JUL 27 1951

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NEWARK, NEW JERSEY
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J.H.C.

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CONFIDENTIAL

DR. J. H. COOPER(3)

A-IIC-261

AJS - 65%
OJCK- 10%

AQUEOUS MILLING CPC

Tests of the cobalt phthalocyanine finished by aqueous milling have been completed and will be reported elsewhere. In general, it can be said that CoPC responded fairly well to the aqueous milling procedure.

An attempt to finish the semi-works batch of CPC green milled with 5% Blancol by simple acid extraction (as carried out successfully in the lab.) resulted in very poor filtration. The material was finally reslurried and flocculated with diphenyl guanidine sulfate after which filtration was fairly easy. The paste has not yet been tested.

The properties of the high strength Green WD slurry after flocculation with DPG have been further investigated and it seems to have possibilities as a flushed color. This will be given some further attention.

When a substantial sample of Blue LB ground with 5% Blancol was diluted to 22% solids some hard settling occurred which was prevented by the addition of $BaCl_2$ without loss in strength. These properties of such pastes require more study.

A series was run with a variation in Blancol from 1% to 20% and followed with spectrophotometric curves on samples at various times. It is apparent that the degree of particle dispersion improves with higher amounts of Blancol. With 5% or less, the maximum dispersion is obtained in a very short time (15 min. or less). With 10% Blancol, the particle size reduction continues up to about 40 min. and then appears to reverse. With 15% and 20% Blancol, the particle size reduction continues still further and shows little tendency to reverse. The brushout strength with 5% Blancol is very close to that of BT-321-P. With 10% Blancol it is markedly greater. These represent products filtered without D.P.G. With 15% and 20% Blancol and flocculated with DPG, the strength is still good in spite of the agent present and the intensity is very marked.

This was followed by a study wherein the Blancol was added in 5% increments at about the points where the particle size reduction started to reverse. This gave the startling result of very sudden and large decreases in particle size immediately after the increment of agent was added. However, a continuation of the study leads to the conclusion that the ultimate end is not materially affected by the way in which the agent is added, provided the desired amount is there in the end.

The sudden drop in particle size suggests that the factor of dispersion is playing a major role and may even be more important than actual crystal fracture. On the other hand, the really high strength products obviously require relatively large amounts of agent and it seems that the next step should be to determine the applicability of such products containing DPG to the various proposed end uses.

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