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Philadelphia Plant
March 26, 1952.

MEMORANDUM REPORT NO. M-444

1067-761 ZINC CHROMATE ALKYD TYPE PRIMER

Introduction

Considerable difficulty has been experienced by the Philadelphia Plant with the subject primer. It appears that the long grinding cycles of the extender base cause a definite pick-up in solids due to pebble wear. This makes it quite difficult to meet the specifications for solids, gallon weight, and viscosity as well as the specifications for chemical analysis.

Since this product contains a tough, hard extender which requires long grinding (30,000 cycles) to break the pigment particles, a grind like that used in grinding barytes for refrigerator primers might be a possible solution to this extensive pebble wear.

Summary and Conclusion

A composite mill base has been ground in the laboratory for 21 hours (approximately 16,000-20,000 plant cycles) with satisfactory fineness. However, other tests required by this product have not been made.

Action Proposed

It is suggested that the Maintenance Sales Development Group evaluate this experimental 1067-761 to determine whether it is a satisfactory product. If it is satisfactory, we will arrange to run an experimental plant batch to determine the extent of pebble wear, and to determine whether improvements have been made in solids, gallon weight, and viscosity relationships.

Experimental Details

The formula for experimental mill base is as follows:

N35446

P-32-U-23535

RKT-351	0.3						Gallon
H-287	20.0	Grind 8,000 cycles					Weight
H-152	2.2						
G-398	.6						
W-27	10.4		I	I =60/62.4		8.51#/gal.	
RKT-351	3.0			II =60/74.6		14.27 "	
W-609	25.9			III=60/89		12.53 "	
W-3	7.2	Grind 8,000 Cycles	II	IV =60/90		12.41 "	
W-19	9.8						
W-422	2.1						
RKT-351	17.5	Grind 1 hour, drain	III				
H-287	1.0	Add spin 15 min., drain	IV				

Cu.ft. factor = 50.25

100.0

The first portion was ground ten hours in the laboratory, which is equivalent to 6 to 8 thousand cycles in the plant. The second portion was ground the same number of hours in the laboratory. The third portion was given an hour's spin to insure complete mixing of the resin with the grind portion of the base. This made a total of 21 hours grinding or approximately 16,000 cycles in the plant. This latter figure is an approximation only and plant trial will be necessary to determine the exact number of cycles required for this product.

PHILADELPHIA PLANT LABORATORY

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