OFFICE MEMORANDUM

MICHIGAN
STATE HIGHWAY DEPARTMENT
JOHN C. MACKIE, COMMISSIONER

May 23, 1963

To: E. A. Finney, Director
Research Laboratory Division

From: A. J. Permoda

Subject: Barrett Urethane Rigid Foam Joint Filler. Research Project R-62 NM-72. Research Report No. R-429.

On June 16, 1962, R. L. Greenman transmitted samples of the subject material from the Committee for Investigation of New Materials to the Research Laboratory Division for testing and evaluation. These samples were from A. B. Farbish of the Barrett Division, Allied Chemical Corporation, and consisted of both the nominal 1/2-in. and 1-in. thicknesses. The following is a summary prepared by D. F. Simmons covering tests and evaluations of these samples.

Test results are summarized in Table 1. Specimens of this material subjected to the specified weathering test showed no evidence of disintegration. Any delamination or separation in the structure of the material is considered disintegration.

This material is light in weight, flexible, and has good compression recovery. It is easy to handle and to cut. However, because of its extremely light structure, it may not have the strength to resist breakage and other damage during handling in actual use. The load required to compress to one-half the original thickness is only about one-half of our minimum Department specification of 100 psi. Also, our specification requires a minimum of 35 percent by weight of bitumen and this material contains no bitumen at all.

The low resistance to compression, ease of breakage, and lack of bitumen content would probably make this material unsuitable as a standard expansion joint filler.

OFFICE OF TESTING AND RESEARCH

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TABLE 1
SUMMARY OF TESTS ON BARRETT URETHANE JOINT FILLERS

Test Identification	Sample No.		MSHD Specification 7.16.03(a) Fiber Filler
	62 MR-118	62 MR-118	
Color	Tan	Tan	----
Thickness, in.	1/2	1	----
Compression to 50 percent, psi	52.3	47.6	100 to 750
Extrusion, in.	None	None	0.25 max.
Recovery, percent	96.0	90.3	65 min.
Water absorption, 24 hr at 75 F			
percent by weight	36.4	29.5	
percent by volume	2.4	0.8	15 max.
Weight per cubic foot, lb	1.96	1.96	----
Bitumen, percent by weight	0	0	35 min.
Transverse breaking strength, lb	2.8	5.0	----
Deflection, in.	4.20	1.80	
Accelerated weathering (freeze-thaw)	No effect on appearance or physical qualities		