

FOR

FLOWS & FLOWS Siding Shingles
Gedargrain, Oyster White

Pittsburg

FACTORY Rigid Shingle DEPT.

PLAINTIFF'S
EXHIBIT
JM-2429**Formula**

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is about 2/3 empty then drop stick to lower mixer.

Purchases

Purch. No.	Material	Batch	1
X 61872	Denville 4400 Fibre	3 bags (100# Ea)	21.8
X -	Pumicite (Frisite A03X)	3 bags (100# Ea)	21.8
X -	Siding Shingle Scrap	4 bags (100# Ea)	20.0
X 61061	Portland Cement (Standard)	4 bags (94# Ea)	27.4

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product.

Dust collected from the mixer and wet scrap at the machine, is considered part of the mix and can be added to the mix in the same proportion as drawn off.

XX If necessary fluff wet scrap by addition of dry scrap by mixing in ridge roll mixer.

I White Powder**Preparation of Dry Ingredients****Purchases**

Purch. No.	Material	Batch	1
61061	Portland Cement (White)	1 Bag (94#)	49.7
61061	" (Std.) (Covall)	9-1/2# Wgt.	5.0
61825	Hydrated Lime	19#	30.0
61891	Whiting	19#	30.1
61779	M.M. & A.D. Silica Flour	35#	20.1
63184	Titanium (Titanox) "AND"	9-1/2#	5.0

Ball mill the Whiting, Silica Flour and Titanium (Titanox AND) for ten minutes; then add the White Portland Cement, Covall Commercial Portland Cement and Hydrated Lime and ball mill for an additional ten minutes. Store material in bags 66 lbs. each.

Preparation of Wet Powder

Introduce 2 bags of dry material into mechanical mixer and add 30 to 35 gallons of water. Mix material until pressure tank is ready to receive charge, then screen veneering mix into pressure tank.

Water Repellent**Preparation of Solution****Surf Formula****Purch. Surf. No.**

Purch. Surf. No.	Material	Batch	1
60916	Carnauba Wax Emulsion #69AF	25# Wgt.	12.5
63204	Ammonium Stearate	27# Wgt.	13.5
-	Titanox "A" Paste	4# Wgt.	2.0
-	Hot Water (155°F Max)	17-1/2 Gal. (Max)	72.0
63184	Titanox "A" Paste	2# Wgt.	50.0
	Titanium (Titanox) "A"	2# Wgt.	50.0
	Water		

Stir to smooth paste.

I Indicates change

XX Indicates addition

MT-000221

Extra

PRODUCT SECTION NO.	BUILDING SUPT.	LOCAL COST DEPT.	RESEARCH DEPT.	G. H. COST DEPT.	FILE
ISSUED	SUPERSEDES	ORIGINAL SPEC. EFFECTIVE	LAST REVISION EFFECTIVE	THIS REVISION EFFECTIVE	
3/8/40	Page 1 of same spec issued 8-2-39	3/31/39	10/9/39	4-12-4	

Formula

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is about 2/3 empty then drop stick to lower mixer.

Purchase

Purch. No.	Material	Batch	X
61071	Durville 6080 Fibre	3 Bags (100# Ea.)	21.8
61071	Pumicite (Wianite ACX)	3 Bags (100# Ea.)	21.8
61061	Siding Shingle Scrap	4 Bags (100# Ea.)	27.8
61061	Portland Cement (Standard)	4 Bags (75# Ea.)	27.4

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product.

Dust collected from the mixer and wet scrap at the machine, is considered part of the mix and can be added to the mix in the same proportion as drum off. If necessary fluff wet scrap by addition of dry scrap by mixing in ridge roll mixer.

Shit to Vanner

Purchase

Purch. No.	Material	Batch	X
61061	Portland Cement (White)	1 Bag (94#)	42.7
61061	" " (Std)(Cowell)	9-1/2# Wgt.	5.0
61065	Hydrated Lime	19#	10.1
61092	Whiting	19#	10.1
61279	M.M. & A.D. Silica Flour	38#	20.1
63184	Titanium(Titanox) "AND"	9-1/2#	5.0

Preparation of Dry Ingredient

Ball mill the whiting, Silica Flour and Titanium (Titanox AND) for ten minutes; then add the white Portland Cement, Cowell Commercial Portland Cement and Hydrated Lime and ball mill for an additional ten minutes. Store material in bags 66 lbs. each.

Preparation of wet Vanner

Introduce 2 bags of dry material into mechanical mixer and add 30 to 35 gallons of water. Mix material until pressure tank is ready to receive charge, then screen vanning mix into pressure tank.

Water Repellent

Spray Formula

Purch. Spec. No.	Material	Batch	X
X 60919	Special Carmauba Wax Emulsion #69AP	25# Wgt.	12.5
63204	Ammonium Stearate	27#	13.5
-	Titanox "A" Paste	4#	2.0
-	Hot Water (155°F Max)	17-1/2 Gal. (Max)	72.0
63184	Titanox "A" Paste	2# Wgt.	50.0
	Titanium (Titanox) "A"	2# Wgt.	50.0

Preparation of Solution

Stir to smooth paste.

X - INDICATES CHANGE - REASON: #1098 added to siding line.

AUTHORITY FOR CHANGE - P.P.R. #398

FILE-HOLDERS

BLOG. SUPT. LOCAL COST DEPT. RESEARCH DEPT. GEN. I. & C. DEPT. GEN. COST DEPT. LG I. & C.

SUPERSEDES:

Same specification issued 3/8/40.

DATE ISS

FETTERING

FACTORY

Shingles Cedargrain, Quarter White

KIDDER

DEPT.

PAGE NO.

1

REMARKS

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is approximately 2/3 empty, then drop stock to lower mixer.

Batch
Material

6277
6282

Denville 400 Fiber
M.M.A.D. Silica Flour
Siding Shingles Scrap
Portland Cement

Batch
3 Bags
2 Bags
3 Bags
5 Bags

Batch
300
200
300
100
270

Batch
300
100
300
370

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product.

REMARKS

Batch
Material

6283
6284
6285
6286
6279
6280

Portland Cement (White)
" " (Cement)
Hydrated Lime
Whiting
M.M.A.D. Silica Flour
Titanium Dioxide

Batch
1 Bag
24 Spt.
124 Spt.
124 Spt.
24 Spt.
24 Spt.

Batch
90
90
100
100
30
100

Batch
90
90
100
100
30
100

Mix batch 2 or 3 minutes in dry venor mixer then feed thru RD-6 blending mill. Store in 66 lb. bags.

REMARKS

Add 2 bags of dry material to a mechanical mixer containing 30 to 35 gallons of water. Mix until pressure tank is ready to receive charge, then screen venor mix into pressure tank.

REMARKS

Batch
Material

6283
6284
6285
6286
6279
6280

Special Cementa Wax Emulsion
Ammonia Stearate
Titanium "A" Paste
Hot Water (150°F. Max)

REMARKS

Batch

254 Spt.
274
44
17-1/2 Gal. (Max)

Batch
12.5
19.5
2.5
74.0

6310

Titanium "A" Paste
Titanium Dioxide
Water

24 Spt.
24 Spt.

50.0
50.0

Stir to smooth paste.

X - INDICATES CHANGE - REASON:

AUTHORITY FOR CHANGE -

FILE-HOLDERS

SUPERSEDES:

Same specification issued 7/19/40 and Deviation Min issued 12/29/40.

BLDG. LOCAL COST RESEARCH GEN. I. & C. GEN. COST LOC
DEPT. DEPT. DEPT. DEPT. DEPT. DEPT.

DATE ISSUED

2/12/41

INSTRUCTIONS

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is approximately 2/3 empty, then drop stock to lower mixer.

Purchase

Spec. No.	Material	Batch	Weight	1
--	Dawville 6000 Fibre	3 Bags	3000	21.9
61279	M.M.A.D. Silica Flour	2 Bags	2000	14.6
--	Siding Shingle Scrap	4 Bags	4000	29.2
61061	Portland Cement	5 Bags	4700	34.3
			<u>13700</u>	

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product. When necessary to use less than 2 bags of scrap per mix, #30 Sand (61269) and fibre should be added to prevent brittleness.

Batch Recipe

Preparation of Dry Ingredients

Spec. No.	Material	Batch	Weight	1
61061	Portland Cement (white)	1 Bag	900	34.0
61061	" " (Oceall)	2 1/2 Wgt.	90	4.8
61285	Hydrated Lime	1 1/2 Wgt.	190	10.1
63300	Whiting	1 1/2 Wgt.	190	10.1
61279	M.M.A.D. Silica Flour	3 1/2 Wgt.	300	20.2
63100	Titanium Dioxide	2 1/2 Wgt.	90	4.8
			<u>1860</u>	<u>100.0</u>

Mix batch 2 or 3 minutes in dry veneer mixer then feed through ND-6 blending mill. Store in 66 lb. bags.

Preparation of Wet Veneer

Add 2 bags of dry material to a mechanical mixer containing 30 to 35 gallons of water. Mix until pressure tank is ready to receive charge, then screen veneering mix into pressure tank.

MANUFACTURING INSTRUCTIONS

1. Use warm water on belt.
2. Spray wet veneer on surface of sheet to give a uniform color.
3. Spray a hot (approx. 150 F) 20% solution of No. 9 Silicate of Soda (Purch. Spec. No. 63390) over the surface of the veneer. The amount used should be sufficient to cover the surface but should soak into the shingle before the take off. (Shingles lose glossy appearance)
4. Repress slabs at 3200# gauge.

X- INDICATES CHANGE REASON:

Eliminate Water Repellent Treatment and add #205 to line.

AUTHORITY FOR CHANGE

P.C.R. #30 See Mr. A. R. Fisher's letter of 1/14/42 and P.P.R. 1367

FILE-HOLDERS

SUPERSEDES:

Same Specification of 2/12/41

BLDG. SUPT. LOCAL COST DEPT. RESEARCH DEPT. GEN. I. & C. DEPT. GEN. COST DEPT. LOC. I. & C.

DATE ISSUED
2/14/42

FORMULA

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is approximately 2/3 empty, then drop stock to lower mixer.

Purchase

Spec. No.	Material	Batch	Weight	Σ
—	Denville 6D20 Fibre	3 Bags	300#	21.9
61279	M & AD Silica Flour	2 Bags	200#	14.6
—	Siding Shingle Scrap	4 Bags	400#	29.2
61061	Portland Cement	5 Bags	470#	34.3
			<u>1370#</u>	

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product. When necessary to use less than 2 bags of scrap per mix, #30 Sand (61269) and fibre should be added to prevent brittleness.

White Veneer**Preparation of Dry Ingredients****Purchase**

Spec. No.	Material	Batch	Weight	Σ
61001	Portland Cement (White)	1 Bag	94#	50.0
61061	" " (Cowell)	9# Bgd.	9#	4.8
61825	Hydrated Lime	19# Bgd.	19#	10.1
63380	Whiting	19# Bgd.	19#	10.1
61279	M.N.A.A.D. Silica Flour	38# Bgd.	38#	20.2
63180	Titanium Dioxide	9# Bgd.	9#	4.8
			<u>188#</u>	<u>100.0</u>

Mix batch 2 or 3 minutes in dry veneer mixer then feed through RD-8 blending mill. Store in 66-lb. bags.

Preparation of Wet Veneer

Add 2 bags of dry material to a mechanical mixer containing 30 to 35 gallons of water. Mix until pressure tank is ready to receive charge, then screen veneering mix into pressure tank.

MANUFACTURING INSTRUCTIONS

1. Use warm water on belt.
2. Spray wet veneer on surface of sheet to give a uniform color.
3. Spray a hot (approx. 150°F) 20° Be° solution of No. 9 Silicate of Soda (Purch. Spec. No. 63330) over the surface of the veneer. The amount used should be sufficient to cover the surface but should soak into the shingle before the take off. (Shingles lose glossy appearance.)
- X 4. Repress slabs at 2000# gauge.

X— INDICATES — REASON:
CHANGE

Change in applied pressure on shingles.

AUTHORITY FOR CHANGE — C. LaGattuta's letter of 5/4/43

FILE-HOLDERS	BLDG. DEPT.	LOCAL COST DEPT.	RESEARCH DEPT.	GEN. I. & C. DEPT.	GEN. COST DEPT.	LOC. I. & C.

SUPERSEDES:

Page 1 of same specification issued 2/24/42

DATE ISSUED

5-14-43

FORMULA

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is approximately 2/3 empty, then drop stock to lower mixer.

Purchase Spec. No.	Material	Batch	Weight	lb.
---	Danville 6020 Fibre	3 Bags	300#	21.9
61279	MM & AD Silica Flour	2 Bags	200#	14.4
---	Siding Shingle Scrap	4 Bags	400#	29.2
61061	Portland Cement	5 Bags	470#	34.3
			<u>1370#</u>	

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product. When necessary to use less than 2 bags of scrap per mix, #30 Sand (61269) and fibre should be added to prevent brittleness.

White Veneer

Preparation of Dry Ingredients

Purchase Spec. No.	Material	Batch	Weight	lb.
61001	Portland Cement (White)	1 Bag	94#	50.0
61061	" " (Cowell)	9# Wgd.	9#	4.8
61825	Hydrated Lime	19# Wgd.	19#	10.1
63380	Whiting	19# Wgd.	19#	10.1
61279	MM & AD Silica Flour	38# Wgd.	38#	20.2
63180	Titanium Dioxide	9# Wgd.	9#	4.8
			<u>188#</u>	<u>100.0</u>

Mix batch 2 or 3 minutes in dry veneer mixer then feed through RD-3 blending mill. Store in 66-lb. bags.

Preparation of Wet Veneer

Add 2 bags of dry material to a mechanical mixer containing 30 to 35 gallons of water. Mix until pressure tank is ready to receive charge, then screen veneering mix into pressure tank.

MANUFACTURING INSTRUCTIONS

1. Use warm water on belt.
2. Spray wet veneer on surface of sheet to give a uniform color.
3. Spray a hot (approx. 150°F) 20° Be solution of #9 Silicate of Soda (Purch. Spec. No. 63330) over the surface of the veneer. The amount used should be sufficient to cover the surface but should soak into the shingle before the take-off. (Shingles lose glossy appearance.)
4. Repress slabs at 2000# gauge.

X- INDICATES CHANGE - REASON:

#207U and #209U added.

AUTHORITY FOR CHANGE

PPR 1387 dated 11/25/41

FILE-HOLDERS	BLDG. DEPT.	LOCAL COST DEPT.	RESEARCH DEPT.	GEN. A.C. DEPT.	GEN. COST DEPT.	LOG. L & C.
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SUPERSEDES:

Pg. 1 of 1 Specification Issued 5/24/43

DATE ISSU

FORMULA:

Introduce materials in order and quantities shown below. Keep top mixer filled up to agitator shaft. Continue mixing until lower mixer is approximately 2/3 empty, then drop stock to lower mixer.

Purchase Spec. No.	Material	Batch	Weight	lb.
---	Danville 6800 Fibre	3 Bags	3000	21.9
61279	MM & AD Silica Flour	2 Bags	2000	14.6
---	Siding Shingle Scrap	4 Bags	4000	29.2
61061	Portland Cement	3 Bags	3000	34.3
			<u>13000</u>	

Total scrap shall not exceed 30% of total batch. Less scrap may be used providing change is gradual to maintain uniformity of product. When necessary to use less than 2 bags of scrap per mix, #30 Sand (61269) and fibre should be added to prevent brittleness.

White Veneer

Preparation of Dry Ingredients

Purchase Spec. No.	Material	Batch	Weight	lb.
61001	Portland Cement (White)	1 Bag	94	50.0
61061	" " (Covall)	9# Wgd.	94	4.8
61825	Hydrated Lime	19# Wgd.	194	10.1
63380	Whiting	19# Wgd.	194	10.1
61279	MM & AD Silica Flour	38# Wgd.	384	20.2
63180	Titanium Dioxide	9# Wgd.	94	4.8
			<u>1084</u>	<u>100.0</u>

Mix batch 2 or 3 minutes in dry veneer mixer, then feed through RD-8 blending mill. Store in 66-lb. bags.

Preparation of Wet Veneer

Add 2 bags of dry material to a mechanical mixer containing 30 to 35 gallons of water. Mix until pressure tank is ready to receive charge, then screen veneering mix into pressure tank.

MANUFACTURING INSTRUCTIONS:

1. Use warm water on belt.
2. Spray wet veneer on surface of sheet to give a uniform color.
3. Spray a hot (approx. 150°F) 20° Be' solution of #9 Silicate of Soda (Purch. Spec. No. 63330) over the surface of the veneer. The amount used should be sufficient to cover the surface but should soak into the shingle before the take-off. (Shingles lose glossy appearance.)
4. Repress slabs at 2000# gauge.

Asbestos Siding Shingles
Brain Roll Method
 5-2-47

X- INDICATES CHANGE — REASON: #207-U and #209-U discontinued.

AUTHORITY FOR CHANGE — As per W. M. Black's bulletin of 4/26/44

FILE-HOLDERS	BLDG. SUPT.	LOCAL COST DEPT.	RESEARCH DEPT.	GEN. I. & C. DEPT.	GEN. COST DEPT.	LOC. I. & C. I.
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SUPERSEDES:

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DATE ISSUE

9/15/44

