

# OFFICE MEMORANDUM



MICHIGAN  
DEPARTMENT OF STATE HIGHWAYS

February 18, 1971

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To: Traffic Control Devices Committee:

H. H. Cooper, Chairman  
J. C. Brehler  
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F. G. Annis  
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From: A. J. Permoda

Subject: 1970 Performance Tests of "Fast-Dry" White Traffic Paints Plus Comparative Paints. Research Project 47 G-36(23a). Research Report No. R-760.

Traffic Field Services secured a test quantity of "Fast-Dry" traffic paints from several producers for subject tests in accordance with the requirements of applicable Department specifications dated 1-22-69.

On June 18, 1970, Traffic Field Services applied the test paints across all four lanes of divided M 78, some 10 miles East of East Lansing, at the Colby Lake Rd intersection. The intersection was used to provide maneuvering room for the standard roadway striper, used for application. A prior attempt was made to utilize a preferred non-intersection area with a median cross-over, but that proved inadequate with regard to maneuvering room for the large striper. The test area was chosen, particularly, because it had two lanes of concrete and two lanes of blacktop roadway.

Subsequently, on June 25, 1970, comparative test lines of the "Instant-Set" were applied by Traffic Field Services while three regular-dry paints plus two prefabricated tapes were applied by the Research Laboratory. The test area is shown in Figure 1, with photo taken June 29, 1970. Subsequently, on July 21, 1970, Traffic Field Services applied two additional lines of "Instant-Set" and a competitive product, "Cataquik."

Inspections of the test lines were made by members of the standard rating team a short time after application, and at monthly intervals thereafter. The Initial Ratings (Table 1) are averaged for stripes on both the concrete and bituminous roadways. However, as the test exposures progressed, the wear on the concrete applied stripes became erratic due to acceleration of traffic and gravel influx from the road leading from Colby Lake and consequently those ratings were taken for information only, but not included in the later ratings given in Table 1. The 5-1/2 month ratings are listed, as they were presented to guide purchases for the Department's 1971 requirements. The ratings were continued for an additional month, however, and the final durability ratings are listed also, with their condition shown in photographs of Figure 2. The test recorded drying time of the paints shows that none actually met the specification requirement of 1 minute, maximum.

## Conclusions and Recommendations

The report test result ratings were presented to act as a basis for 1971 purchases by the Department of "Fast-Dry" paints. The condition of the tests precluded attaining a desirable level of accuracy and discrimination in the performance of the paints.

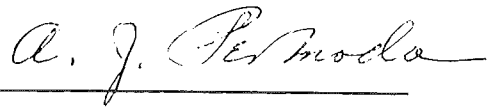
This matter should be corrected in future tests by selecting a more suitable roadway area and application equipment. The latter should be smaller equipment having good control of stripe thickness and beading ratio.

The tests verified previous experience that the "Fast-Dry" paints are outperformed by the regular-dry types.

The "Instant-Set" and competitive product gave poorer performance in both night visibility and durability than when the former was tested previously as producer applied striping; as presented in Research Report No. R-576.

The preformed tapes gave the best performance of the tested striping.

TESTING AND RESEARCH DIVISION



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Supervising Engineer  
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Research Laboratory Section

AJP:sjt

cc: L. T. Oehler  
J. E. Hobrla

TABLE 1  
TEST PAINT RATINGS

Paint* Identification Number	Initial Ratings <sup>(1)</sup>			5-1/2 mo. Ratings			Final Rating Dur.	Drying Time, min.
	App.	Dur.	N. V.	App.	Dur.	N. V.		
00	9.0	10	2.0	2.5	2.5	1.5	0	1
0 Ins. Set	9.0	10	2.0	3.5	2.5	1.5	0	1
1 F. Dry	8.2	10	3.7	3.0	3.6	3.4	1.5	3 <sup>(2)</sup>
2 F. Dry	8.2	10	3.7	3.5	3.8	3.5	0.2	3 <sup>(2)</sup>
3 F. Dry	8.8	10	3.4	3.0	3.8	3.5	1.0	5 <sup>(2)</sup>
4 F. Dry	9.0	10	3.4	3.0	2.8	1.0	0	2 <sup>(2)</sup>
5 F. Dry	10.0	10	2.5	3.0	3.0	1.0	0.5	2 <sup>(2)</sup>
6 F. Dry	7.5	10	6.0	3.8	3.2	2.8	1.2	4 <sup>(2)</sup>
7 F. Dry	7.5	10	6.2	2.0	2.8	2.8	0.5	4 <sup>(2)</sup>
8 F. Dry	Accidentally not applied							
9 Ins. Set	8.0	9	2.2	3.0	2.5	1.5	0.8	1
10 Tape	10.0	10	9.6	6.0	5.0	2.0	4.5	---
11 Tape	10.0	10	9.6	6.0	5.5	2.5	5.0	---
1 R. Dry	7.5	10	7.3	5.5	5.5	5.0	3.5	27 <sup>(3)</sup>
2 R. Dry	8.5	10	8.0	6.5	7.0	6.0	3.5	25 <sup>(3)</sup>
3 R. Dry	9.0	10	7.0	7.0	6.5	6.0	3.0	11 <sup>(3)</sup>

\* Paint Identifications: 00 = Cataquik; 0 & 9 Ins. Set = Instant Set; 1 FD = Perry & Derrick; 2 FD = 160<sup>0</sup> Baltimore; 3 FD = Devoe; 4 FD = Glidden; 5 FD = 120<sup>0</sup> Baltimore; 6 FD = Wm. A. Smith; 7 FD = Prismo; 8 FD = Std. Detroit; 10 Tape = F-O-L; 11 Tape = 3M; 1 R. Dry = Devoe 1970 Acceptance White; 2 R. Dry = Baltimore 1969 Acceptance White; 3 R. Dry = Texas-type White (70 P-114).

- (1) Ratings: App. = Appearance; Dur. = Durability; N. V. = Night Visibility  
(2) Drying time: determined by auto tire (specification).  
(3) Drying time: determined by ASTM D 711 wheel.

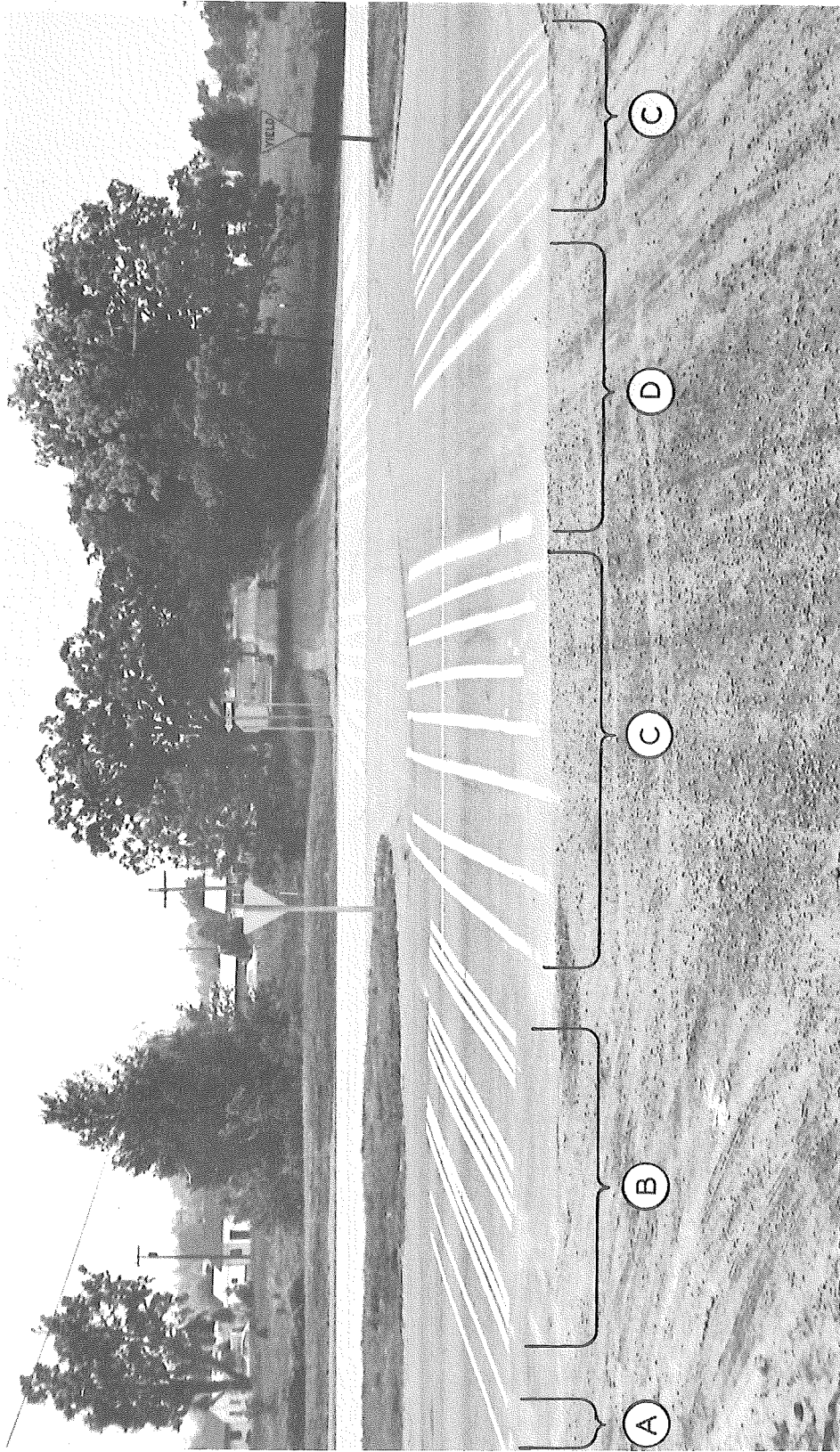
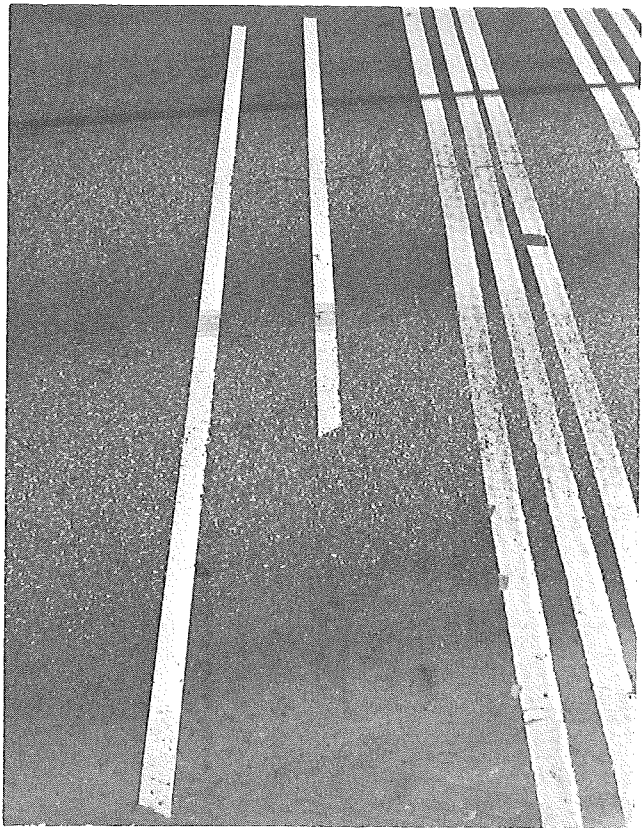
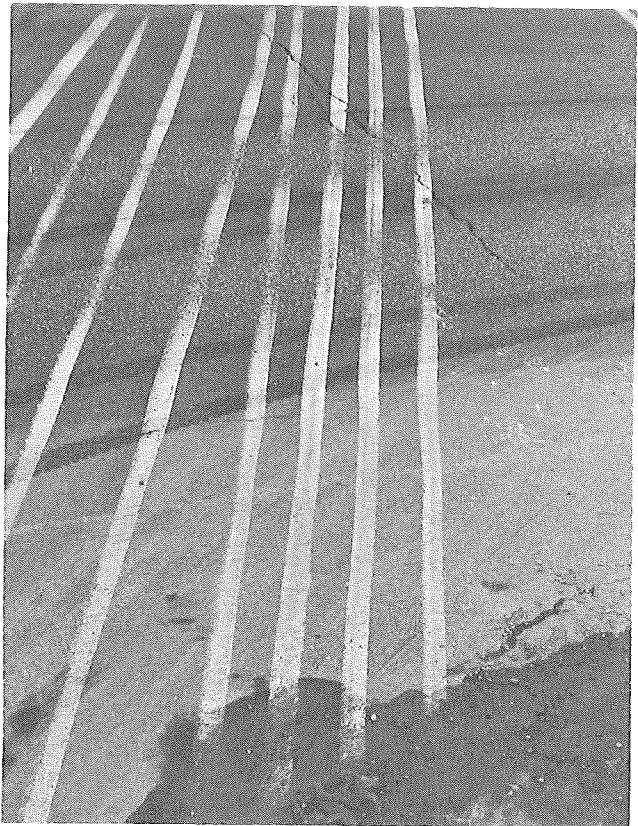


Figure 1. Test striping area showing: (A) tape, (B) regular dry paints, (C) 7 fast-dry paints (center and right), (D) "Instant Set." Two more "Instant Set" and "Cataquik" lines were applied after this photograph was taken. Foreground shows the black top area, with the concrete area in the background.



Two preformed tapes (left); short line vandalized shortly after application. Triplicate stripes of regular-dry paint (right) on bituminous area.



East group of fast-dry stripes on bituminous area, showing the 7 test paints plus wider Instant-Set (left).

Fast-dry test lines (background) are almost worn away on concrete of WB M 78, while regular-dry and tapes (foreground) are less affected.



Figure 2. Terminal condition of test lines after 6-1/2 months of service.