

CC: O. H. Bullitt, Wilm. Exp. Sta.
R. B. Davis, Lab.
Patent Section, Lab.
Marshall Lab. Library (5)
J. E. Oyler, Lab.
File: 1810

"INDEXED"

Se21'53

Marshall Laboratory
August 25, 1953

MEMORANDUM REPORT #M-628

PREPARED BY: GEORGE J. HOCKEL

REFERENCE COPY

NOT FOR CIRCULATION

1953 INSPECTION OF HOUSE TESTS

INTRODUCTION:

The houses that were inspected this year included only those tests which were of active interest at the present time. Eighty-eight houses were inspected throughout the seven general testing areas which included: Philadelphia, Boston, Atlanta, Hialeah-Miami, Houston-Canyon, Denver and Flint.

The test houses inspected involved the following experimental finishing systems and test years:

1. Maleic Modified Oils (Linseed & Soya) 1949, 50, 51
2. Soya P.E. Oil, 1948, 1949
3. Calcium Carbonate Extender 1948
4. Low Lead House Primer 1948, 1949
5. High Hiding White 1949, 1950
6. Alkyd Primer 1949

RESULTS & CONCLUSIONS:

(1) Maleic Modified Oils

1949: The control for house tests in 1949 was #40 Outside White (301-864) containing 20% Soya Oil replacing linseed oil and pigmented with Leaded Zinc Oxide. The test paints were lead-free using either ADM or Spencer Kellogg produced maleic treated soya oil.

The inspections of seven house tests showed that neither Ardol (ADM) nor Drisoy (SK) causes any significant improvement, statistical or practical, in dirt collection or film integrity over the control. The actual inspections indicated equality between both experimental paints and control.

1950: Town and Country White which utilizes a blend of two viscosities of Ardol was tested this year. Two control paints were used, Prewar #40 (301-756) and Chivo House Paint (302-785). After 2-1/2 years' exposure, T&C White was statistically equal in cleanliness, which included both dirt and mildew, but when graded separately

for mildew, the T&C White showed improvement over the Chivo House Paint. This average difference of 3.0 ± 1.1 units occurred on two houses in Florida. Film integrity was $1.4 \pm .9$ units better than Chivo House Paint on these same two houses. The remaining houses have not shown any decided failure.

Town and Country White did not show any improvement over Prewar #40 and gave an average difference in dirt collection of 0.1 ± 0.21 units and for film integrity an average difference of $0.05 \pm .23$ units. Both paints collected dirt and mildew equally and film failure occurred equally on both.

1951: Two house paints were tested this year, a linseed maleic (P-301-U-4086) and a soya maleic (P-301-U-4084) with #40 Outside White (301-885) as the control paint. These paints were pigmented the same as 301-885, but at 30% PV instead of 33%. The three finishes were on nine houses ranging in age from 12 to 18 months.

The linseed maleic paint (P-301-U-4086) was rated from 6 to 10 for dirt collection, but the average difference was 0.13 ± 0.25 units, reflecting the equality of experimental and control. In Florida they mildewed equally but sufficient film failure had not occurred in order to give a real difference in durability.

The soya maleic paint (P-301-U-4084) showed practically the same degrees of failure for dirt collection and film integrity giving average differences of 0.11 ± 0.26 units and 0.02 ± 0.05 units respectively.

(2) Soya P.E. Oil

1948: Three houses were active from the 1948 test series, with Prewar #40 as control. The test paint consisted of straight soya P.E. oil, which contained no glycerol. The soya P.E. Paint was equal to the control in cleanliness on all houses, but did not indicate improvement since the average difference was 0.07 ± 0.3 . There was an average difference of 1.9 ± 2.3 units in film integrity, including moisture failure, in favor of Soya P.E. oil over Prewar #40. There was a real difference on three out of four tests. On the fourth test failure was due to moisture with no difference between tests. This one determination reduced the probability below the 95% level, but there appears to be a real difference between these two paints in durability.

1949: Another Soya P.E. Paint was tested using an improved vehicle (colorwise) with the same pigmentation. The average difference found on 15 tests was 0.02 ± 0.11 units in cleanliness, indicating equality of both paints. Ten houses were graded for film integrity giving an average difference of 0.11 ± 0.24 units. Failure did not occur on all houses but where it did occur, both paints failed equally.

(3) Calcium Carbonate Extender

Calcium carbonate was tested in 1948 in both outside white and cream tint at 50% of extender concentration and the results obtained showed no difference statistically in dirt collection or film

integrity compared with Prewar #40 and #753 Light Cream Tint. The control paint was 28% FV while the experimental paint was 35% FV. These results are based on three houses which were four and a half years old.

One house test of the same age using all calcium carbonate as extender in cream tint showed a marked improvement in cleanliness (+2.7) compared with Prewar #753 Cream.

(4) Low Lead Primer

Two primers containing half the usual amount of lead were tested on houses in 1949 with house paint primer containing the normal amount of lead pigment. The first low lead primer (P-347-R-14714) was made by reducing the lead pigment by 50% and replacing it with extender, while the second primer (P-347-R-40605) was made by replacing all the lead with lead silicate, also known as "45x" pigment.

From 5 test houses inspected, evidence taken from four tests indicates that both low lead primers are equal to house paint primer (347-817) in durability. The fifth house lacked control area, therefore, we could not evaluate the test properly.

(5) High Hiding White

1949: High Hiding White using 35% soya oil replacing linseed oil was tested on seven houses with two coats versus 301-864 Outside White as the control. The tests are now 3-1/2 years old and show cleanliness equal to the control on all tests. On those tests which involved mildew conditions, there were no differences. The differences encountered in film integrity were such that they did not become noticeable statistically (0.24 ± 1.0). The customary film failure which could be expected due to one coat white did not occur since two coats were applied.

1950: A similar high hiding O.W. (301-754) containing all linseed oil was tested on 10 houses using one coat versus two coats 301-885. These were barely 1 year old and therefore showed nothing in respect to film integrity. However, there were some small differences (0.07 ± 0.17 units) on the improvement side of cleanliness, but not large enough to show statistically.

(6) Alkyd Primer

1949: An alkyd primer using straight 55% linseed oil alkyd as vehicle, at 35% P. V. was tested on three houses with house paint primer (347-817) as control and five houses with (301-864) outside white self-primed as control. In both experiments, the results did

not show any statistical difference, although failure occurred on all houses in very nearly equal severity. Using house paint primer as control, the results on three houses was 0.5 ± 1.12 , while using self-primed outside white as the control on five houses, the difference was 0.026 ± 0.25 units.

DATA:

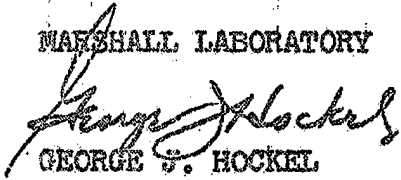
The tables attached hereto were required in calculating the statistical information being reported in this memo. They are a compilation of information taken from each field test house and are being recorded here to eliminate any possibility of having to re-assemble this information at some future date.

In the attached tables are found a number of abbreviations whose explanations are given here:

CH = Checking
CR = Cracking
F = Flaking
P = Peeling
B = Blistering
M = Mildew

The numerical ratings are from 10, which is perfect or no failure to 0, which is complete failure.

MARSHALL LABORATORY


GEORGE S. HOCKEL

GJH:re
8/19/53

TABLE I-A MALEIC MODIFIED OILS IN OUTSIDE WHITE
1949 HOUSE TEST SERIES

P-301-R-40627 (301-864) 2 cts.										P-301-R-40611 (Driscov) 2 cts.										P-301-R-40613 (Ardol) 2 cts.									
#	Side	Dir	Integ.	Remarks	Film	Dir	Integ.	Remarks	Film	Dir	Integ.	Remarks	Film	Dir	Integ.	Remarks	Film	Dir	Integ.	Remarks	Film	Dir	Integ.	Remarks	Film	Dir	Integ.	Remarks	Film
#1324	N	7	10		10	7	10	Sl. flaking one board	10	8	10		10	8	10		10	8	10		10	8	10		10	8	10		10
3-1/2 yrs.	S	10	9CR		9CR	10	9CR		9CR	10	9CR		9CR	10	9CR		9CR	10	9CR		9CR	10	9CR		9CR	10	9CR		9CR
Fla.	E	-	-	Repainted	-	-	-	Repainted	-	-	-	Repainted	-	-	-	Repainted	-	-	-	Repainted	-	-	-	Repainted	-	-	-	Repainted	-
	W	9	8F		8F	9	8F		8F	9	8F		8F	9	8F		8F	9	8F		8F	9	8F		8F	9	8F		8F
#1285	N	8	10		10	8	10	#6 Peeling around window	10	8	10		10	8	10		10	8	10		10	8	10		10	8	10		10
3-1/2 yrs.	S	9	8P		8P	9	8P		8P	9	8P		8P	9	8P		8P	9	8P		8P	9	8P		8P	9	8P		8P
Atlanta	E	-	-	#6 Peeling around window	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-
	W	9	10		10	9	10	Sl. flake on bottom board	10	9	10		10	9	10		10	9	10		10	9	10		10	9	10		10
#1282	N	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
Colo.	S	8	10		10	8	10	Cons. chalking	10	8	10		10	8	10		10	8	10		10	8	10		10	8	10		10
3-1/2 yrs.	E	7	10		10	7	10	Sl. chalking	10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
	W	-	-	Paint omitted	-	-	-		-	-	-		-	-	-		-	-	-		-	-		-	-	-	-		-
#1281	N	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
Colo.	S	8	10		10	8	10	Cons. chalking	10	8	10		10	8	10		10	8	10		10	8	10		10	8	10		10
3-1/2 yrs.	E	7	10		10	7	10	Sl. chalking	10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
	W	-	-	Paint omitted	-	-	-		-	-	-		-	-	-		-	-	-		-	-		-	-	-	-		-
#1289	N	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
Flint	S	8	10		10	8	10	Cons. chalking	10	8	10		10	8	10		10	8	10		10	8	10		10	8	10		10
3-1/2 yrs.	E	7	10		10	7	10	Heavy chalking	10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
	W	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-		-	-	-	-		-
#1306	N	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
Boston	S	10	10		10	10	10		10	10	10		10	10	10		10	10	10		10	10	10		10	10	10		10
3 yrs.	E	9	10		10	9	10		10	9	10		10	9	10		10	9	10		10	9	10		10	9	10		10
	W	8	-	#4 Flake (construction failure)	-	8	-		-	8	-		-	8	-		-	8	-		-	8	-		-	8	-		-
#1287	N	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10	7	10		10
Phila.	S	-	-		-	-	-		-	-	-		-	-	-		-	-	-		-	-		-	-	-	-		-
3-1/2 yrs.	E	6	10		10	6	10		10	6	10		10	6	10		10	6	10		10	6	10		10	6	10		10
	W	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-	-	-	Not comparable	-
				Not comparable				Not comparable				Not comparable				Not comparable				Not comparable				Not comparable				Not comparable	

TABLE I-B MALEIC MODIFIED OILS IN OUTSIDE WHITE
 1950 - HOUSE TEST SERIES - GROUP #14 - ALL TWO COATS
 1950 - HOUSE TEST SERIES - T & C White 302-794 (Argol)(R40676) Chivo House Pt. (302-785)(R40670)

Ft#	Prevar	#40	Side	Dirt	Film Integ.	Remarks	Film Integ.	Remarks	Film Integ.	Remarks	Film Integ.	Remarks
#1613 Canyon 2-1/2 yrs.			N	7	8.0CR		7	8CR	7	8CR		
			S	10	10		10	10	10	10		
			E	8.5	9CR		8.5	9CR	8.5	8P		
#1431 Boston 2-1/2 yrs.			W	8	9.5CR		8	8CR	8	7.0CR		Local
			N	8	10		8	10	8	10		
			S	9	10		10	10	9	10		
#1600 Phila. 3 yrs.			E	9	10		9	10	9	10		
			W	6	10		7	10	6	8P		Local
			N	9.5	10		9.5	10	9.5	10		
#1606 Atlanta 2-3/4 yrs.			S	9.5	10		9.5	10	9.5	10		
			E	9.5	10		9.5	10	9.5	10		
			W	7.5	10		8.5	10	8.5	10		
#1448 Fla. 2-3/4 yrs.			N	6	10		6	10	6	10		
			S	7	9CR	Paint Omitted	7	8CR&F	7	8CR&F		
			E	6	10		6	8CR&F	6	7CR&F		
#1484 Fla. 2-3/4 yrs.			W	8M	6F		8M	10	6M	10		
			N	8M	6F		8M	7F	6M	6F&CH		
			S	8M	8F	No test area	8M	8F	6M	6F		No test area
#1484 Fla. 2-3/4 yrs.			E	8M	8CR		9M	9CR	4M	7F		Repaint Stage
			W	10	4F	Repaint Stage	10	4F	10	2F		
				8M	8F&CR		8M	8F&CR	4M	4F		

TABLE I-C MALEIC MODIFIED OILS IN OUTSIDE WHITE
1951 SERIES HOUSE TESTS GROUP III - ALL TWO COATS

P-301-U-4084 (Soya Oil)				P-301-U-4086 (Linseed Oil)				P-301-U-4088 (301-885)			
Ft#	Side	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks	
#1732 Miami 1-1/4 yrs.	N	8M	10	Shaded area	8M	10	Shaded area	8M	10	Shaded area	
	S	10	10		10	10					
	E	10	10		10	10					
	W	8	10		10	10					
#1733 Miami 1-1/3 yrs.	N	7M*	10	Not comparable	4M**	10	Not comparable	7M*/4M**	10	*Control for 4084 **Control for 4086	
	S	9	10		9	7F&CR		9	7F&CR		
	E	8	10		8	9.5CR		8	9.5CR		
	W	8M	10		8M	9F		8M	9F		
#1734 Miami 1-1/4 yrs.	N	-	-	Not comparable	9M	10	Not comparable	9M	10	Local	
	S	9.5	10		9.5	10		9.5	10		
	E	9M	10		9M	10		9M	10		
	W	9M	10		9M	10		9M	10		
#1742 Atlanta 1-1/3 yrs.	N	-	-	Not comparable	-	-	Shaded area	-	-	Local	
	S	-	-		-	-		-	-		
	E	7	10		6	10		7	10		
	W	8	10		7	10		6	10		
#1759 Canyon 1 yr. 4 mos.	N	7	10	Flaking over door 8.5CR	8	10	Flaking over door 8.5CR	8	10	Local Peeling	
	S	10	10		10	10		10	10		
	E	9	9CR		9	8.5Cr		9	9CR		
	W	9	10		9	10		9	10		
#1746 Phila. 1 yr. 3 mos.	N	8	10	Not Comparable	8	10	Not Comparable	8	10	Local Peeling	
	S	-	-		-	-		-	-		
	E	9	10		9	10		9	10		
	W	8	8		8	10		8	10		
#1753 Phila. 1-1/2 yrs.	NE	7	-	Not comparable Local peeling	7	10	Local peeling	7	10	Local peeling	
	SE	9	2		9	2		9	10		
	SW	9	10		9	10		9	10		
	NW	7	10		7	10		7	10		
#1705 Colo. 1-1/2 yrs.	N	8	10	Local peeling	8	10	Local peeling	8	10	Local peeling	
	S	-	-		-	-		-	-		
	E	7	10		7	10		7	10		
	W	8	10		8	10		8	10		
#1706 Colo. 1-1/2 yrs.	N	9	10	Local peeling	9	10	Local peeling	9	10	Local peeling	
	S	-	-		-	-		-	-		
	E	8	10		8	10		8	10		
	W	8	10		8	10		8	10		

TABLE II-A SOYA P.E. OIL IN OUTSIDE WHITE
1948 SERIES HOUSE TEST

P301-F77879 (Frewar #40) 2 coats				P301-R14755 (Soya PE) 2 coats			
Run#	Side	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks
#1189 Print 4-1/2 yrs.	N	9.0	10		9.0	10	
	S	8.0	8. F		8.0	9.5CR	
	E	9.0	10		9.0	10	
	W	-	-	Repainted	-	-	Repainted
#1153 Phila. 4-1/2 yrs.	N	7.0	10		7.0	10	
	S	9.0	10		9.0	10	
	E	8.0	10		8.0	10	
	W	6.0	10		7.0	10	
#1200 Phila. 4-1/2 yrs.	N	9.5	6. B	Heavy chalking	9.5	6. B	Heavy chalking
	S	9.5	7. F	Heavy chalking	9.5	10	Heavy chalking
	E	9.5	7. P&F		9.5	10	
	W	-	-	No test area	-	-	No test area

TABLE II-B SOYA P.E. OIL IN OUTSIDE WHITE
1949 SERIES HOUSE TESTS - ALL TWO COAT SYSTEMS

P301-R40627 (301-864) 2 coats				P301-R40609 Soya PE over P67-R14736 Alkyd Primer				
FH#	Side	Film		Remarks	Dirt	Film		Remarks
		Dirt	Integ.			Dirt	Integ.	
#1327	N	8.0	8.0	SI flaking on roof rafter bottom board	8.0	8.0	8.0	SI flaking on roof rafter
Fla. 3-1/2 yrs.	S	10.	8.0CR		10	8.0CR	Bottom board only	
	E	8.5	10		8.5	10	Not comparable	
	W	8.0	9.5CR		8.0	10		
#1314 Atlanta 3-1/2 yrs.	N	6.0	8.0F	Localized	6.0	10	10	Not comparable
	S	7.0	10	Not comparable	7.0	10	10	
	E	-	-		-	-	-	
	W	7.0	8.0F		7.0	8.0F	8.0F	
#1291 Flint 3-1/2 yrs.	N	7.0	8.0B&P	Paints Mixed	6.5	8.0B&P	8.0B&P	
	S	7.5	7.0B&P		8.0	8.0F	8.0F	
	E	6.0	7.0B&P		6.0	8.0F	8.0F	
	W	-	-		-	-	-	
#1309 Canyon 3-1/3 yrs.	N	8.0	8.0F	Localized	8.0	8.0F	8.0F	Localized
	S	9.0	10		9.0	10	10	
	E	7.0	9.5CR		6.0	9.5CR	9.5CR	
	W	7.0	10		8.0	10	10	
#1284 Phila. 3-1/2 yrs.	N	8.0		#2 peeling under eaves #4 peeling gen. (due to leak)	7.0			#4 under Eves.; Local peeling
	S	9.0			9.0			#4 peeling gen. (due to leak)
	E	7.0			7.0			Localized
	W	7.0			7.0			#4 peeling (due to leak)
								Localized

TABLE II-C SOYA P.E. OIL IN OUTSIDE WHITE
1949 SERIES HOUSE TESTS

301-864 Film#	301-864 (R40627) #40	O.W. - 2 cts.	Film		Remarks	P301-R40609 (soya P.E.) 2 coats		Remarks
			Side	Dirt		Dirt	Film	
								Integ.
#1323 Fla. 3-1/4 yrs.			N	7M	10	7M	10	
			S	9M	10	9M	10	
			E	7M	10	7M	10	
			W	10	10	10	10	
#1329 Fla. 3-1/4 yrs.			N	9M	9F	9M	8F	Local
			S	10	8F	10	8F	
			E	10	8F	10	9CR	
			W	10	8F	10	8F	Local, SI yellow
#1322 Fla. 3-1/4 yrs.			N	6M	10	8M	10	
			S	-	-	-	-	No test
			E	8M	10	8M	10	
			W	10	10	10	10	
#1353 Atlanta 3-1/2 yrs.			N	9	8P	8	9.5CR	Local
			S	9	9CR&CH	9	9CR&CR	
			E	9	10	9	10	
			W	-	-	-	-	Under cover
#1331 Atlanta 3-1/2 yrs.			N	4	10	4	10	
			S	9	10	9	10	
			E	4	10	4	10	
			W	8(M)?	10	8(M)?	10	
#1280 Colo. 3-1/2 yrs.			N	7	10	7	10	SI chalk
			S	8	10	8	10	
			E	7.5	10	8	10	Cons chalk
			W	-	-	-	-	No test
#1279 Colo. 3-1/2 yrs.			N	8	10	8	9.OCR	SI chalk
			S	8	10	8	10	SI chalk
			E	-	-	-	-	No test
			W	-	-	-	-	No test

TABLE II-C CONT'D

Film	Side	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks
#1302 Boston 2 yrs.	N	7	10		7	10	
	S	8	10	Local Blistering	8	10	Local Blistering
	E	-	-	No test	-	-	No test
	W	4	10	Under Porch	4	10	Under porch
#1356 Boston 3 yrs.	N	4	4CR		4	4CR	
	S	4	4CR		5	4CR	
	E	-	-		-	-	
	W	4*	4CR	No test	4*	4CR	No test
	W	6**		Under Roof	6**		Under Roof
				**Lower area			**Lower area
#1332 3-1/2 yrs. Atlanta	N	9	8F&CR		9	8F	
	S	10	9F&CR		10	9F	
	E	10	7F		10	7F	
	W	10	7F		10	9F	
				Local			Local

TABLE III-A CALCIUM CARBONATE EXTENDER IN HOUSE PAINT LT. CREAM
1948 SERIES HOUSE TESTS - ALL TWO COAT SYSTEMS

1940 SERIES HOUSE TESTS - FULL TWO CURT SYSTEMS														
P301-R-14712 (301-801)					P301-R14705 (50% CaCO ₃)					P301-R14703 (100% CaCO ₃)				
FT#	Side	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks				
1132-A	N	6	10		6	10								
Color.	S	7	8P		7	8P								
4-1/2 yrs.	E	7.5	10		7.5	10								
	W	7	10		7	10								
1132-B	N	6	9.5CR		6	9.5CR								
Color.	S	8	9.0	Cons. fading	8	7.5CR								
4-1/2 yrs.	E	7.5	7CR		7.5	7. CR								
	W	7	10		7	10								
1182	N	6	10	Cons. fading				9	10	Sl. Fading				
Phila.	S	-	-	No test				-	-	No test				
4-1/2 yrs.	E	6	10	8M				9	10	8M				
	W	7	10	6M Cons. fading				9	10	No fading				

TABLE III-B CALCIUM CARBONATE EXTENDER IN #40 OUTSIDE WHITE

P301-277879 (Prewar #40) 2 cts.

P301-R14707 (50% CaCO₃) 2 cts.

Film	Side		Remarks		Remarks	
	Dirt	Integ.	Dirt	Integ.	Dirt	Integ.
1173	-	-	-	-	9CR	Cons. chalk
Colo.	N	10	8	10	10	SI chalk
4-1/2 yrs.	S	8F	7.5	8F	8F	SI chalk
	E	10	8	10	10	SI chalk
	W					SI chalk

TABLE IV-A LOW LEAD HOUSE PRIMER
1948 HOUSE TEST SERIES-3COAT SYSTEM

301-864 (self-primed) P347-RL4714 347-817
(House Pt. Primer)

Pr#	Side	Film.		Remarks	Film		Remarks	Film		Remarks
		Integ.	Integ.		Integ.	Integ.		Integ.	Integ.	
#1173	N	-	-	No test	9F	9F		9F	9F	
Atlanta	S	-	-	Repainted	-	-	Repainted	-	-	Repainted
3-1/2 yrs.	E	-	-	Repainted	-	-	Repainted	-	-	Repainted
	W	10			9F	9F		9F	9F	

TABLE IV-B LOW LEAD HOUSE PRIMER
1949 HOUSE TEST SERIES - THREE COAT SERIES
P347-R-14714 (Low Pb)

P347-R40605 (45x Pigment)

347-817 (House Paint Primer)

FT#	Side	Film Integrity	Remarks	Film Integrity	Remarks	Film Integrity	Remarks
#1335 Atlanta 3-1/2 yrs.	N	10		10			No test
	S	4	Flaking	8	Flaking	-	No test
	E	9	Flaking (Bad Nailhead Rusting)	9	Blistering Locally, bad nailhead	-	No test
#1340 Atlanta 3-1/2 yrs.	W	6	Flaking	6	Flaking & bad nailhead rusting	-	No test
	N	10		9F		9F	
	S	7F		8F		7F	
#1286 Atlanta 3-1/2 yrs.	E	7F		9F	Not comparable	7F	
	W	8F		8F		8F	
#1286 Atlanta 3-1/2 yrs.	N	9F	Repainted	10		9F	Repainted
	S	-	Repainted	-		-	Repainted
	E	9F		9F	Repainted	9F	
#1359 Canyon 3-1/2 yrs.	W	-	Repainted	-		-	Repainted
	N	7CR	Local	8.5CR	Local	8CR	Local
	S	7F	Local	7F	Local	7F	Local
	E	-	No test	-	No test	-	No test
	W	8.5 CR	Local	-	No test	9.0CR	Local

TABLE V-A HIGH-HIDING WHITE HOUSE PAINT
1949 SERIES HOUSE TESTS - 2 COAT SYSTEM
(R40527) 301-864 O.W. 2 cts. (R40632) 301-754 H-Hiding White 2 cts.

Pvt. #	Side	Dirt	Film		Remarks	Film		Remarks
			Integ.	Integ.		Dirt	Integ.	
#1316 3-1/2 yrs. Fla.	N	-	-	-	New construction	-	-	New construction
	S	10	10	10	Cons. yellowing	10	10	Cons. yellowing
	E	8M	10	10	SI	8M	10	SI
	W	7M	9CR	10	SI	7M	10	SI
#1318 Fla. 3 yrs.	N	8M	10	10	No test	8M	10	No test
	S	-	-	-	Under porch	-	-	V.s. yellowing
	E	8M	10	10	V.s. yellowing	9M	10	Cons.
	W	8M	4F	4F		9	8F	
#1310 Atlanta 3-1/2 yrs.	N	6M	10	10		6M	10	
	S	9M	10	10		9M	10	
	E	5M	10	10		5M	10	
	W	9	-	-	Not comparable	9	-	Not comparable
#1277 Colo. 3-1/2 yrs.	N	8	10	10	SI. chalk	8	10	SI. chalk
	S	7.0	10	10	Not comparable	7	10	Not comparable
	E	-	-	-	No test	-	-	No test
	W	-	-	-		-	-	
#1298 Flint 3-1/2 yrs.	N	7	10	10	Cons. chalk	7	10	Cons. chalk
	S	9	8B	7B		9	7B	
	E	9	10	10		9	10	
	W	9	10	10	Cons. chalk	9	10	Cons. chalk
#1299 Flint 3-1/2 yrs.	N	9	6	8	Cons. chalk	9	8	Cons. chalk
	S	9	6F	6F	Heavy chalk	9	6F	Heavy chalk
	E	9	6F	7F		9	7F	
	W	9	6F	6F	Heavy chalk	9	6F	Heavy chalk
#1332 Atlanta 3-1/2 yrs.	N	9	8F&CR	8F		9	8F	
	S	10	9F&CR	9F		10	9F	
	E	10	7F	7F		10	7F	
	W	10	7F	7F	Local	10	7F	Local

TABLE V-B HIGH-HIDING WHITE HOUSE PAINT
1951 SERIES HOUSE TESTS- 2 CTS. VS 1 CT.
P301-U-4088 (301-885) 2 coats
P301-U-4089 (301-754) 1 coat

Spec	Side	Dirt	Film Integ.	Remarks	Dirt	Film Integ.	Remarks
#1741 1-1/3 yrs. Atlanta	N S E W	6 7 8 7	10 10 10 10		6 7 9 6	10 10 10 10	
#1744 Atlanta 1-1/3 yrs.	N S E W	6 - 8 6	10 - 10 10	Not comparable	6 - 8 7	10 - 10 10	Not comparable 8CR Local
#1729 Miami 1-1/4 yrs.	N S E W	9 10 10 -	10 10 10 -		9 10 10 -	10 10 10 -	
#1731 Hialeah 1 yr.	N S E W	8M 9 10 9M	9CR 10 10 7F		8M 9 10 9M	9CR 10 10 7F	
#1758 Canyon 1 yr.	N S E W	6 9 - 8	10 10 - 10	No test	8 9 - 7	10 10 - 10	No test
#1722 Canyon 1 yr.	N S E W	8 9 9 8	10 10 10 10		8 9 8 8	10 10 10 10	
#1745 Phila. 1 yr.	N S E W	7 9 7 8	10 6B 10 10	(Local)	7 9 9 8	10 6B 10 10	(Local)

TABLE V-B CONT'D

Ft#	Side		Film Integ.	Remarks	Dirt	Film		Remarks
	Dirt	Integ.				Integ.	Remarks	
#1738 Phila. 10 mos.	N	-	-	No test	-	-	No test	
	S	-	-	No test	-	-	No test	
	E	9	10	(Note: These two results may have been re- versed)	8	10		
	W	8	10		9	10		
#1704 Colo. 1-1/2 yrs.	N	8	10	No test	8	10		
	S	8	10		7	10		
	E	8	10		8	10		
	W	-	-		-	-	No test	
#1703 Colo. 1-1/2 yrs.	N	7	10		7	10		
	S	7	10		7	10		
	E	8	10		9	10		
	W	8	10		8	10		

TABLE VI ALKYD PRIMER
 1949 SERIES HOUSE TESTS-PRIMER TEST
 P-67-R14736 - 1 ct. (alkyd primer) 347-817 - 1 ct. - (House Pt. Primer)

Env	Side	Film Integ.	Remarks	Film Integrity	Remarks
#1336 Atlanta 3-1/2 yrs.	N S E W	10 - 10 10	Repainted No test Repainted Repainted	10 - 10 10	Not comparable
#1370 Florida 3-1/4 yrs.	N S E W	10 7F 8F -6F		10 7F 8F 4F	
#1373 (house) Canyon 3 yrs.	N S E W	- - 9.5CR 10	Not comparable Not comparable	- - 9.5CR 8.0CR	Not comparable Not comparable