

MICHIGAN  
STATE HIGHWAY DEPARTMENT  
LANSING 13



CHARLES M. ZIEGLER  
STATE HIGHWAY COMMISSIONER

184

INTEROFFICE COMMUNICATION

November 10, 1952

TO: W. W. McLaughlin  
Testing and Research Engineer

SUBJECT: Results of Skidding Tests on Stone Sand Concrete Pavements,  
Projects 77-66, G1 and 71-24, G1  
Research Project 48 G-41 - Report 184

At your request we have completed skidding tests on the following stone sand concrete projects.

77-66, G1, on M-29 South of Marysville  
71-24, G1, on US-23A through Rogers City

Skidding tests were made on October 23 and 26, 1952, using a standard Chevrolet 2-door highway car from the pool. The weight of the car was 3450 pounds or 150 pounds heavier than the Pontiac car used in previous skidding tests. All skidding tests were made with the pavement in wet condition.

Marysville Project 77-66, G1 - 1964

Tests were made in the south-bound lane at three locations - Station 169+00, 152+00, and 73+00. Three skidding tests were made at each location. Each skidding test consisted of two runs, one each at the same location but in opposite directions to compensate for grade conditions. Results are as follows:

SKIDDING IN FEET

Station	Test 1		Test 2		Test 3		Coef. Friction Average
	1	2	3	4	5	6	
169+00	46.5	36.5	39.0	41.0	31.5	35.0	.348
152+00	42.5	45.3	37.5	37.5	29.5	34.0	.353
73+00	46.0	39.5	35.0	28.0	29.0	29.0	.386
Average Length	45.0	40.4	37.2	35.5	30.0	32.7	
Ave. Coef. of Friction	.312		.367		.426		.360

Although the friction coefficient of 0.36 obtained by these tests is slightly higher than the value of 0.32 determined in 1948, it is well below that required for safe driving.

A review of the above skidding data shows the effect of wetted time on skidding friction. For example, at all three test locations the slipperiest condition prevailed under the first test and changed for each succeeding test, giving the highest value under Test No. 3. The total time elapsed between the beginning of Test No. 1 and the end of Test No. 3 was approximately 20 minutes.

The coarse and fine aggregates for this project were from Inland Line and Stone. Pictures showing typical condition of surface are attached.

Rogers City Project 71-24, 01 - 1942

Aggregates for this project were obtained from Michigan Chemical Co., Rogers City. Skidding test results are given below.

SKIDDING IN PAST

Station	Test 1		Test 2		Test 3		Coef. Friction Average
	1	2	3	4	5	6	
4+00	45.0	44.0	39.0	32.0	29.0	26.0	0.372
21+00	40.0	32.0	31.0	32.0	36.0	35.0	0.388
Average Length	42.5	38.0	35.0	32.0	32.5	30.5	
Avg. Coef. of Friction	.331		.398		.423		0.380

The average skidding value is 0.38, which is in the danger range. Here again the worst condition was encountered when the pavement was freshly wetted. This is the first skidding test to be made on this project. No pictures of the surface were obtained because of undesirable weather conditions.



E. A. Finney  
Asst. Testing and Research Engr.  
in charge of Research

RAF:mv



Figure 1. Project 77-66, G1. View showing character of surface under reflected light.

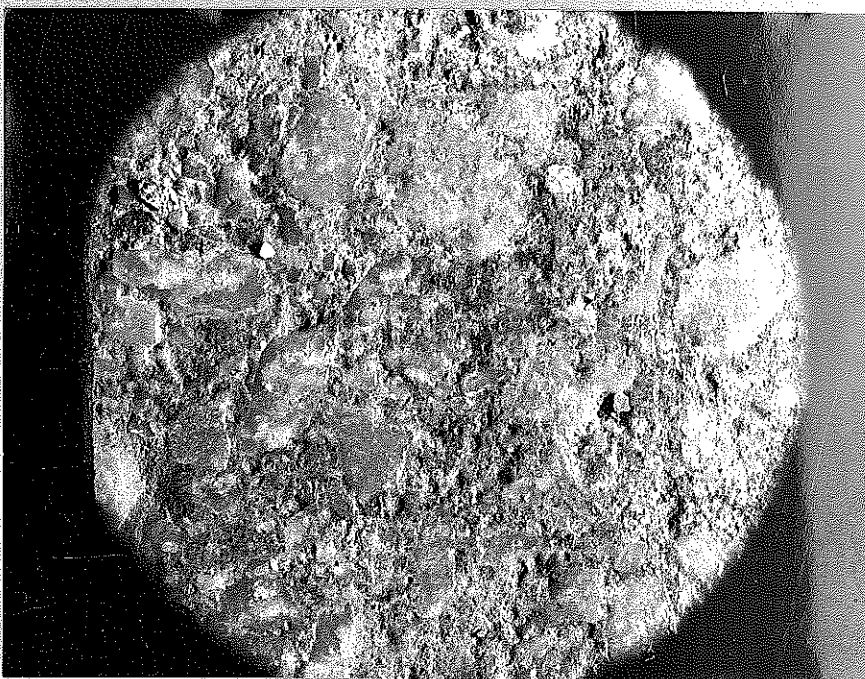


Figure 2. Project 77-66, G1. Close view of surface.