

CELANESE PLASTIC MATERIALS COMPANY
Chemcel Plant
Bishop, Texas

PLAINTIFF'S
EXHIBIT

CEL-20

TO: P. M. Sykes

FROM: R. L. Bunkley

RLB-8-79

February 26, 1979

Quality Control Monthly Report
January, 1979

cc: Dr. R. A. Daniel - Chatham
Mr. J. W. Beltz
Mr. W. A. Flaherty
Mr. R. W. Murphy
Mr. F. M. O'Neil
Dr. M. L. Druin (6) - Summit
Mr. C. Gottfried

Mr. A. C. Abshier - Bishop
Mr. W. S. Allen
Mr. C. A. Amond
Mr. G. Artripe
Dr. J. D. Bennett
Dr. H. L. Davis
Mr. J. C. Doedyns
Mr. D. L. Dotson
Mr. R. D. Fuchs
Mr. C. E. Gary
Mr. D. E. Guthland
Mr. C. L. Hammond
Ms. A. R. Hancock
Mr. L. N. Harvey
Mr. H. P. Hohon
Mr. J. L. Merian

Dr. M. Meisters - Summit
Mr. F. B. McAndrew
Mr. W. L. Shearer
Mr. M. M. Wilson
Mr. D. Zimmerman
Summit Data Files

Mr. W. H. Meyer
Mr. A. B. Milam
Ms. P. J. Moede
Mr. E. Munoz
Mr. J. A. Remlinger
Mr. K. A. Rose
Mr. R. G. Rothenberg
Mr. J. D. Saladino
Mr. A. G. Salinas
Mr. P. N. Thomas
Mr. E. D. Wandler
Mr. K. A. Wolf
File: 3.017
301.014
501.009
Central Files (3) - CCCTC

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GENERAL SUMMARY:

Celcon® quality waivers for January totalled 29.9% of the months production. Natural finishing waivers were due to product melt index out of specification. Speical products waivers were due to melt index and stabilizer content variances.

The low acid (4-4.5 wt.%) trial in the T0-2 unit was completed during the month. Trial evaluations with normal (5.5-6.0 wt.%) and high (6.5-7.0 wt.%) acid levels are still to be completed. Further work has been temporarily postponed due to production cutbacks in the unit.

Celanex® quality waivers were required for 10.5% of the total production. The major quality problem experienced was failure of some lots of vo Celanex to pass the flammability testing.

Nylon quality waivers totalled 24.1% of the months production. The major quality variance was out of specification RV with volatiles and ash content accounting for the second major sources of off specification product.

A four-member nylon task force was established on January 16, with K. A. Rose and L. I. Chriswell representing Manufacturing, to investigate the causes of brittle breaks in nylon. A plant trial will be conducted utilizing fine mesh screens in the nylon filtering process. Samples produced will be molded and analyzed by Dr. John Gall in Summit to look for a correlation between particles in the nylon and low elongation values. Samples of the trial materials will also be evaluated at Bishop.

The major delay in relocating the Color Laboratory to the new lab building is installation of the thermolator cooling system. Delivery of the required chiller unit is expected in early March. A number of other items in both the first and second floors of the lab building remain incomplete.

I. CELCON®:

A. Customer Complaints - Dotson/Tijerina

1. Dayco Corporation of TFE Industries entered a complaint (P-5373) requesting credit for a weight shortage of 187 lbs. on a shipment of 20,000 lbs. of M90-01 flake. A minor variance in the bagging weight scales which probably caused the problem has been corrected. (DLD-22-79)
2. Kingston Plastics entered a complaint (P-5375) citing mold deposit from a lot of M90-04 black, lot 8072602, as causing out of specification parts. The lot in question met all quality parameters upon release and since no complaint sample was received, no further plant evaluation could be conducted. (DLD-23-79)

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3. A complaint (P-5424) was entered by Coats and Clark that 100 lbs. of a 2500 lb. shipment of C-244 natural, lot 8102106, had small amounts of discoloration. The material in question met all quality specifications prior to release. Examination of a small return sample showed it to contain pellets which in appearance were surface contaminated with oil or grease. Based on this evaluation the complaint was not considered to be material related. (DLD-24-79)
4. Beebee Machine entered a complaint (P-5410) of severe mold deposit with M270-04 natural from lot 8091303. Plant records indicated this material to meet all quality parameters on release. RTS has been sent samples of this lot and requested to evaluate this product by the accelerated mold deposit test. (DLD-25-79)
5. Sashabaw Products entered a precautionary complaint (P-5413) stating that a hopper car of C-244 natural, lot 8112802, was received without the polyethylene (PE) rain caps over the compartment hatches. Small amounts of contamination were found in the compartments of the hopper car. Although this was a pressurized car with gasket sealed hatch covers, all future shipments to this customer will also include polyethylene rain caps on the hatches. (DLD-26-79)
6. Teleflex Inc. entered a complaint (P-5422) stating that a shipment of M90-04 natural, lot 8101703, was received with four damaged bags, three others retaped, and an undisclosed number of pallets were broken in half. The complaint was directed to the attention of the receiving warehouse to determine if the damage occurred after leaving Bishop or enroute to the customer. (DLD-30-79)

B. Manufacturing Support

1. T0-2 Reactor System Trials - Moede

Trials were started in mid-January to determine the effects of reactor catalyst concentration along with reactor column reflux ratio on reactor system performance. A trail at low acid concentration, 4.0-4.5% (wt.), has been completed. Normal acid concentration, 5.5-6.0%, is currently being evaluated and plans have been made to evaluate 6.5-7.0% acid. The information gained from these trials will be used to optimize reactor system performance in terms of trioxane production, by-product formation and steam requirements.

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2. Methane Sulfonic Acid Trial - Moede

Plans were completed for evaluating methane sulfonic acid as a catalyst in the TO-2 reactor in a trial scheduled for March. MSA is expected to decrease by-products at trioxane conversions equal to those with sulfuric acid at the same concentration by weight.

3. TO-2 Unit Lab Improvement - Moede

Training sessions were held in the TO-2 unit lab for all TO-2 Operations personnel. Senior technicians from the Spec Lab provided instruction to implement a new procedure for determining formaldehyde concentrations.

4. MH-2 Trial: Reduced Nitrogen Flow and Color Quantity - Guthland

A trail was conducted from 12/15 to 12/22/78 to determine the effect of reducing cryogenic nitrogen flow to the MH-2 flake tank, V-1615, on color quality. Reducing the nitrogen flow by 50 percent (from 40% to 20% of rotometer reading) showed no effect on color quality.

5. SH-2 Unit Lab Support - Guthland

Poor correlation between VICAT and % ETOX in TOX feed in SH-2 was investigated this month. The problem was isolated to poor accuracy and reading errors associated with the titrating buret used for the % ETOX analysis. The titrating buret has been replaced with a more accurate buret and Unit personnel instructed in its use. The ETOX titration procedure and unit results will be monitored.

6. SH-1 Data Base - Guthland

Progress in establishing a data base in SH-1 prior to unit modifications continued through January. All analytical work has been completed at CCTC and Bishop. The remaining gel permeation chromatography and ETOX content and distribution analyses are in progress at Summit. A report detailing the analytical data completed to date will be published in February.

7. SH-1 Modified: Sampling and Test Method Requirements - Guthland

A report has been issued outlining the sampling and test method requirements for SH-1 following the Ticona modification. Sample point location, existing test method applicability and test method development needs are addressed in DEG-4-79.

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8. C-155 Production Problems - Remlinger

Recently, Production has experienced problems in maintaining the specification limits for % ash, as TALC in C-155. An investigation by Quality Control revealed several possible problem areas but no exact cause(s) was isolated. The results of this investigation will be outlined in a pending report.

9. Overseas Affiliates - Physical Properties Testing Program - Remlinger

The last samples of 1978 Ticona and Polyplastics polymer were received this month. The test results on these materials will be published in a report detailing the analytical results and comparisons of all affiliates polymer tested in 1978.

C. Routine Analytical - Salinas

Sample count, overtime hours, holiday overtime hours, and formaldehyde feed concentrations for January are summarized in Table I. The sample count from January was 4766 compared to 5139 for December, 1978. The overtime hours for January were 165 compared to 197 in December. Holiday overtime for January was 12 hours.

The large increase in non-routine samples from TO-2 is due to the reactor performance trials. T-302-OH, T-302-Res., V-1656 and V-1644 have been analyzed once per shift since 1-15-79.

II. CELANEX®A. Customer Complaints - Dotson/Tijerina

1. There were no customer complaints this month.

B. Manufacturing Support1. SEO Celanex - UL Burn Test Failures - Remlinger

An investigation of UL burn test failures of SEO Celanex grades continues. Analyses of samples sent to CCCTC have been delayed due to instrumental breakdown. A method for % antimony by atomic absorption has been developed by the Spec Lab. Initial results on lots which have failed the burn test show low levels of this fire retardant as the probable cause of failure.

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2. Celanex Moisture Uptake - Bag Comparison Studies -
Remlinger

The study of the effects of bag construction on the moisture uptake of Celanex 3300-2 black has continued. With foil laminate bags, moisture uptake of 3300-2 black was 0.11% (0.05%-initially) after twelve weeks. With standard Celcon bags (PE laminate) moisture content rose from 0.05% to 0.20%. Over this time period a 15% (PE laminate bag sample) and a 9% (foil lined bag sample) reduction in tensile strengths for undried samples were recorded. However, when these samples were dried, a 100% recovery of tensile strength was achieved. Similar results were found for the other physical properties measured, i.e., izod, elongation, flexurals. These results support previous work.

Evaluation of a new bag type (Saranex) from Bancroft Bag, Inc. has been instituted using Celanex 3300 natural as the monitored material. This LDPE/Saran/LDPE laminate bag could offer a monetary savings over our standard Celanex bag and alleviate problems incurred in purchasing foil lined bags, e.g., long lead times. In the near future, these bags will also be evaluated for potential use with our Nylon products.

III. NYLON

A. Customer Complaints - Dotson/Tijerina

1. Security Plastics entered a complaint (P-5406) stating that parts made with Nylon 1000-2 black, lot 8050971, turned out a translucent purple blue in color. Color services indicated that all black unfilled nylon resins will appear a dark blue under an intense light source. High molding temperatures were also indicated as a cause for a blue color shift in this type of Nylon. RTS was requested to investigate the customer's molding process for excessive temperatures.
2. A precautionary complaint (P-5425) was entered by All States Plastic Co. stating that a 40m lb. shipment of N-243 natural was not loaded on the trailer with the wide end of the pallet facing the rear of the truck. The order was loaded opposite this due to the physical size restrictions of the pallets and the truck body. Loading as specified would have required two trucks to carry the shipment.

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3. A precautionary complaint (P-5414) was received from the Delco Remy Division of G.M.C. concerning the difference in transparency of the pellets and molded parts between lots 7161203 and 7171202 of Nylon 1300-1. Analysis of the two Deer Park production lots revealed lot 7161203 to contain less nucleant than lot 7171202 which accounted for the difference in transparency. The concentration of nucleant in both lots, however, was within specifications and sufficient to provide nucleation of the material. Since the customer did not cite any problems with the molding or physical properties of the polymer no further plant reply was indicated.

B. Manufacturing Support

1. Nylon Screen Changer Trials - Allen

A trial run has been initiated to determine if smaller mesh screens will offer improved filtration, thereby reducing the frequency of "brittle breaks" in nylon. The standard 105 mesh screen will be replaced with 200 and 325 mesh screens, and samples of the produced pellets and strands will be sent to Summit for testing. Initial samples of nylon 1003 collected off the 105 mesh screen have been collected and sent to Summit. Normal Q.C. analyses were also run at Bishop.

2. Nylon Nucleant Production - Salinas, Allen

The inventory status of nylon nucleant is summarized below:

Inventory	1/1/79	2 drums
Inventory	1/31/79	17 drums
Nucleant Produced in Jan.		23 drums
Nucleant In Process		15 drums

3. Nylon Moisture Uptake Study - Bag Comparison - Remlinger

The comparison of the moisture uptake of Nylon 1003-1 natural in two bag types continues. After twelve weeks the nylon packaged in the standard foil lined bag has shown no significant increase in the moisture level, while the nylon packaged in the PE laminate (Celcon) bag has risen from 0.28% Vol. to 0.69% Vol.

No further work is planned on this phase of the nylon bag comparison study. The evaluation of the three Japanese type bags (Dec. monthly report) is still in progress with N-184 as the test material.

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February 26, 1979

IV. INDUSTRIAL HYGIENE - Hancock, SolizA. Formaldehyde Surveys

Follow-up monitoring on personnel in the SH1/T01, SH2/T02 and MH2 units continues. Of the nine follow-up samples taken, only two (one in MH2, one in SH2/T02) were above the 1.85 mg/m³ action level.

Personal samples were taken in the MH2 unit for formaldehyde exposure when the fume removal system was down. All the samples were below the 1.85 mg/m³ action level. These samples will be included in the MH2 unit formaldehyde survey report.

B. Asbestos Monitoring

Routine asbestos monitoring has been completed in the Celanex unit. A report is pending the receipt of analytical results from National Loss Control Laboratories, Long Grove, Illinois. A report has been written on the asbestos monitoring in the Special Products Unit.

V. TACB Inventory - Hancock

A status report has been written on the progress of the TACB emissions inventory. Only six stacks requiring particulate sampling remain to complete the inventory.

The OSHA/Environmental analytical load, to date, is summarized below:

	Month		YTD	
	OSHA	Environmental	OSHA	Environmental
SH1/T01	17	1		
SH2/T02	25	0		
MH2	36	0		
Natural Finishing	0	2		
Special Products	0	1		
Celanex	5	0		
Total	83	4		

VI. COLOR SERVICE - Artripe

Color Service developed 19 color matches this month. The distribution of color match work for each marketing group was 7 Celanex, 6 Celcon and 6 Nylon matches; of this 6 Celanex, 2 Celcon and 2 Nylon were produced from existing formulations.

426 pounds of products were extruded and shipped.

A total of 311 chips were sent out in the process of filling 16 sample requests for chips.

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Currently 30 color matches are backlogged. This backlog is for reformulation of existing formulas. Reformulation is necessary due to pigment obsolescence or chip replenishment. There are no new marketing requests on backlog.

The program to identify and approve a new UV-Stabilizer package for automotive colors should be completed by mid-February.

Color Service workload remains very high, turnaround time per color match is currently running about 16 days.

A summary of color matching performance for 1978 is listed in Table II.

VII. STATUS OF LAB BUILDING CONSTRUCTION - Rose

The major hold up of the lab construction at present is the installation of thermolator cooling system for the color lab. A chiller unit has been ordered with delivery expected by early March. Some existing piping changes will have to be made to isolate the system from the existing cooling water system.

The bill of materials has been submitted for completion of the 2-story hood. The only items with expected long delivery times are two temperature recorders that had to be reordered (PER #9642, 7/5/78). Construction will begin as soon as engineering priorities will allow.

Installation of a lab bench for the AA and for a sink unit in the 2½" extruder room was begun but never completed. This job belongs to LinDan Specialties of Houston. Delivery of the larger size exhaust blowers for the hoods is expected in early March, also to be installed by LinDan Specialties.

The following is a list of items not yet completed in the new lab, items pertaining to the Color Lab and items already mentioned above are not included.

1. Fire water station at N. entrance still leaks.
2. 1st floor wall lockers need trim.
3. Quarry tile floor in solution prep room, 2nd floor, has not been repaired. Epoxy grout needs filling in.
4. Two of the three leaking gas hose cochs have been received, none installed.
5. Backs are missing on bench island sink units, 2nd floor (6).
6. A lighted EXIT sign is needed over door at base of N. stairwell.

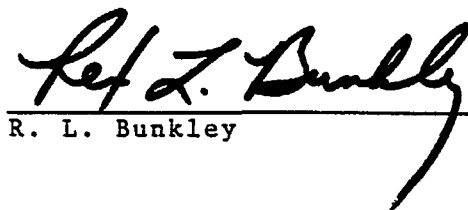
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7. All breaker boxes need voltages noted.
8. Incomplete AVO's and PER's:

AVO's #120366	9/5/78	Bottle washing apparatus
#120381	12/28/78	Seal bottoms of lab benches
PER's #9642	9/5/78	Temperature Recorders for 2-story Hood
#9647	7/20/78	Chart Recorders for OSHA Work
#9652	10/10/78	Lab Balances for OSHA Work
#9671	10/17/78	AA Carbon Furnace
#9657	11/10/78	Lab Dumpster
#9658	11/13/78	2-story Hood Utilities
#9664	12/7/78	Bottle Drying Rack
#9667	1/31/79	Isolate A/C Circulation Pumps
#9675	1/31/79	Add Chilled Water Outlets
#9676	1/31/79	6-Hole Steam Table

VIII. PERSONNEL

Effective February 1, 1979, Rich Rothenberg transferred from the analytical lab group to the color lab. David Saladino was hired January 22, and will be working as an analytical development chemist in the analytical group. David is a recent graduate of the University of Texas, and is a native of Corpus Christi.


R. L. Bunkley

RLB:slh

Attachments

003797

TABLE VII

CELCON RELEASES

FORMULATION	RELEASES				QUALITY WAIVERS			
	QUANTITY (M Lbs.)		LOTS		QUANTITY (M Lbs.)		LOTS	
	JAN	YTD	JAN	YTD	JAN	YTD	JAN	YTD
M9000 Flake	10.5		1					
M9001 Flake	72.4		7					
M9004 Natural	2529.6		15		1131.7		7	
M9014 Natural	216.4		2		24.0		1	
M90210 Natural	30.2		2		30.2		2	
C143 Natural	805.4		10		100.8		1	
M27004 Natural	179.5		1					
M27014 Natural	602.9		11		181.1		5	
U1011 Natural	144.3		6		67.4		3	
M2501 Color	21.8		2					
M9004 Color	221.6		17		48.9		4	
M9008 Color	53.7		4					
M9008 Natural	56.8		3					
M9034 Color	46.2		2		23.5		1	
C143 Color	7.0		3		4.1		1	
M27004 Color	2.6		1		2.6		1	
M27008 Color	51.4		4		31.6		2	
M2504 Black	39.9		1		39.9		1	
M9004 Black	294.7		7					
M9014 Black	192.3		9		111.1		4	
M27004 Black	55.3		2					
GC25A Black	356.9		20					
M9007 Color	45.0		9					
Salt & Pepper	62.6		5					
C155	124.7		5		85.3		3	
C234A	125.0		3		83.0		2	
C240A	85.3		1					
C241	64.7		4		18.2		1	
C243	178.8		4					
C244	322.1		2					
C300	44.4		1					
C301	82.5		1					
TOTALS	7126.5		165		1983.4		38	

% COLOR 7.35
 BLACK 9.92
 OTHER 2.04
 GLASS FILLED 5.01
 NATURAL 75.05
 CONCENTRATES 0.63

QUALITY WAIVERS

MONTH
 27.8

003802

SAMPLE COUNT TABLE I

MONTH January 1979

Area	No. Sples. Celcon®			No. Sples. Celanex®			No. Sples. Nylon			Total (All Types)	% of Total (All Types)
	Non-		Total	Non-		Total	Non-		Total		
	Routine	Routine		Routine	Routine		Routine	Routine			
O-1	306	6	312							312	6.5
O-2	596	312	908							908	19.1
H-1	162	0	162							162	3.4
H-2	343	0	343							343	7.2
H-2	447	62	509							509	10.7
atural Finishing	517	0	517							517	10.8
pecial Products	517	0	517							517	10.8
elanex				235	0	235				235	4.9
ilot Plant	0	0	0							0	0.0
aw Materials	146	0	146							146	3.1
C	179	0	179							179	3.8
ylon							918	20	938	938	19.7
thers	0	0	0							0	0.0
TOTALS	3213	380	3593	235	0	235	918	20	938	4766	100.0

HCHO Feed Ave. Conc. 50.12

Hi 51.78
Low 35.64

HCHO Feed Ave. HCOOH 0.061

Hi 0.365
Low 0.019

HCHO Feed Avg. Meq/L 0.51

Hi 2.55
Low 0.15

Total Samples
(All Types)

4766

Routine 4366

Non-Routine 400

Total Sples YTD 4766

Overtime Hrs 165

Overtime YTD 165

Holidays Overtime Hrs 72

Holidays Overtime YTD 72

Reg. T.M.

003798

TABLE II

COLOR SERVICE PERFORMANCE

<u>Type of Match</u>	<u>Number Color Matches</u>			
	<u>1977</u>		<u>1978</u>	
	<u>Average per Month</u>	<u>Total for Year</u>	<u>Average per Month</u>	<u>Total for Year</u>
Marketing Request	9	108	19	229
Reformulation of Existing Formulas	<u>0</u>	<u>0</u>	<u>5</u>	<u>64</u>
Total	9	108	24	293

	<u>Turnaround Time</u>	
	<u>1977</u>	<u>1978</u>
	Average (Number of days)	
	27	28

Footnote:

Marketing Requests - are formulation of color matches for which no formula existed at that time.

Reformulation of Existing Formulas - are because of obsolete pigments, change to standard pigments or chip replenishment.

Turnaround Time - is the time space between request arriving at plant and shipping date of pellet sample and chips.

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TABLE III
Celcon Quality Summary

	January		Year to Date	
	<u>M Lbs</u>	<u>Percentage</u>	<u>M Lbs</u>	<u>Percentage</u>
Gross Production	6,640.2	100.0		
Total Packaged Off Specification	1,967.6	29.6		
Quality Waivers	*1,983.4	29.9		

TABLE IV
Celcon Experimental Products

<u>Product</u>	<u>Production</u>	<u>Releases</u>
C155	124700	124700
C234A	125000	125000
C240A	85305	85305
C241	64735	64735
C243	178800	178800
C244	322050	322050
C300	44400	44400
C301	82500	82500

*Includes 260.4m lbs. from previous month.

003800

TABLE V

Analysis of Celcon Packaged Off SpecificationNatural Finishing - January

<u>Defect</u>	<u>Lots</u>	<u>Quantity</u>		<u>% of Total Natural</u>	<u>Lots</u>	<u>Quantity</u>		<u>% of Total Natural</u>
		<u>M</u>	<u>Lbs</u>			<u>M</u>	<u>Lbs</u>	
Melt Index	10		960.5	20.2				
Discolored Pellets	5		138.7	2.9				
Black Specks	5		109.3	2.3				
Stabilizer Content	5		211.4	4.4				
Ash	1		28.3	0.6				
Natural Color	1		165.7	3.5				
Ext. HCHO	4		108.8	2.3				
10x Melt Index	1		19.1	0.4				

TABLE VI

Special Products - January

<u>Defect</u>	<u>Lots</u>	<u>Quantity</u>		<u>% of Total S.P.</u>	<u>Lots</u>	<u>Quantity</u>		<u>% of Total S.P.</u>
		<u>M</u>	<u>Lbs.</u>			<u>M</u>	<u>Lbs.</u>	
Melt Index	11		163.8	8.7				
Discolored Pellets	3		27.9	1.5				
Color Match	3		19.0	1.0				
Off Size Pellets	6		79.5	4.2				
Colored Pellets (Contaminated)	3		13.3	0.7				
Volatiles	2		53.6	2.8				
Stabilizer Content	4		137.4	7.3				
Kd	4		50.2	2.6				

003801

TABLE VIII
Celanex Quality Summary

	<u>January</u>		<u>Year to Date</u>	
	<u>M Lbs</u>	<u>Percentage</u>	<u>M Lbs</u>	<u>Percentage</u>
Gross Production	2,467.5	100.0		
Total Packaged Off Specification	272.0	11.0		
Quality Waivers	*259.9	10.5		

*Includes 120.4m lbs from previous month.

TABLE IX
ANALYSES OF CELANEX PACKAGED
OFF SPECIFICATION

<u>Defect</u>	<u>January</u>		<u>% of Production</u>	<u>Year to Date</u>		<u>% of Production</u>
	<u>Lots</u>	<u>M Lbs.</u>		<u>Lots</u>	<u>M Lbs.</u>	
Flammability	3	119.3	4.8			
Discolored Pellets	1	15.6	0.6			
Ash Content	1	38.5	1.6			
Off Size Pellets	1	45.0	1.8			
Volatiles	1	39.4	1.6			
Colored Pellets (Contamination)	1	14.0	0.6			

003803

TABLE X
Celanex Releases

<u>Formulation</u>	<u>Releases</u>				<u>Quality Waivers</u>			
	<u>Quantity</u>		<u>JAN</u>	<u>Lots</u>	<u>Quantity</u>		<u>JAN</u>	<u>Lots</u>
	<u>(M</u>	<u>Lbs)</u>			<u>(M</u>	<u>Lbs)</u>		
	<u>JAN</u>	<u>YTD</u>		<u>YTD</u>	<u>JAN</u>	<u>YTD</u>		<u>YTD</u>
3200-2 Natural	38.9		1					
3210 Natural	390.4		27		15.6		1	
3210-2 Natural	65.2		5					
3300 Natural	1010.4		28		203.2		5	
3310 Natural	80.8		5					
3310-2 Natural	63.4		4					
3300 Black	569.2		8		41.0		1	
3300 Color	122.7		9					
TOTALS	2341.0		87		259.8		7	

QUALITY WAIVERS

11.1

003804

TABLE XI
Nylon Quality Summary

	<u>January</u>		<u>Year to Date</u>	
	<u>M Lbs</u>	<u>Percentage</u>	<u>M Lbs</u>	<u>Percentage</u>
Gross Production	2,902.9	100.0		
Total Packaged Off Specification	811.7	28.0		
Quality Waivers	699.3	24.1		

TABLE XII
Nylon Experimental Products

<u>Product</u>	<u>Production</u>	<u>Releases</u>
N181	213,960	213,960
N186	160,200	110,000
N224	273,100	273,100
N243	223,050	223,050
N270	148,050	148,050
N355	311,050	311,050
N357	284,400	284,400

003805

TABLE XIII

Analysis of Nylon Packaged Off Specification

<u>Defect</u>	JANUARY			Year to Date		
	<u>Lots</u>	<u>M Lbs</u>	<u>% of Production</u>	<u>Lots</u>	<u>M Lbs</u>	<u>% of Production</u>
Relative Viscosity	25	563.9	19.4			
Volatiles	9	229.5	7.9			
Ash Content	3	85.1	2.9			
Discolored Pellets	4	20.6	0.7			
Off Size Pellets	1	37.9	1.3			
Natural Color	1	6.0	0.2			

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TABLE XIV
Nylon Releases

Formulation	Releases				Quality Waivers			
	Quantity (M Lbs)		Lots		Quantity (M Lbs)		Lots	
	JAN	YTD	JAN	YTD	JAN	YTD	JAN	YTD
1000-1 Natural	114.0		6					
1000-2 Natural	121.2		7		10.8		1	
1000-4 Natural	42.4		2					
1003-1 Natural	19.6		1					
1003-2 Natural	76.8		4		17.9		1	
1300-1 Natural	37.0		2					
1310-2 Natural	281.9		15		18.4		1	
1310-4 Natural	148.5		7					
1000-2 Black	154.3		5		134.3		4	
1503-1 Black	39.2		1		39.2		1	
1503-2 Black	364.9		11		198.7		5	
503-2 Black	51.7		2		23.0		1	
503-1 Color	21.8		2					
81	214.0		11					
186	110.0		12		9.0		1	
N224	273.1		14		20.5		1	
N243	223.0		11		20.1		1	
N270	148.1		7					
N355	311.0		16		169.0		9	
N357	284.4		4		38.4		1	
TOTALS	3036.9		140		699.3		27	

QUALITY WAIVERS

23.0
MONTH

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