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NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

RT-530-D. PLANT DEVELOPMENT OF SOFT-TEXTURE
NON-BLEEDING "NBS" MAROON.

Period Covered: August 1945 to March 1946.

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Final Report

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NON-BLEEDING "NBS" MAROON.

Period Covered: August 1945 to March 1946.

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INTRODUCTION

RT-530-D, a soft-textured non-bleeding RT-436-D type of pigment was developed in the semi-works in 1943, but no plant batches were made. The soft texture was achieved in the laboratory by the addition of 10% "Nusope #50" to finished RT-153-P slurry, or of 5% "Nusope" #50" to washed press-cake. Only press-cake treatment was tried in the semi-works. The first Semi-Works trial batch was coded RT-530-D, and lot 4646 set up as standard. Work was discontinued due to war conditions.

Work was resumed in August 1945, at which time semi-works batches were made substituting ammonium naphthenate for "Nusope #50", which had become unavailable. Ammonium naphthenate proved to be an acceptable substitute for "Nusope #50" in press-cake treatment, so slurry treatments were made of plant material brought to the semi-works. A 10% slurry treatment was about the equivalent of a 5% press-cake treatment. Concurrent laboratory study indicated satisfactory results to be obtained by precipitating a 5% naphthenic acid treatment with magnesium sulfate.

At the end of the substitution experiments, plant production resumed. This report describes the plant development of RT-530-D from September 1945, to March 1946, of which time a plant formula and notes were written, and a standard lot set up.

SUMMARY AND CONCLUSIONS

The status of RT-530-D at the end of the period covered in this report is as given below:

1. Standard formula, K-2286 was written for plant manufacture, providing for the precipitation of 5% magnesium naphthenate in the slurry before pressing.

2. Lot 27909 has been set up as standard. Gradings of lot 27909 ball-mill ground in lacquer are as follows:

- (a) vs lot 25632 (plant press-cake treated with NH_4Nx);
full shade, vs dark; strength, weak; tint, blue.
- (b) vs lot 8380 (semi-works press-cake treated with NH_4Nx)
full shade, s dark; strength, weak; tint, blue.

Faint laboratory tests showed the magnesium naphthenate treatment to produce marked improvement over ammonium naphthenate or "Nusope" treatment, in roller-mill plasticizer test.

No variable study was made, but the formula notes may be consulted for the effects of variables on similar colors.

Greater depth in RT-530-D can be attained by the addition of Pigment Green B pulp to the RT-530-D pulp before pressing. This was tried in the laboratory and semi-works (KN-46-36) and is mentioned here as a possible means of getting depth of masstone if necessary.

EXPERIMENTAL DETAILS

Plant production began shortly after the semi-works experiments on the substitution of ammonium naphthenate for "Nusope".

Five batches were made by treating press-cake in the Abbe-Lenart mixer with ammonium naphthenate.

Following successful treatment of slurry in the semi-works, the next plant series was treated in the vat with ammonium naphthenate precipitated with magnesium sulfate.

Details of the batches may be found in Development Section Notebook 46-41.

REFERENCES:

- KN-42-209 (Semi-work development in 1941)
- DSN-45-1 (Laboratory and semi-works study of naphthenate treatment)
- DSN-46-41 (Details on batches covered in this report).

GLOSSARY

- RT-530-D: Meta nitro para toluidine-"Naphthanil" BS coupling of the non-bleeding type containing approximately 5% Magnesium naphthenate.
- RT-436-D: Meta nitro para toluidine-"Naphthanil" BS coupling of the bleeding type containing about 0.2% Pigment Green B.
- RT-153-P: Meta nitro para toluidine-"Naphthanil" BS coupling of the non-bleeding type.
- "Naphthanil" BS: Para nitranilide of Beta hydroxy naphthoic acid.
- Nusope #50: Sodium naphthenate.