

Serial No.

KN-50-22

Copy No. 1

Numerical File

E. I. DU PONT DE NEMOURS & COMPANY
KREBS PIGMENTS DEPARTMENT
256 VANDERPOOL STREET
NEWARK, NEW JERSEY

NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

Final Report

MARCOE T. BURG LANE

RP-233-D TEXTURE IMPROVEMENT

Period Covered

February-April 1950

FILE:

225.52

DATE:

9/13/50

Serial No. KW-50-22

Copy No. 1

Copy to:

- #1 - Numerical File
- 2 - Research Office (223.52)
- 3 - Library File (223.52)
- 4 - D.B. Killian
- 5 - V. Chalupski-Plant Files
- 6 - Circ. Copy W.F. Spengeman, Newark
J.B. Callaway, Wilmington
P.J. Monahan, Newark
- 7 - Extra

NEWARK PLANT

PIGMENT COLOR RESEARCH REPORT

Final Report

Title: MAROON TONING LAKE
RP-293-D TEXTURE IMPROVEMENT

Period Covered: FEB. 1950-APR. 1950

Charge: A-IC-52 (1100-12-52)

SUBMITTED BY: *M. Fytelson*
M. Fytelson

DATE SUBMITTED: 8/21/50

APPROVED BY: *A.A. Brizzolara*
A.A. Brizzolara

DATE ISSUED: 9/13/50

INTRODUCTION

RP-293-D has been reported to have poorer texture than several competitive pigments of similar chemical nature and composition. Among these are Harmon's MV-13 and Imperial's #1850 maroon. The attempted application of draft tube treatments to this product has been suggested as a means of correcting and overcoming this deficiency in texture.

Several semi-works draft tube treatments have been carried out using as treating agents, resinous oil, the ester emulsion, and "Flexol." The results indicate that this type of treatment may offer a means of improving the quality of RP-293-D relative to competition.

As a result of the observation that high speed pulverization of draft tube recirculated untreated slurry gave better dispersion than regular pulverization, it was recommended that this be tried on one plant batch. The results indicate that a slight strength improvement in alkyd tint is obtained but that no improvement is observed in lacquer.

SUMMARY AND CONCLUSIONS

Recirculation through the draft tube alone followed by high speed pulverization yields a product superior in dispersion in vinyl.

The ester-emulsion and "Flexol" treatments yield products with the best dispersion and minimum number of undispersed specks of color in vinyl.

Improved dispersion is accompanied by increasing redness of tint in vinyl and alkyd.

Texture improvement as measured by dry dispersion in vinyl and ball mill alkyd grinds has been effected by the use of the draft tube, the best product being that treated with 5% "Flexol."

High speed pulverization, alone, of normally processed RP-293-D does not materially improve the texture and dispersion characteristics in paint or vinyl systems.

DISCUSSION

RP-293-D in press-cake form was reslurried in water and treated in the semi-works draft tube unit with 1) resinous oil, 2) the ester emulsion, and 3) "Flexol", with and without heating. The heated products in all cases were superior in dispersion to the unheated products. The draft tube treated products were in all cases superior to the plant batch from which they were processed.

The conclusions drawn from the high and regular speed grinding of the plant material may not be valid because the material was substandard and very weak versus the current standard.

EXPERIMENTAL DETAILS

Draft Tube Trials

RP-293-D press cake from lot 73523

		Pulverisation
1.	2220	
	-1A Recirculation only	Reg.
	-1B "	High
	-2 Recirculation + Resinous oil	Reg.
	-3 as 2 but heated	"
2.	2221	
	-1 Recirculation + ester emulsion	Reg.
	-2 as 2 but heated	"
3.	2222	
	-1 Recirculation + 5% "Flexol"	Reg.
	-2 as 2 but heated	"

GRINDING STUDY

RP-293-D	74958	Regular Grind
RP-293-D	15111	Hi-speed Grind

COMPETITIVE PIGMENTS

C-50304	Imperial # 1550 Maroon
C-51985	" "
C-52903	Harmon NV-13

GLOSSARY

RP-293-D	50% Helio Fast Rubine on 70% Alumina Hydrate
Resinous oil X-1	N-552
Flexol	Carbide and Carbon Chemical Corp.
DOP	Dioctyl phthalate
TEA-C12 ester	Triethanolamine-lauric acid ester
C Cl ₄	Carbon Tetrachloride

REFERENCES

W/R	940	Evaluation draft tube treated products, vinyl
W/R	120A	" " alkyd
W/R	159A	" " plant ground material, alkyd & lacquer
# 14	Blkg on lots	2220-2222 incl.