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NEWARK, NEW JERSEY

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NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

RT-533-D. SEMI-WORKS AND PLANT DEVELOPMENT
OF DIRECT LAKING FORMULA.

Period Covered: April 1945 to April 1946.

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NEWARK PLANT

PIGMENT COLOR RESEARCH REPORT

Final Report

Title: RT-533-B. SEMI-WORKS AND PLANT DEVELOPMENT OF
DIRECT LAKING FORMULA.

Period Covered: April 1945 to April 1946.

SUBMITTED BY: O.J.C. Klein

DATE SUBMITTED: 9/12/46

APPROVED BY: J. O. Morrison

DATE ISSUED: 11/5/46

J. O. Morrison
November 7, 1946

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INTRODUCTION

A direct-laking process for manufacture of the manganese toner of "Lithosol" Rgbine 3G was developed in the laboratory as K-2153. This report covers semi-works and plant development studies.

SUMMARY AND CONCLUSIONS

In the semi-works, four batches and a mix were made according to K-2153. The first of these, lot 8104 was set aside for sampling material after alkyd tests showed it to be a reasonable match for the existing RT-533-D standard (lot 7329, which had been prepared by a process using purchased dye).

Thirty plant batches were then manufactured with only slight variations from the K-2153 formula. The status of the color at the end of the period covered by this report was as given below:

(a) A plant formula, K-2287, had been written, with processing data sheet and notes.

(b) A mix of four plant batches, lot 8606, had been set up as standard on January 30, 1946. It compared as follows versus lot 8104, based on alkyd grinds:

<u>Masstone</u>	<u>Strength</u>	<u>Tint</u>
s. lt.	equal	vs yellow

(c) The plant assumed supervision of RT-533-D, K-2287, on April 3, 1946.

The history of the direct laking study shows laboratory performance to have been quite inconsistent. This is also true of plant behavior. Indications are that the variables developed in the laboratory effect similar action in the plant.

Supervision of plant manufacture of this color was returned to the Semi-Works on a "Risk List" basis on June 11, 1946.

EXPERIMENTAL DETAILS

All the semi-works batches were made according to K-2153, with no changes except to add the PCAMBA to caustic soda.

Plant batches were also made according to K-2153, but at 0.9 mol to fit available equipment. Variations were made in the amount of caustic soda used to dissolve the BON, in order to control the pH after coupling to that specified in K-2153.

No formal variable study was run, and the available results were confused by inadequacy of the alkyd test which was used for evaluation. No true evaluation was obtained for most of the early batches.

The plant formula K-2287 incorporates only a few changes from K2153, namely, the cut in batch size, the increase in caustic soda for coupling, and the adoption of plant manipulations.

Details of all the batches can be found in DSN-46-47.

REFERENCES

Formula RT-533-D, K-2287, and notes.

KN-45-39.

TF-132-5 (Rubout method)

TF-336-2 (Alkyd grind method)

Development Section Notebook - 46-47.

GLOSSARY

RT-533-D: A Manganese toner of a diazo Para chlor aniline meta sulfonic acid - Beta hydroxy naphthoic acid coupling.

PCAMSA: Para chlor aniline meta sulfonic acid.

BON : Beta hydroxy naphthoic acid.