	110.9	167	88.8
30# Asphalt Felt	1.85	196	195.9	333	102.0
Waterproofed Bhdg. Paper	7.14	91	101.3	144	119.2
45# Base Sheet	5.00	328	366.4	667	117.4
Mineral Surfaced Cap Sheet	0.00	358	297.0	667	83.0
Neponset Double Coverage	0.00	281	134.3	667	47.7