

Internal Revenue Service

Department of the Treasury

District
Director

Clinton Avenue & North Pearl Street, Albany, N.Y. 12207

Date: NOV 8 1991

Mr. Raymond DuFresne
Treasurer
Albany International Corporation
P.O. Box 1907
Albany, New York, 12201

Frank G.

coordinate with D.P.
response to IRS

Dear Mr. DuFresne

In accordance with Revenue Ruling 71-20 and Revenue Procedure 86-19, we have made a reevaluation of your machine-sensible record retention policies and automatic data processing practices. This letter is our confirmation of the retention arrangements you made with representatives of our Examination Division.

A list of records, retention periods, and any other provisions agreed upon is enclosed. Please sign and return the concurrence copy of this letter, which will indicate that you agree to the arrangements described in the enclosure. A copy of Revenue Procedure 86-19 and a return envelope is enclosed for your convenience.

If you make any changes in your ADP accounting system or record formats that will affect your ability to comply with these provisions, please notify us.

If you fail to respond in writing within 45 days from the date of this letter, it will be assumed that you do not wish to enter into a retention agreement. This letter will then serve as notice that any previous retention agreement is no longer valid and that all machine-sensible records will have to be retained in accordance with Revenue Procedure 86-19 and Revenue Ruling 71-20.

If you do not keep the listed records as required, the Service may apply the civil or criminal penalties of Section 6653(a) and Section 7203 of the Internal Revenue Code.

PLAINTIFFS'
EXHIBIT ALB-101

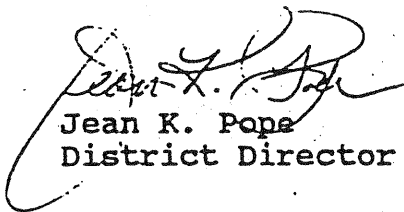
Wallace and Graham, P.A.

ALB00182

In the course of conducting our tax audits through the use of your ADP records, it may become necessary for us to make new retention arrangements with you. If this occurs, we will meet with you again and enter into a new agreement.

If you have any questions, please contact me or L. A. Noble, ADP Focal Point Manager at FTS 562-6485.

Sincerely yours,



Jean K. Pope
District Director

Enclosure:
Copy Rev. Proc 86-19
Concurrence Copy
Envelope

PLAINTIFFS'
EXHIBIT ALB-102

Wallace and Graham, P.A.

ALB00183



FAX MESSAGE

FAX TO: Bill Dutt C/O Mr. Steve Huber
LOCATION: (504) 837-0249
FROM: Eric R. Romanski
DATE: 31 March 1997
SUBJECT: Documentation Of Product History
COPIES:
NO. PAGES Including This Page = 3

Bill,

Attached you will find the two documents we discussed via phone.

ERIC

PLAINTIFFS'
EXHIBIT ALB-103

Wallace and Graham, P.A.

ALB00265

ALBANY FELT COMPANY

INTER-OFFICE MEMORANDUM

To: H. Flint

Copies To: WHDutt
TAYurkiewicz
WAGoodwin
OCStevens
JFLongo
FJZanette

Date: July 19, 1975

From: M. JosefSubject: Project No. 18-68
Evaluate Substitute for Asbestos

As we discussed, please go ahead with yarn trials to develop a high temperature yarn that we can technically and economically substitute for the present Raybestos yarn used as filling in spun warp, hi temp dryer felts.

Several alternatives we discussed were -

1. a spun acrylic yarn twisted around the phosphor bronze wire - possibly with a polyester multifilament yarn for strength in winding and weaving.
2. to keep the percent synthetic content low in this yarn you mentioned, we could investigate the use of glass, a non-synthetic material.

I think we both agree that the metal wire is still necessary to maintain a stable width in the felt. Albany Felt is still actively pursuing the patent application on the wire content yarn.

A substitute for asbestos seems very feasible since it's the warp yarn that is the key to the felt and the filling in those styles "just goes along for the ride". The warp yarns receive the heat and abrasive wear, not the filling yarn (as is the case in Style 5702).

We'll handle the yarn trials on a PWO basis in the Albany Plant.

Let's not get into the marketing-price of felt considerations at this time. Please request yarn cost studies as the trials are developed.

The cost of the asbestos yarn is \$2.80 per lb. and far outweighs the amount of relatively inexpensive warp yarn used. On a cost basis, the filling yarn used in an average felt of style 5878 costs about 6 times the cost of the warp yarn - and the warp is the key to a long life on the paper machine.

As we discussed, we would expect the use of asbestos to decrease greatly in future use in the dryer felt industry.

I'd appreciate the help and suggestions of the other people receiving this memo.

MJJosef:elg

Mike

PLAINTIFFS'
EXHIBIT ALB-104

Wallace and Graham, P.A.

ALB00266

ALBANY FELT COMPANY

INTER-OFFICE MEMORANDUM

To: J. F. Longo

Copies To: Distribution

Date: October 20, 1976

From: M. J. JosefSubject: Elimination of Asbestos Yarn from Dryer Felts

As you know, almost all orders for dryer felts that used to require asbestos yarn have now been changed over to the acrylic/wire yarn. Each plant (Albany & St. Stephen) is now making this yarn. From a manufacturing/quality standpoint, Dryer Felt Design does not see a problem.

As far as I know, we have not yet installed a felt using the acrylic/wire yarn, but we don't foresee any problems.

I would like to eliminate the use of asbestos entirely by the end of 1976 - we're well on our way to elimination right now.

Please notify the salesmen that this across-the-board decision has been made.

Our reasons are:

1. cost - the asbestos/wire yarn now costs over ~~\$3.00~~ ^{4.00} per lb. compared to \$1.12/lb. for the acrylic/wire yarn. On a felt 150' x 150" it means a material cost saving of over \$1,000.00, ^{1/12/77}
2. need - the warp yarn is the key yarn in the success of a felt, not the filling. The wire will still be there for stability.
3. OSHA standards - Ralph Hendricks informed me that the new health standards call for sectioning off that part of the plant where asbestos is used; monitoring the level of asbestos in the air; sending employees for expensive physicals each year; and the plain fact that the asbestos must be dangerous. This may be why U. C., Franklin wants to know when the first non-asbestos content felts will be delivered to them.
4. the substitute yarn looks very good and will provide work for Albany employees.
5. Albany Felt will be able to reduce its inventory costs for this expensive yarn.

Important: If anyone disagrees with this decision, please let me know as soon as possible.

Mike

MJJosef:elg

Distribution: WHDutt, FJZanette, WAGoodwin, KEAnderson, LPaschall (S. S.) RHendricks (S. S.) DRBoyer, JWeir, HEflint, OStevens

PLAINTIFFS'
EXHIBIT ALB-105

Wallace and Graham, P.A.

ALB00267

MEMORANDUM

SP - pls
Two copies.
H.F.

DISTRIBUTION:

J.S. Sweet H.E. Flint
W.H. Dutt D.J. Large
T.S. Scheetz (2) R.C. Lewis

From: Dept. 33-PMSF Research
 J.O. Ruid (2)

Subject: Treatment Recommendation for Dri-Se

Purpose: Recommend Treatments for 3 fabrics v. extensive tests.
 T. Scheetz requested that an initial treatment recommendation be
 made on the basis of not more than 2 days work, and if any field
 problems are encountered, a more thorough evaluation will be made.

CONCLUSIONS: The following treatments are recommended on the basis of visual
 and microscopic examination of treated fabrics:

<u>Fabric Style</u>	<u>Yarns</u>		<u>Treatment Recommended</u>
	<u>Lengthwise</u>	<u>Crosswise</u>	
5878	Spun Acrylic	Asbestos-Bronze	H89
EX636	Asbestos-Glass	Asbestos-Bronze	H89
EX620	Acrylic & Polyester	Acrylic & Polyamide	H82

DISCUSSION: Samples of EX636 and EX620 were treated using various mill
 treatments. S75, H89, and S78 were tried on EX636 and EX620
 were treated using various mill treatments. S75, H89, and
 S78 were tried on EX636, whereas S78, H89, and H82 were
 tried on EX620. The treated fabrics were examined for "hand",
 and also studied microscopically.

H82 was recommended for EX620 on the basis that it produced
a more "resilient" fabric than H89 or S78. Also, there has
been evidence (Memo No. 4694 of 2/16/67) that H89 is more
harmful to nylon than H82 when exposed to moist conditions.
All 3 treatments showed satisfactory adhesion to all yarns.

H89 and S75 both showed better resilience and better length-
wise-to-crosswise stiffening of EX636 than did S78. S75, how-
ever, showed signs of degrading the glass yarn treatment, so
H89 was recommended.

PLAINTIFFS'
EXHIBIT ALB-106

Wallace and Graham, P.A.

ALB00039

MEMORANDUM

5F - pls make
two copies
ref to HF.

May 29, 1970
Memo No. 33-0021
File No. Dri-Screen Research
FWO No: 9095
Hours: T = 12
P = 8

DISTRIBUTION:

J.S. Sweet H.E. Flint
W.H. Dutt D.J. Large
T.S. Scheetz (2) R.C. Lewis

From: Dept. 33-PMSF Research
 J.O. Ruid (2)

Subject: Treatment Recommendation for Dri-Screens

Purpose: Recommend Treatments for 3 fabrics without running extensive tests. T. Scheetz requested that an initial treatment recommendation be made on the basis of not more than 2 days work, and if any field problems are encountered, a more thorough evaluation will be made.

CONCLUSIONS: The following treatments are recommended on the basis of visual and microscopic examination of treated fabrics:

<u>Fabric Style</u>	<u>Yarns</u>		<u>Treatment Recommended</u>
	<u>Lengthwise</u>	<u>Crosswise</u>	
5878	Spun Acrylic	Asbestos-Bronze	H89
EX636	Asbestos-Glass	Asbestos-Bronze	H89
EX620	Acrylic & Polyester	Acrylic & Polyamide	H82

DISCUSSION. Samples of EX636 and EX620 were treated using various mill treatments. S75, H89, and S78 were tried on EX636 and EX620 were treated using various mill treatments. S75, H89, and S78 were tried on EX636, whereas S78, H89, and H82 were tried on EX620. The treated fabrics were examined for "hand", and also studied microscopically.

H82 was recommended for EX620 on the basis that it produced a more "resilient" fabric than H89 or S78. Also, there has been evidence (Memo No. 4694 of 2/16/67) that H89 is more harmful to nylon than H82 when exposed to moist conditions. All 3 treatments showed satisfactory adhesion to all yarns.

H89 and S75 both showed better resilience and better lengthwise-to-crosswise stiffening of EX636 than did S78. S75, however, showed signs of degrading the glass yarn treatment, so H89 was recommended.

PLAINTIFFS'
EXHIBIT ALB-107

Wallace and Graham, P.A.

ALB00040

DISCUSSION:
(Continued)

H89 has been used on 5878 fabrics which have run successfully in field trials. On the basis of very limited experience with the degradation of acrylic fibers, H89 appears to be satisfactory.

If field problems are encountered with any of these fabrics, a degradation study should be recommended. Also, a fabric flex study should be considered for EX556.

JORuid:sf

John O. Ruud

PLAINTIFFS'
EXHIBIT ALB-108

Wallace and Graham, P.A.

ALB00041

UHG. Photo & return to RHR

MEMORANDUM

FROM: AFC-Laboratory Services - Dept. 34 - FACosta

May 10, 1972

Memo No. 2161

Exp. #855

Folder 6E

PWO-9095-P=3,T=7

TO: S. Engle E. DeCrosta
F. McKone A. Renjilian
K. Ayan J. Dockendorf
W. Gettings F. Costa
R. Root M. Breen
H. Flint Lab. Svcs.(2)
T. Merediz

SUBJECT: Comparison of two Asbestos Yarns - Uni-Royal D71694-T vs. 165C154ZDVFM

A sample of special Uni-Royal (D71694-T) yarn consisting of asbestos/wire/polyester multifilament, was submitted to Laboratory Services by Dryer Fabric Design (H.Flnt) for comparative yarn testing with AFC's standard 165C154ZDVFM yarn from Raybestos.

OBJECTIVE:

To compare the stress/strain, flex endurance, residual shrinkage and picking tendency of the Uni-Royal (D71694-T) asbestos yarn to those same properties of 165C154ZDVFM asbestos yarn from Raybestos.

RESULTS:

The Uni-Royal D71694 yarn exhibited less grain weight and twist and a greater break strength, grams per denier, % elongation at break and flex (with polyester) than the 165C154ZDVFM yarn.

PROCEDURES:

Standard yarn testing procedures were utilized.

Flex testing was performed on the MIT Flex Tester utilizing a 500 gm load and #8 spring.

The picking tendency was determined as follows:

- 1) Weigh Taber Specimen Mounting card (after exposing adhesive).
- 2) Skein of 10 yards of sample on Lab. Skeiner, allowing no overlap or an excess of a 4" strip width.
- 3) Place Taber Mounting Card on the yarn (still on skeiner) and add a $\frac{1}{2}$ pound weight to the card for 30 seconds.
- 4) Remove weight and card.
- 5) Weigh card.
- 6) Calculate weight difference and report percent pickup.

PLAINTIFFS'
EXHIBIT ALB-109

Wallace and Graham, P.A.

ALB00042

FACosta/g

DATA:

	<u>Uni-Royal</u> <u>D71694-T</u>	<u>Raysbestos</u> <u>165C154ZDVFZM</u>
Grains/100 yds.	1348	1637
Denier	8598	10,438
Twist/72" Ply	576-L	715-L
Singles	-	-
Strength (lbs/end)	19.1	13.2
Grams per denier	1.00	.60
% Elongation at break	10.9	8.6
at 3 lbs.	.9	1.1
% Residual Shrinkage at 300°F.	.2	.3
at 400°F.	.2	.3
Picking Tendency (percent)	.002	.002
MIT Flex to failure { with Polyester	10,000+	3519
{ without Polyester	208	188

PLAINTIFFS'
EXHIBIT ALB-110

Wallace and Graham, P.A.

ALB00043

STYCO STEEL
 1650 1542000000
 1650 1542000000

INSTRON MACHINE

DATE: 10/23/85
 SCALE: 20
 NO. ENDS: 10
 YARN NAME: 150/54/2200
 CYCLING & REMARKS:
 100% 100% 100% 100%

150/54/2200
 100% 100% 100% 100%



PLAINTIFFS'
 EXHIBIT ALB-111
 Wallace and Graham, P.A.

卷之四

1000 1000

11	15	20	25	30	35	40	45	50
11	15	20	25	30	35	40	45	50

Wallace and Graham, P.A.

TURNER BROTHERS ASBESTOS CO. LTD.

(TURNER & NEWALL LTD.)



Head Office
ROCHDALE
ENGLAND

H. J. CORSON
P.O. Box 221
Barrington, Illinois 60010
Telephone (312) 381-6545
Sole Representative for U.S.A.

Handwritten:
Tel
256172
CORSON
BGTN

September 11, 1972

Mr. John Weir
Albany Felt Company
1373 Broadway
Albany, New York 12201

Re: Asbestos Yarn for Papermakers Felt

Dear Mr. Weir:

In rereading the letter I wrote to you on September 7th, I noticed that I had not given you complete technical data on our Style TMP10. I am therefore taking the liberty of furnishing you this information at this time, which is as follows:

Technical Data on Style TMP10

TMP10 - to match Uniroyal ADMX.7.97

Asbestos Content	69.0%	
Organic "	12.0%	
Core "	(4.0%)	1 end 250 Den. Terylene
	(8.0%)	2 ends 200 " Nomex
Wrapper "	4.0%	1 end 200 " "
Resin "	3.0%	polish/acrylic
Yards/lb.	705	
Twist	8.0 t.p.i.	
Tensile lb/10"	10.5	
Extension	10.0%	

I am also forwarding to Mr. Harry Flint a new sample of our Style KA416, which has just arrived, and would appreciate being included in your testing. I am quoting below the technical data on this particular yarn.

Style KA416 Technical Data

Asbestos Content	69.7%	
Organic "	12.3%	
Core "	15.0%	630 Denier Trevira
Wrapper "	-	
Resin "	3.0%	polish/acrylic
Yards/lb.	475	
Twist	6.0 t.p.i.	
Tensile lb/10"	15.5	
Extension	11.0%	

Handwritten:
2,100 - 1.84/lb
4,444 - 1.84/lb
5,000 - 1.84/lb
1.84

Handwritten:
10, 1.84

PLAINTIFFS'
EXHIBIT ALB-113

Wallace and Graham, P.A.

ALB00053

TURNER BROTHERS ASBESTOS CO. LTD.

-2-

September 11, 1972

I do not have price schedules yet on our Style XA416, but as soon as these prices are given to me, I will contact you immediately.

I sincerely hope that these samples of asbestos yarn for the paper-makers felt prove to be of interest to you, and should you have any questions with regards to any of them, please do not hesitate to contact me.

Very truly yours,

H. Jerry Corson
H. Jerry Corson

HJC/lc

cc: Mr. Harry Flint ←

PLAINTIFFS'
EXHIBIT ALB-114

Wallace and Graham, P.A.

ALB00054

MEMORANDUM

FROM: AFC-Laboratory Services - Dept. 34 - FACosta

November 15, 1972

Memo No. 2723

Exp. No. 933

Folder 6E

PWO-9095-P=8, T=28

TO: S. Engle T. Merediz
F. McKone A. Renjilian
K. Ayan J. Dockendorf
W. Gettings F. Costa
S. Gearhart E. Quinto
H. Flint Lab. Svcs.(3)

[Handwritten signature]

SUBJECT: MOIST, DRY HEAT DEGRADATION AND PHYSICAL
TESTING OF TWO ASBESTOS YARNS FROM UNIROYAL

Two samples of asbestos yarns from Uniroyal were submitted to Laboratory Services by Dryer Fabric Design(H.Flint) for testing.

The samples were as follows:

- 1) Style AVCD 6.15 (Uniroyal) - composed of asbestos, cotton, polyester and Dacron overwrap.
- 2) Style ARGPC 6.20 (Uniroyal) - composed of asbestos, cotton, RFL treated fiberglass and 1000 denier Hyston.

OBJECTIVE:

To compare the two yarns in regards to standard yarn characteristics and moist and dry degradation resistance.

RESULTS:

Refer to attached data for standard yarn characteristics.

In regards to moist heat degradation, both yarns exhibit similar resistance to moist heat hydrolysis.

In regards to dry heat degradation, the ARGPC 6.20 yarn exhibits greater dry heat degradation resistance than the AVCD 6.15 yarn.

PROCEDURE:

Moist heat degradation was performed in the autoclave at 250°F.; 15 psig. Dry heat degradation was performed in the forced hot air oven at 350°F.(+10)

FACosta/g

[Handwritten signature: Gerardo B. Costa]

DATA AND CHARTS ATTACHED

PLAINTIFFS'
EXHIBIT ALB-115

Wallace and Graham, P.A.

ALB00058

DATA:

	<u>ARGPC 6.20</u>	<u>AVCD 6.15</u>
Grains/100 yds.	1083	1029
Strength(lbs/end)	30.4	26.4
Denier	6,910	6,565
% Elongation at 3 lbs.	1.1	1.4
at break	6.5	12.3
Twist/72": Singles-asbestos	0	196-R
Cotton	232-R	856-R
Polyester	-	0
Dacron overwrap	-	876-R
1000 Denier Hyston	0	-
Fiberglass	0	-
Ply-2 ply	-	256-R
Asbestos-fiberglass	376-R	-
Cable	372-L	360-L
Residual Shrinkage(10 min. oven)		
300°F.	1.6	6.9
Range	1.5-1.7	6.8-7.2
400°F.	4.9	14.9
Range	4.9-5.0	14.6-15.1

PLAINTIFFS'
EXHIBIT ALB-116

Wallace and Graham, P.A.

ALB00059

DATA:

DRY HEAT DEGRADATION
350°F.
After 0 days exposure

ARGPC 6.20	
Str.	% Retained
38.5	-
32.2	83
32.1	83
35.1	91
32.9	86
33.0	86
32.4	84
33.7	88
32.1	83
34.2	89
33.8	88
32.8	85 <i>Hand</i>

AVCD 6.15	
Str.	% Retained
24.2	-
18.1	75
16.4	68
16.1	67
14.1	58
14.8	61
13.7	57
12.0	50
13.2	55
12.4	51
12.4	51
10.8	45

MOIST HEAT DEGRADATION
250°F. at 15 psig.
After 0 days exposure

	38.5		24.2
1	30.6	80	19.6
2	21.1	55	17.6
3	17.8	46	14.6
4	17.7	46	12.8
5	17.7	46	10.7
6	15.7	40	8.5
7	16.5	43	6.7
8	15.4	40	5.2
9	11.6	30	3.5
10	12.0	31 <i>you</i>	3.6

PLAINTIFFS'
EXHIBIT ALB-117

Wallace and Graham, P.A.

ALB00060

20 X 20 PER INCH

*See West Recession
Elev.*

*See
Elev.*

See Elevation

See Elevation

PLAINTIFFS'
EXHIBIT ALB-118
Wallace and Graham, P.A.

% Weight Reduced

ALB00061

and
HWA

that the Defendant
is not liable

that the Defendant
is not liable

and
HWA

PLAINTIFFS'
EXHIBIT ALB-119

Wallace and Graham, P.A.

% of the total
of the total

INSTRON MACHINE

EXP No. 933
 GEL CT
 SCALE 100N 50
 FILL No. DRY
 No. ENDS 10 SURGE
 YAMIN NAME ARGFC 6.20
 CYCLING & REMARKS:
 EXHAUSTED 1083

STRESS STRAIN (DRY)
 ARGFC 6.20

PLAINTIFFS'
 EXHIBIT ALB-120

Wallace and Graham, P.A.



81K 5.1.8

30.4 28.8 28.0
 23.0 21.0
 20.0 19.0
 18.5 17.5

17.3 10.8 1.18

15.0 14.0 13.0 12.0 11.0 10.0 9.0 8.0 7.0 6.0 5.0 4.0 3.0 2.0 1.0

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PLAINTIFFS'
EXHIBIT ALB-121

Wallace and Graham, P.A.

STRESS STRAIN (DRY)
AUG 6.15

INSTRON MACHINE

EXP No. 223 DATE 11-1-72
GELT 107 GAUGE 10
SCALE LOAD 500 A SPEED 1/2
FEEDING 200 B " 1/2
No. ENDS 10000000 (HART) 1/2
YARN NAME PUCD 615
CYCLING & REMARKS:
Grainy texture 1029

MAX STRESS 26.4 LB/KC-AD
257 KG.
18 GPD
123 R.P.M.

AT 3100 - 1.462

10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100

100 105 110 115 120 125 130 135 140 145 150

file - asbestos

MAY 28 1975

Raybestos Manhattan Industrial Products Company

Division of Raybestos Manhattan, Inc.

North Charleston, S.C. 29406

303 744-1261

Textile Group

Bill Lutt / M. Josey

Harry

how does

May 19, 1975

*This compare
to regular (R-M)*

*R-M asbestos
yarn?*

my

Mr. J. Weir
Albany Felt Company
1373 Broadway
Albany, New York 12204

Gentlemen:

Effective June 30, 1975 we are reducing the prices on the two Novatex Paper Makers Felt Yarns, Style L-72-1374N and L-72-1378N. This adjustment is in accordance with our proposed substitution of Novatex products for our conventional asbestos yarns.

We are interested in receiving test results for application performance and approvals on our Novatex yarn products. We therefore are reducing the price so as to offer your industry the incentive to initiate testing and approvals. Novatex yarn offers one third more yield when compared to the conventional asbestos yarn product.

Very truly yours,

Christopher D. Colson

Christopher D. Colson
Marketing Manager

CDC/cob

Enclosure

~~It is~~
*Regular asb/phs bronze
is \$2.85 currently*

PLAINTIFFS'
EXHIBIT ALB-122

Wallace and Graham, P.A.

ALB00081

Raybestos Manhattan Industrial Products Company

A Division of Raybestos Manhattan, Inc.

North Charleston, S.C. 29406

803 744-6261

Textile Group

3NPMFY

June 30, 1975

NOVATEX® PAPER MAKERS FELT YARN

NOVATEX® textile products are made using a wet process developed by Raybestos-Manhattan, Inc. NOVATEX® paper makers felt yarns offer the following advantages over conventional yarns of the same diameter:

1. Higher tensile strength.
2. Smoother surface.
3. More uniform roundness.
4. Higher Yield.

Style	L-72-1374PF	L-72-1378PF
ASTM Grade	AA	AA
Core	Phos/Bronze-Polyester	Polyester
Treatment	Acrylic	Acrylic
Tensile	16.0 Lbs.	14.0 Lbs.
Yds./Lb.	630	730
Extra Yield	+33%	+30%
Net Price Pound	\$3.10	\$2.65

TERMS: Net 10th prox., on approved credit.

SHIPMENT: From North Charleston, S.C.

FREIGHT: F. O. B. factory. No freight allowed.

PLAINTIFFS'
EXHIBIT ALB-123

Wallace and Graham, P.A.

ALB00082

United States Patent [19]

Dutt

&

2002-332
2002-121A

[11]

4,196,248

[45]

Apr. 1, 1980

EXHIBIT

43

JBS 10-11-01

[54] FELT HAVING REINFORCED CROSSWISE YARNS

[75] Inventor: William H. Dutt, Defreestville, N.Y.

[73] Assignee: Albany International Corp., Albany, N.Y.

[21] Appl. No.: 504,356

[22] Filed: Sep. 9, 1974

Related U.S. Application Data

[63] Continuation of Ser. No. 405,982, Oct. 12, 1973, abandoned, which is a continuation of Ser. No. 628,628, Apr. 5, 1976, abandoned.

[51] Int. Cl.² B32B 7/00

[52] U.S. Cl. 428/225; 428/233; 428/236; 428/245; 428/257; 428/258; 428/259; 428/260

[58] Field of Search 139/420, 383; 161/88, 161/89, 90, 91, 92, 98, 205; 428/225, 233, 236, 245, 257, 258, 259, 260

[56]

References Cited

U.S. PATENT DOCUMENTS

1,811,573	6/1931	Bacheldor	139/420 X
2,098,993	11/1937	Barrell	139/383 X
2,506,667	5/1950	Hall	139/383 X
3,248,802	5/1966	Wagner	139/383 X

OTHER PUBLICATIONS

Woodside, "Paper Machine Felts", 1967, Title page, p. iv, pp. 181 and 182.

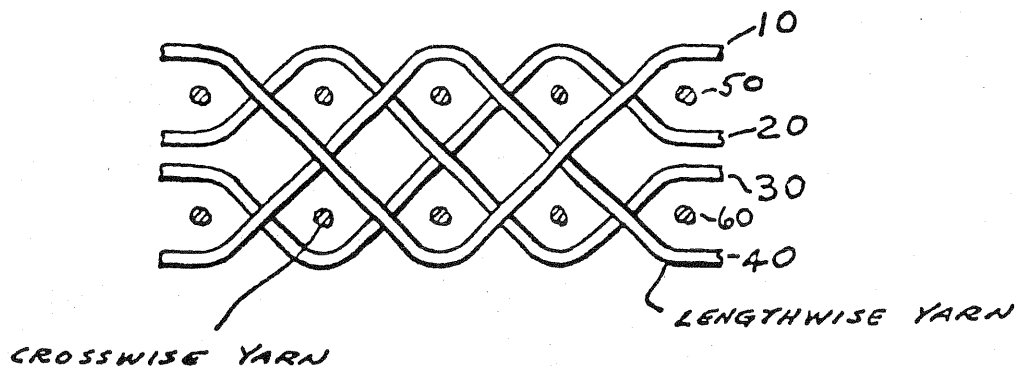
Primary Examiner—Marion E. McCamish
 Attorney, Agent, or Firm—Kane, Dalsimer, Kane, Sullivan and Kurucz

[57]

ABSTRACT

A papermakers felt utilizing reinforced yarns and suitable weaves to provide a simulated beam structure in the crosswise direction of the fabric.

10 Claims, 2 Drawing Figures



PLAINTIFFS'
EXHIBIT ALB-124

Wallace and Graham, P.A.

FIG. 1

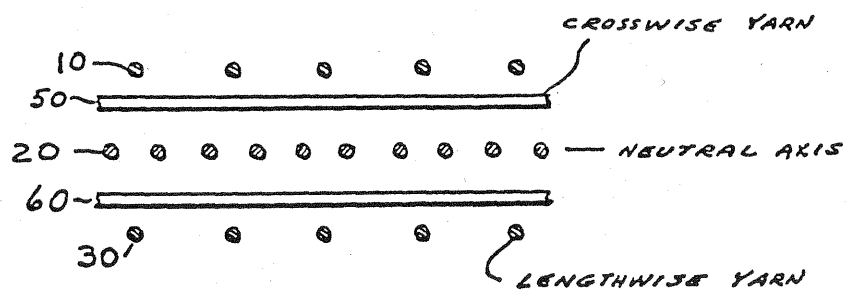
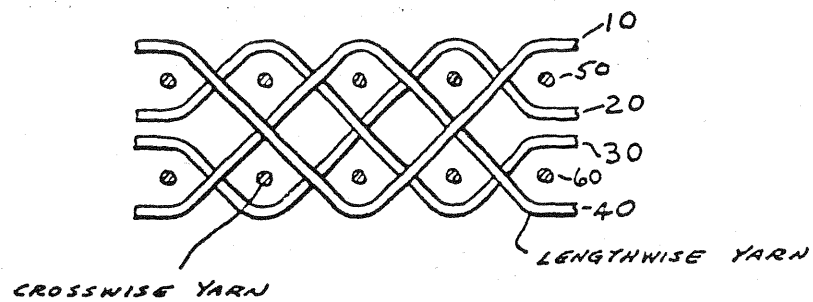


FIG. 2

FELT HAVING REINFORCED CROSSWISE YARNS

This is a continuation of application Ser. No. 405,982, filed Oct. 12, 1973, now abandoned, which is a continuation of Ser. No. 628,628, filed Apr. 5, 1976, now abandoned.

BACKGROUND OF THE INVENTION

In the papermaking process on a paper machine various types of woven fabrics are used to aid in forming, pressing and drying the sheet of paper.

Fabrics so used are generally woven in one of two forms, either as a piece of flat material or in endless form according to known techniques. In the finished felt, the yarn which runs in the machine direction is termed the "L" (lengthwise) yarn and the yarn running across the machine is termed the "X" (crosswise) yarn. When a fabric is woven flat the warp becomes the "L" yarn and the filling is the "X" yarn. When the fabric is woven endless the warp becomes the "X" yarn and the filling becomes the "L" yarn since the fabric is woven in tubular form and the endless felt is obtained by cutting off a piece of the tube and turning it 90°.

A basic requirement for a fabric to perform properly on a paper machine is for it to exhibit a high degree of runnability. By this term is meant that the fabric must be strong enough in the lengthwise direction to carry the machine tension; flexible in the lengthwise direction to withstand continuous bending as it passes around the rolls; rigid in the crosswise direction in its own plane to withstand the forces which tend to distort the fabric in its plane and generate wrinkles caused by misalignment or roll deflection, and secondly, there must be provided a fabric which will resist diagonal distortion which will result in wrinkling if the distortion becomes severe enough.

In addition to the above, other characteristics of the fabric must be suitable to the production of the desired end product in the particular application to which the felt is directed. By the selection of particular yarns (multifilament, monofilament, staple fibers) and yarn materials or combinations thereof and the selection of weave construction, these desirable characteristics can be obtained. In the obtaining of these desirable characteristics and in the selection of yarns and construction, the designer has often been limited due to the necessity of having a resultant high degree of runnability. This has often led to the necessity of compromise among desirable characteristics.

Different criteria are utilized in obtaining the desirable lengthwise characteristics than are utilized in obtaining the desirable crosswise characteristics. Lengthwise strength and flexibility can be achieved more readily than crosswise rigidity and this is especially true when the designer is limited in the choice of yarn structure by the requirement of the fabric to perform its function on the paper machine relative to the formation of end product.

SUMMARY OF THE INVENTION

In the subject invention a multi-layer weave is utilized to displace the crosswise yarns from the neutral axis so that they can generate high tensile and compressive forces to resist bending or wrinkling. The crosswise yarns are composed of fibers selected so that the fabric can perform its function on the papermaking machine

and these crosswise yarns are reinforced so as to improve the tension and compression characteristic of the crosswise yarns.

The weave is arranged so that the crosswise yarns are essentially straight in the finished structure. Also, the crosswise yarn is firmly held in the weave structure by the tightness of the weave and, if desired, a chemical treatment can be applied to the fabric binding the fabric together.

By providing such a construction there is created in the crosswise direction of the fabric a base beam construction. Any force which tends to bend the fabric in the crosswise direction generates a compressive force in the crosswise yarn layer toward the direction of bend and a tension force in the opposite crosswise layer as the fabric tends to bend around the neutral axis. This beam construction gives the fabric a high resistance to bending forces.

DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

FIG. 1 is a cross-sectional view of the lengthwise weave section in a fabric constructed in accordance with the teachings of this invention; and

FIG. 2 is a cross-sectional view of the crosswise weave section of the fabric shown in FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

In the Figs. an embodiment of the invention is shown by way of example. In this example a papermakers felt is provided which is able to withstand the high temperatures in the dryer section of a paper machine. The fabric is constructed of materials which can withstand high temperatures.

The lengthwise yarns 10, 20, 30 and 40 are 1200 denier/2 ply multifilament Nomex (duPont registered trademark for a nylon fiber) yarn. This yarn which can withstand high temperatures has also the properties of strength and flexibility. The lengthwise yarns were combined with crosswise yarns in a two-layer weave as shown in the Figures.

The weave being a multi-layer weave, results in the crosswise yarns 50 and 60 being displaced from the neutral axis, as shown in FIG. 2. Displacement allows development of tensile and compressive forces during bending which are resisted by the crosswise yarns 50 and 60 in order to provide good guidability and runnability.

A material which can withstand heat and which will provide the desired surface characteristic must be used in the crosswise yarns. Such a material is asbestos. Asbestos yarns alone however lack sufficient rigidity to operate on a paper machine as crosswise yarns. Fourteen cut, 2 ply asbestos yarns were twisted about an 0.008" monel wire to develop in the crosswise yarns good compression and tension characteristics.

In order to have a firm structure, it is necessary that the crosswise yarns be firmly held in the weave structure. This is accomplished either by the tightness of the weave or by a chemical treatment applied to the fabric binding the fabric together. A combination of weave tightness and chemical treatment can also be utilized.

For certain applications the tight weave is sufficient. In other applications chemical treatments are used, which treatments are of the type commonly known in the art.

PLAINTIFFS'
EXHIBIT ALB-126

Wallace and Graham, P.A.

In one application the structure described above, after weaving was treated as follows:

A resorcinol-formaldehyde resin was applied at pick up levels of 5 to 10%, by conventional equipment and dried at temperatures ranging from 200°-220° F. for 10 to 20 minutes. This was followed by a curing cycle at temperatures ranging from 350° to 375° F. for a period of time varying between 10 and 20 minutes. Elastomeric material, e.g., polyacrylic, was added in percentages by weight up to 50% of the total formulation to modify the flexibility and abrasion resistance of the treatment.

Urethane coating resins may also be applied at pick up ranging from 5 to 10% dry weight of the original fabric. Typical heat curves, after drying at 200°-210° F. range from 350°-375° F. for 15 to 25 minutes.

I claim:

1. A papermakers felt which comprises a woven multilayer, single-ply fabric in which first crosswise yarns are reinforced by twisting in combination with second crosswise yarns having superior tensile and compressive strength in comparison to said first crosswise yarns and in which the crosswise yarns are displaced from the neutral axis of said fabric by lengthwise yarns common to each layer and means for securing the crosswise and lengthwise yarns against relative movement.

2. A papermakers felt according to claim 1 wherein said crosswise yarns are straight.

3. A papermakers felt according to claim 1 wherein said lengthwise yarns are flexible and the crosswise yarns are straight and substantially rigid.

4. A papermakers felt according to claim 1 wherein said means for securing the crosswise yarns and the

lengthwise yarns from relative movement comprises the tightness of the weave.

5. A papermakers felt according to claim 1 wherein said means of securing the crosswise yarns and the lengthwise yarns from relative movement comprises an adhesive bond between said crosswise yarns and said lengthwise yarns at crossover points.

6. A papermakers felt according to claim 5 wherein the adhesive is a resorcinol-formaldehyde resin.

7. A papermakers felt according to claim 5 wherein the adhesive is a polyurethane resin.

8. A papermakers felt according to claim 1 wherein said lengthwise yarns are multifilament nylon yarn and said crosswise yarns are asbestos yarn twisted about monel wire.

9. A papermakers felt which comprises; a woven multilayer, single-ply fabric having;

(i) multiple layers of crosswise yarns wherein each yarn of each layer is substantially in vertical alignment with a corresponding yarn of the adjacent layer, and each crosswise yarn is rigid and straight;

(ii) flexible lengthwise yarns which are common to each of said multiple layers; and

(iii) an adhesive bond between said crosswise yarns and said lengthwise yarns at crossover points.

10. A papermakers felt according to claim 9 wherein said crosswise yarns are asbestos yarn twisted about monel wire and said lengthwise yarns are multifilament nylon.

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PLAINTIFFS'
EXHIBIT ALB-127

Wallace and Graham, P.A.

EXHIBIT

Dutt #4

BS 10-11-01

United States Patent [19]

Dutt

4

2002-332

2002-121A

[11]

4,196,248

[45]

Apr. 1, 1980

[54] FELT HAVING REINFORCED CROSSWISE YARNS

[75] Inventor: William H. Dutt, Defreestville, N.Y.

[73] Assignee: Albany International Corp., Albany, N.Y.

[21] Appl. No.: 504,356

[22] Filed: Sep. 9, 1974

Related U.S. Application Data

[63] Continuation of Ser. No. 405,982, Oct. 12, 1973, abandoned, which is a continuation of Ser. No. 628,628, Apr. 5, 1976, abandoned.

[51] Int. Cl. 1967 B32B 7/00

[52] U.S. Cl. 428/225; 428/233; 428/236; 428/245; 428/257; 428/258; 428/259; 428/260

[58] Field of Search 139/420, 383; 161/88, 161/89, 90, 91, 92, 98, 205; 428/225, 233, 236, 245, 257, 258, 259, 260

[56]

References Cited

U.S. PATENT DOCUMENTS

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3,248,802	5/1966	Wagner	139/383 X

OTHER PUBLICATIONS

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Primary Examiner—Marion E. McCamish

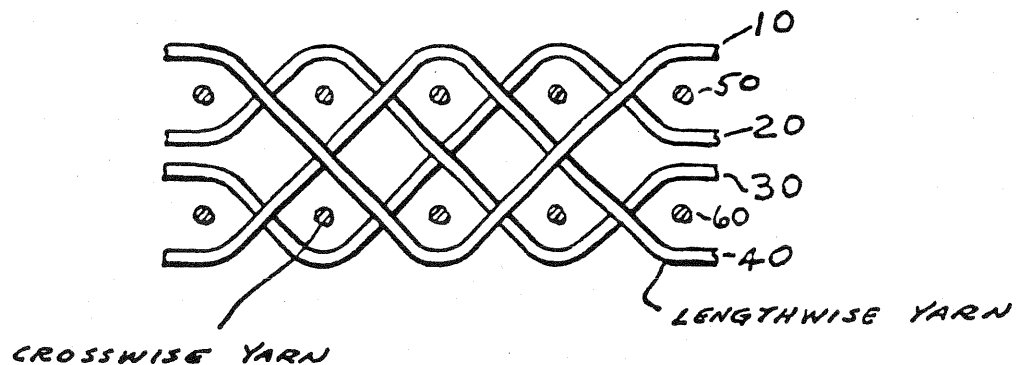
Attorney, Agent, or Firm—Kane, Dalsimer, Kane, Sullivan and Kurucz

[57]

ABSTRACT

A papermakers felt utilizing reinforced yarns and suitable weaves to provide a simulated beam structure in the crosswise direction of the fabric.

10 Claims, 2 Drawing Figures

PLAINTIFFS'
EXHIBIT ALB-128

Wallace and Graham, P.A.

FIG. 1

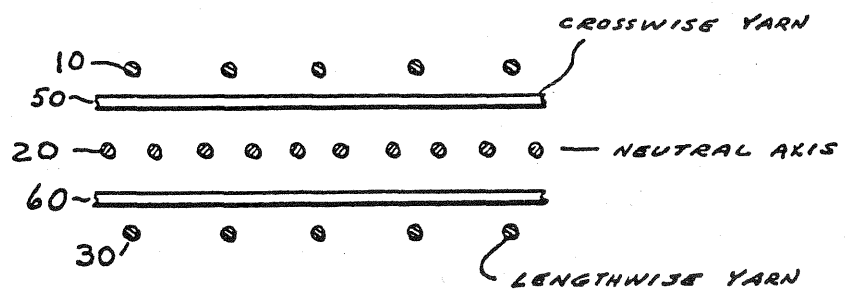
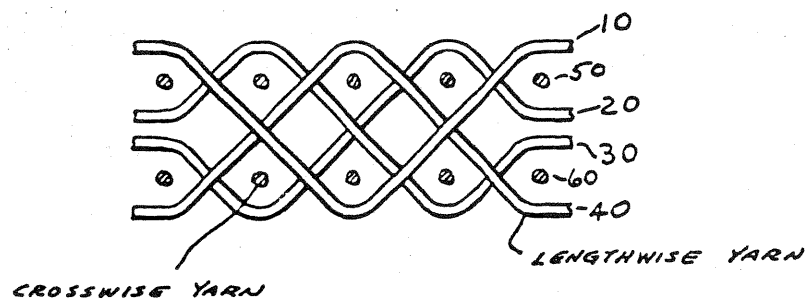


FIG. 2

PLAINTIFFS'
EXHIBIT ALB-129

Wallace and Graham, P.A.

FELT HAVING REINFORCED CROSSWISE YARNS

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Different criteria are utilized in obtaining the desirable lengthwise characteristics than are utilized in obtaining the desirable crosswise characteristics. Lengthwise strength and flexibility can be achieved more readily than crosswise rigidity and this is especially true when the designer is limited in the choice of yarn structure by the requirement of the fabric to perform its function on the paper machine relative to the formation of end product.

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and these crosswise yarns are reinforced so as to improve the tension and compression characteristic of the crosswise yarns.

The weave is arranged so that the crosswise yarns are essentially straight in the finished structure. Also, the crosswise yarn is firmly held in the weave structure by the tightness of the weave and, if desired, a chemical treatment can be applied to the fabric binding the fabric together.

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The weave being a multi-layer weave, results in the crosswise yarns 50 and 60 being displaced from the neutral axis, as shown in FIG. 2. Displacement allows development of tensile and compressive forces during bending which are resisted by the crosswise yarns 50 and 60 in order to provide good guidability and runnability.

A material which can withstand heat and which will provide the desired surface characteristic must be used in the crosswise yarns. Such a material is asbestos. Asbestos yarns alone however lack sufficient rigidity to operate on a paper machine as crosswise yarns. Fourteen cut, 2 ply asbestos yarns were twisted about an 0.008" monel wire to develop in the crosswise yarns good compression and tension characteristics.

In order to have a firm structure, it is necessary that the crosswise yarns be firmly held in the weave structure. This is accomplished either by the tightness of the weave or by a chemical treatment applied to the fabric binding the fabric together. A combination of weave tightness and chemical treatment can also be utilized.

For certain applications the tight weave is sufficient. In other applications chemical treatments are used, which treatments are of the type commonly known in the art.

PLAINTIFFS'
EXHIBIT ALB-130

Wallace and Graham, P.A.

In one application the structure described above, after weaving was treated as follows:

A resorcinol-formaldehyde resin was applied at pick up levels of 5 to 10%, by conventional equipment and dried at temperatures ranging from 200°-220° F. for 10 to 20 minutes. This was followed by a curing cycle at temperatures ranging from 350° to 375° F. for a period of time varying between 10 and 20 minutes. Elastomeric material, e.g., polyacrylic, was added in percentages by weight up to 50% of the total formulation to modify the flexibility and abrasion resistance of the treatment.

Urethane coating resins may also be applied at pick up ranging from 5 to 10% dry weight of the original fabric. Typical heat curves, after drying at 200°-210° F. range from 350°-375° F. for 15 to 25 minutes.

I claim:

1. A papermakers felt which comprises a woven multilayer, single-ply fabric in which first crosswise yarns are reinforced by twisting in combination with second crosswise yarns having superior tensile and compressive strength in comparison to said first crosswise yarns and in which the crosswise yarns are displaced from the neutral axis of said fabric by lengthwise yarns common to each layer and means for securing the crosswise and lengthwise yarns against relative movement.

2. A papermakers felt according to claim 1 wherein said crosswise yarns are straight.

3. A papermakers felt according to claim 1 wherein said lengthwise yarns are flexible and the crosswise yarns are straight and substantially rigid.

4. A papermakers felt according to claim 1 wherein said means for securing the crosswise yarns and the

lengthwise yarns from relative movement comprises the tightness of the weave.

5. A papermakers felt according to claim 1 wherein said means of securing the crosswise yarns and the lengthwise yarns from relative movement comprises an adhesive bond between said crosswise yarns and said lengthwise yarns at crossover points.

6. A papermakers felt according to claim 5 wherein the adhesive is a resorcinol-formaldehyde resin.

7. A papermakers felt according to claim 5 wherein the adhesive is a polyurethane resin.

8. A papermakers felt according to claim 1 wherein said lengthwise yarns are multifilament nylon yarn and said crosswise yarns are asbestos yarn twisted about monel wire.

9. A papermakers felt which comprises;
a woven multilayer, single-ply fabric having;

(i) multiple layers of crosswise yarns wherein each yarn of each layer is substantially in vertical alignment with a corresponding yarn of the adjacent layer, and each crosswise yarn is rigid and straight;

(ii) flexible lengthwise yarns which are common to each of said multiple layers; and

(iii) an adhesive bond between said crosswise yarns and said lengthwise yarns at crossover points.

10. A papermakers felt according to claim 9 wherein said crosswise yarns are asbestos yarn twisted about monel wire and said lengthwise yarns are multifilament nylon.

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DL

Jan 1970

DRYING:

Dri-Screens

Style	ORDERS				TO SHIPPER		M&H Inventory	SHIPMENTS			
	1969		1970		1970			1969		1970	
	Jan.	Yr. to Date	Jan.	Yr. to Date	Jan.	Yr. to Date		Jan.	Yr. to Date	Jan.	Yr. to Date
5702/023	33	33	33	33	36	36	91	21	21	19	29
5702/028	-	-	-	-	-	-	-	-	-	-	-
5704/024	7	7	1	1	4	4	9	3	3	2	2
5706/065	13	13	16	16	11	11	20	4	4	5	5
5707/023	-	-	-	-	-	-	3	1	1	-	-
5709/024	1	1	3	3	2	2	5	4	4	5	5
5710/030	6	6	13	13	6	6	18	10	10	4	4
5714/063	1	1	-	-	-	-	1	1	1	-	-
5717/XXX	-	-	-	-	-	-	-	-	-	1	1
5717-1/XXX	1	1	-	-	-	-	-	-	-	-	-
5718/XXX	6	6	12	12	7	7	49	7	7	4	4
5718-1/XXX	4	4	-	-	4	4	-	-	-	-	-
5719/XXX	-	-	-	-	-	-	2	-	-	-	-
*5877	2	2	3	3	3	3	-	2	2	2	2
5878	-	-	-	-	3	3	3	-	-	2	2
EX-366	2	2	-	-	-	-	-	-	-	-	-
EX-382	-	-	-	-	-	-	1	-	-	-	-
EX-421	-	-	-	-	-	-	-	-	-	-	-
*EX-547	-	-	2	2	1	1	2	-	-	2	2
EX-561	-	-	-	-	-	-	-	-	-	-	-
EX-562	-	-	2	2	-	-	-	-	-	-	-
EX-569	-	-	-	-	-	-	-	-	-	-	-
EX-581	-	-	1	1	1	1	-	-	-	-	-
EX-621	-	-	-	-	1	1	-	-	-	1	1
Totals	76	76	86	86	79	79	204	53	53	93	93

*Previously listed as Dri-Weave

	1969	1970
Invoiced for January-Albany	= \$ 214,906.05	\$ 218,230.48
Invoiced for January-St.Step.	= \$ -----	\$ 60,643.75
Total	= \$ 214,906.05	\$ 278,874.23
Total - Year to Date	= \$ 214,906.05	\$ 278,874.23

*Finished-Note Shipped

Pieces = 206
Value = \$924,854.70

**Includes "Ready" and "Ship" dates, as of IBM run dated 2/2/70.

PLAINTIFFS'
EXHIBIT ALB-132

Wallace and Graham, P.A.

Dri-Screens-Continued

Adjustments

<u>Date</u>	<u>Customer</u>	<u>Felt No.</u>	<u>Style</u>	<u>Adj.Amt.</u>	<u>Comments</u>
1-5	PCA-Filer City	26886	H-5702	\$1,517.00	Hydrolyzed
1-27	Newton Falls Paper	87717	H-5702	\$2,523.46	Wrinkling
1-27	Newton Falls Paper	87718	H-5702	\$2,523.46	Wrinkling

Dri-Screen-Refinishes

<u>Style</u>	<u>Jan.</u>	<u>Yr. to Date</u>	<u>Jan.</u>	<u>Yr. to Date</u>
5702/023	5	5	11	11
5704/024	2	2	2	2
5706/065	1	1	2	2
5710/030	2	2	3	3
EX-581	-	-	1	1
Totals	10	10	19	19

Installations

<u>Date</u>	<u>Customer</u>	<u>Felt No.</u>	<u>Size</u>	<u>Style</u>	<u>Position</u>
12-1	Gilman Paper	35932	260' x 242"	H-5706	#2-3rd T
12-1	KC, Coosa Pines	87937	249' x 339"	H-5718	#4-2nd B
12-1	Stone Container, Coshocton	41142	182' x 184"	H-5706	#1-4th T
12-2	Scott, Winslow	16289	105.5' x 132"	H-5702	#2-2nd B
12-3	Newton Falls, N.Y.	87718	97' x 129"	H-5702	#1-2nd (T-B)
12-4	Scott, Mobile	34029	123' x 240"	5710	#9-4th T
12-4	Riegel, Riegelwood	29434	144' x 242"	H-5706	#18-4th T
12-5	IP, Bastrop	85353	173' x 288"	H-5718	#3-3rd B
12-5	Fletcher Paper, Alpena	41635	177' x 112"	H-5702	#2-1st T
12-9	Fletcher Paper, Alpena	41634	228' x 112"	H-5702	#2-1st B
12-12	S.D. Warren, Cumberland	17887	241' x 152"	H-5702	#14-1st B
12-15	Boise Cascade, Int. Falls	40750	185' x 188"	H-5718	#3(1st T-B or 2-B)
12-15	Finch Pruyn	16563	118' x 194"	5719	#4-1st B
12-16	Catawba Newsprint	83375	160' x 385"	S05877	#3-5th T
12-17	Owens-Ill., Tomahawk	87715	218' x 133"	H-5702	#1-2nd B
12-19	St. Regis, Tacoma	36044	115' x 268"	H-5706	#2-4th T
12-21	Catawba, Newsprint	83393	203' x 385"	S-5877	#3-4th B
12-22	Cox Newsprint	86767	210' x 344"	S-5877	#1-3rd T
12-22	IP, Bastrop	88816	150' x 288"	H-5718	#3-4th T
12-24	Cont. Can, Dodge	42073	173' x 254"	H-5706	#2-3rd T
12-26	Grays Harbor, Hoquiam	41556	130' x 185"	H-5702	#2-3rd B
12-26	Grays Harbor, Hoquiam	41557	130' x 185"	H-5702	#2-3rd B
12-26	Container, Circleville	33794	162' x 167"	H-5714	---
12-27	IP, Mobile	88225	148' x 132"	H-5702	#4-1st T

PLAINTIFFS'
EXHIBIT ALB-133

Wallace and Graham, P.A.

Dri-Screens-Continued

Installations-Continued

<u>Date</u>	<u>Customer</u>	<u>Felt No.</u>	<u>Size</u>	<u>Style</u>	<u>Position</u>
12-27	Scott, Mobile	43960	165' x 128"	H-5878 ✓	#1-1st B
12-27	IP, Georgetown ✓	43506	178' x 214"	H-5706 ✓	#2-4th T
12-27	IP, Bastrop	44536	194' x 160"	H-5706 ✓	#2-3rd T
12-?	Nekoosa Edwards, Potsdam	45824	107' x 132"	H-5702	#12-1st B
1-2	K.C., Niagara	87976	77' x 246"	H-5702	Dry End T
1-2	Boise Cascade, Vancouver	29494	89' x 135"	H-5702	
1-5	St. Regis, York	42012	187' x 160"	S-5702	#5-3rd B
1-7	Riegel, Riegelwood	85820	179' x 243"	S-5877 ✓	#18-3rd B
1-9	IP, Androscoggin	16683	122' x 305"	5710	7th T
1-9	K.C., Coosa Pine	85541	185' x 341"	5719	#3-4th T
1-10	IP, Mobile	42768	173' x 209"	H-5718	#2-1st B
1-10	S.D. Warren, Cumberland	26569	277' x 106"	H-5702	#1-1st T
1-12	Dunn Paper	42008	46' x 135"	H-5702	#1-1st T
1-12	Peninsular Paper	31730	129' x 85"	H-5702	#1-1st B
1-13	IP, Mobile ✓	85278	208' x 288"	S-5877 ✓	#6-2nd B
1-13	Hammermill, Oswego	87042	184' x 170"	H-5702	#1-2nd T
1-13	Hammermill, Oswego	41821	190' x 170"	H-5702	#1-2nd B
1-13	S.D. Warren, Cumberland	88485	289' x 145"	H-5702	#11-1st B
1-13	S.D. Warren, Cumberland	88666	289' x 145"	H-5702	#11-1st B
1-16	IP, Georgetown ✓	45522	211' x 214"	H-5706 ✓	#2-2nd T
1-16	Westvaco, Charleston	41472	135' x 252"	H-5706 ✓	#2-4th T
1-16	S.D. Warren, Cumberland	33651	218' x 152"	H-5706	#14-1st T
1-17	Boise Cascade, Int. Falls	31051	185' x 187"	H-5706 ✓	#3-2nd T
1-19	Northwest, Brainerd	89225	115' x 122"	H-5702	#5-2nd B
1-23	Cox Newsprint	86189	215' x 342"	H-5718	#1-2nd B
1-26	Brown, Kalamazoo	78619	77' x 82"	5710	2nd B
1-28	S.D. Warren, Muskegon	33041	54' x 161"	H-5702	#4-5th B

Removals

12-1	Gilman Paper, St. Mary's On 10-8-67. Ran 25 mos, 22 days.	15942	270' x 240"	H-5706 ✓	#2-3rd T
12-2	IP, Bastrop On 3-18-69. Ran 254 days. 17¢/ton. Good	34174	160' x 196"	EX-569	#4-3rd B
12-2	Scott, Winslow On 7-15-69. Ran 280 days.	25834	96.5' x 131"	H-5702	#2-2nd T
12-3	Newton Falls, New York On 12-1-69. Ran 2 days. Wrinkle started at seam when sheet brought over.	87717	97' x 129"	H-5702	#1-2nd T-B
12-3	Newton Falls, N.Y. One day--wrinkles.	87718	97' x 129"	H-5702	#1-2nd T-B

PLAINTIFFS'
EXHIBIT ALB-134

Wallace and Graham, P.A.

Dri-Screen Removals-Continued

<u>Date</u>	<u>Customer</u>	<u>Felt No.</u>	<u>Size</u>	<u>Style</u>	<u>Position</u>
12-4	Scott, Mobile On 3-12-69. Ran 248 days. Worn out.	28385	123' x 240"	5710	#9-4th T
12-5	Publishers, Newberg On 7-3-69. Ran 152 days.	35097	207' x 259"	H-5706	#1-2nd T
12-8	S.D. Warren, Cumberland On 7-27-69. Ran 134 days. Tore in middle.	86325	289' x 145"1	H-5702	#11-1st
12-11	Publishers, Newberg Ran 99 days--damaged.	35131	128' x 258"	H-5718	#1-1st B
12-11	S.D. Warren, Cumberland Ran 134 days. Seam torn.	55668A	75' x 105"	5710	#1-2nd T
12-11	Combined Paper, Wisc. On 12-19-68. Hooks tore on back edge. Trimmed twice and too narrow due to machine damage.	29270	86' x 250"	5719	#6-2nd T
12-12	S.D. Warren, Cumberland Ran 30 days. Damaged.	37716	241' x 152"	H-5709	#14-1st B
12-13	Wausau, Brokaw Ran 458 days.	27917	45' x 88"	H-5702	#4-T (ASP)
12-13	Wausau, Brokaw On 11-11-69. Ran 32 days. Ran wet.	37648	168' x 90"	H-5706	#4-1st T
12-13	Weyerhaeuser, Plymouth Ran 334 days.	30132	119' x 222"	H-5706	#1-6th T
12-15	Boise Cascade, Int. Falls Ran 163 days. Fell off machine.	40749	185' x 188"	H-5718	#3-2nd B
12-16	S.D. Warren, Cumberland Ran 235 days. Dirty.	37948	143' x 87"	H-5702	#6-1st T
12-20	St. Regis, York On 6-7-69. Ran 165 days-degraded.	32780	187' x 160"	H-5702	#5-3rd B
12-20	Union Camp, Savannah Ran 305 days. 15¢/ton, good. Screen allowed to run off machine and damaged.	3116	291' x 237"	H-5706	#2-2nd T
12-23	Boise Cascade, St. Helen's On 12-26-68. Ran 353 days.	32304	143' x 195"	H-5718	#4-4th T
12-23	Boise Cascade, St. Helen's On 12-26-68. Ran 353 days.	32305	143' x 195"	H-5718	#4-4th B
12-24	Cont. Can, Dodge On 9-3-68. Ran 466 days. Normal life was 120 days.	28916	173' x 251"	H-5706	#4-3rd B

Dri-Screen Removals-Continued

<u>Date</u>	<u>Customer</u>	<u>Felt No.</u>	<u>Size</u>	<u>Style</u>	<u>Position</u>
12-26	Allied Paper, Jackson On 2-23-69. Ran 298 days. Rotten.	30177	145' x 240"	H-5718	#1-2nd T
12-27	IP, Bastrop Ran 352 days. 8.6¢/ton	32014	194' x 160"	#2-3rd T	#1-3rd T
12-28	Catawba Newsprint On 5-23-69. Ran 7 mos. Life left.	83376	157' x 385"	S-5877 ✓	#3-5th B Scheduled off due to PV roll froze up.
12-29	K.C., Niagara On 2-4-69. Degraded.	21298	200' x 246"	H-5702	#3-2nd T
12-30	Publishers, Newberg On 5-17-69. Ran 208 days. Damaged.	35902	128' x 258"	H-5718	#1-1st T
12-30	IP, Bastrop Ran 278 days. Seam broke. 16¢/ton.	31991	160' x 198"	H-5706 ✓	#4-3rd T
12-?	Publishers, Newberg Ran 152 days-very weak.	35097	207' x 259"	H-5706 ✓	#1-2nd T
12-?	Combined Paper Mills Ran 231 days. Damaged on shutdown.	33533	167' x 138"	H-5702	#2-2nd T
1-1	Boise Cascade, Int. Falls Ran 337 days. Wore out.	23877	112' x 184"	H-5718	#4-3rd T
1-2	U.S. Plywood, Pasadena On 10-8-69. Damaged.	87329	215' x 146"	H-5702	#23-2nd B
1-2	Simpson Lee Ran 193 days. Hydrolyzed.	85855	53' x 132"	H-5702	#1-3rd T
1-2	Simpson Lee Ran 274 days.	32448	105' x 132"	H-5702	1st T
1-2	K.C., Niagara Ran 977 days.	71270	77' x 248"	S05702	#3T-After Coater
1-4	Allied Paper, Kalamazoo On 6-15-69. Ran 6 mos.	30157	70.5' x 153"	H-5718	#7-1st B
1-5	Boise Cascade, Vancouver On 2-6-69. Split on both edges, near seam.	32371	84' x 134"	H-5702	#1-2nd B
1-6	IP, Bastrop On 6-25-69. Ran 187 days. 16¢/ton. "Fair" performance.	32192	159' x 286"	H-5718	#3A-5th B

PLAINTIFFS'
EXHIBIT ALB-136

Wallace and Graham, P.A.

Dri-Screen Removals-Continued

<u>Date</u>	<u>Customer</u>	<u>Felt No.</u>	<u>Size</u>	<u>Style</u>	<u>Position</u>
1-6	CZ, St. Francisville Ran 267 days. Two holes and starting to hydrolize.	28552	150' x 266"	H-5718	#2-3rd T
1-6	CZ, St. Francisville Ran 147 days. Narrowed.	86808	150' x 266"	H-5718	#2-2nd B
1-8	St. Regis, Monticello Ran 263 days.	21269	56' x 271"	H-5718	#1-6th T
1-8	St. Regis, Monticello Ran 394 days. Seam failed.	31996	122' x 271"	H-5718	#1-8th B
1-9	3-M, Hartford City Ran 39 days--wrinkles.	42070	79' x 114"	H-5704	#1-1st
1-9	IP, Androscoggin Ran 410 days.	16679	145' x 305"	5719	#3-2nd T
1-9	S.D. Warren, Cumberland Ran 279 days. Hole.	14299	277' x 106"	H-5702	#1-1st T
1-9	K.C. Coosa Pines Ran 763 days.	16673	183' x 341"	5719	#3-4th T
1-9	S.D. Warren, Cumberland On 3-22-69. Seam worn.	26232	277' x 106"	H-5702	#1-1st B
1-9	Northwest, Brainerd On 12-10-69. Ran 25 days. Damaged.	19197	143' x 124"	H-5702	#5-1st T
1-10	S.D. Warren, Cumberland On 1 day. Seam mark.	45448	277' x 105"	EX-562	#1-1st T
1-12	Peninsular Paper Ran 14 months.	11356	129' x 85"	H-57021	#1-1st B
1-12	CZ, Canas On 8-1-69. Seam failed--refinish.	35341	116' x 142"	H-5706	#16-2nd T
1-13	S.D. Warren, Cumberland Ran 34 days. Accident	87440	289' x 145"	H-5702	#11-1st T
1-13	S.D. Warren, Cumberland Ran 18 days. Accident.	87441	289' x 145"	H-5702	#11-1st B
1-13	Union Camp, Franklin On 12-26-69--marking.	13067	175' x 250"	5719	#5-2nd (T-B)
1-14	U.S. Plywood-Champion Ran one day--wrinkles. Was second trial of this screen.	87515	201' x 252"	H-5718	#27-3rd B

