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NEWARK PLANT

PIGMENT COLOR RESEARCH REPORT

Final Report

CPC LAKES FOR VINYL, BP-237-D and BL-276-D
PLANT DEVELOPMENT AND STANDARDIZATION

JULY - DECEMBER, 1947.

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NEWARK PLANT

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Final Report

CPC LAKES FOR VINYL, BP-237-D and BL-276-D

PLANT DEVELOPMENT AND STANDARDIZATION

JULY - DECEMBER, 1947.

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SUBMITTED BY: E. J. HESS E. J. Hess DATE SUBMITTED: 7-7-48

APPROVED BY: J. O. MORRISON J. O. Morrison August 23, 1948 DATE ISSUED: 10/6/48

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INTRODUCTION:

BP-237-D had been obsoleted as a linoleum color in September, 1946, with the advent of BP-263-D which gave improved dispersion. However, the failure of BP-263-D to give satisfactory performance in vinyl plastic made it necessary to return to the manufacture of a BP-237-D type product for vinyl use.

SUMMARY & CONCLUSIONS:

In order to meet a specified cost figure it was first decided to set up the new CPC lake for vinyl at the same toner content as BP-263-D or about 10% lower in CPC content than BP-237-D (17.5% instead of 19.1% CPC).

Plant manufacture of this modified BP-237-D, now designated BL-276-D, ground out equal in strength to the BP-237-D standard, lot 40008. A blend of this material adjusted to strength with Whiting, lot 82176, was proposed as a standard for BL-276-D and gave satisfactory results by vinyl test.

Meanwhile, however, the Sales Division had reconsidered their decision to set up a weak product and requested that material equal to BP-237-D be made.

As the BP-237-D standard, lot 40008, had been consumed, a proposed replacement standard, lot 82271, was blended from the BL-276-D manufacture (no additional extender added). Lot 82271 was set up as the BP-237-D standard in November, 1947.

The new BP-237-D standard formula, K-2505, based on the revised process differed from the previous procedure, K-1901, only in the doubling of the batch size. It was decided to retain the original 19.1% CPC in the formula until more experience was gained with the lower toner amount. K-2505 was later designated BP-237-D(A).

Subsequent experience with the "A" process showed that production was averaging about 10% stronger than standard and a new formula, BP-237-D(B), was issued adjusting the CPC content to about 17.5% (the amount used in the standard, lot 82271).

The Production Division assumed supervision of BP-237-D manufacture in December, 1947.

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DISCUSSION OF RESULTS:

Because of the failure of BP-263-D to give satisfactory dispersion in vinyl plastic, the Sales Division requested that a product similar to BP-237-D be included in the standard line because of the better performance of the "Ramapo" type lake in vinyl. BP-237-D had been replaced in September, 1946, for linoleum composition by BP-263-D which showed improved dispersion for this use. At the same time, however, Sales wished to take advantage of the lower cost of the BP-263-D type product which showed a cost advantage in the order of ten cents a pound over BP-237-D, mainly due to a decrease in toner content of approximately 10% (17.5% CPC instead of 19.1%).

Accordingly, a series of three batches were made in July, 1947, using a formula which differed as follows from most recent BP-237-D formula, K-1901:

1. The batch size was doubled.

2. The "Monastral" Blue BK standardized 10% paste was decreased 10% from 5000 pounds to 4500 pounds.

All three batches ground out about 5% strong versus the BP-237-D standard, lot 40008, although the formula used has been designed to give a 10% weaker product. A blend of this material adjusted downward in strength by dry mixing with whiting to give the desired 10% weak product versus the BP-237-D standard, lot 40008, was submitted for evaluation as the proposed BL-276-D standard, lot 82176. Because of the small amount of experience with the formula, it was decided to issue the BL-276-D standard, K-2500, at the 17.5% CPC level (although the standard, lot 82176, contained only 14.9% CPC).

Meanwhile, the Sales Division decided to set up a product equal to BP-237-D in strength for vinyl and BL-276-D was obsoleted in July, 1947, before samples had been submitted or sales made.

As the BP-237-D standard, lot 40008, had been consumed, a replacement standard was needed. A blend of the three BL-276-D batches was found to give a close match to lot 40008 and this mix, lot 82271, was set up as the BP-237-D standard in November, 1947.

Comparisons of the new versus the old standard by varnish dryer rubout and in vinyl follows:

Varnish Dryer Rubout

Lot 82271 vs lot 40008: dark, green, intense - OK - 5% strong-trace intense

Vinyl Test (pre-dispersed)

Lot 82271 vs lot 40008: trace dark - 5% strong - vs green.

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As in the case of BL-276-D, although the standard lot contained only 17.5% CPC, the new BP-237-D standard formula K-2505 (subsequently the "A" process), was issued at a CPC content of 19.1% differing from the previous standard formula, K-1901, only in the fact that the batch size was doubled.

Manufacture on the K-2505 formula during November and December, 1947, averaged 10% strong versus lot 82271, and on this basis it was decided to reformulate at the 17.5% CPC content. The new formula, BP-237-D(B) differs from K-2505 (the "A" process) in that the whiting extender amount is increased by 12%.

Operating accepted supervision of manufacture of BP-237-D in December, 1947.

PATENT SITUATION:

There is no patent restriction in the manufacture of BP-237-D. It is not believed that this study has resulted in any patentable developments.

GLOSSARY:

BP-237-D:	Originally an approximate 19% extension of CPC on barium rosinate (6%) and whiting 75%); now consists of 17.5% CPC, 5.5% barium rosinate and 77% whiting.
BL-276-D:	An extended CPC similar to the present BP-232-D and now obsolete.
BP-263-D:	An approximate 17.5% extension of CPC on Resinous oil (5%) and whiting 77.5%).
CPC	Copper phthalocyanine.
"Ramapo"	A treatment for improved texture which consists of boiling the pigment with an ammonium rosinate emulsion and striking with barium chloride.

EXPERIMENTAL DETAILS: DSN-48-11.

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