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COMMITTEE ACTIVITY
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General Materials Division
Department of Materials and Construction
Highway Research Board

SUMMARY OF RESEARCH ON ADHESIVE AND BONDING TECHNOLOGY

Report by HRB Committee MC-D5 - Adhesives, Bonding Agents and Their Uses

In Highway Research Circular Number 33, dated July, 1966, Committee MC-D5 published results of a survey on "Consumption of Epoxies and Poly-sulphides by Highway Departments and Other Agencies". This showed approximate quantities and general categories of use. It also included information on the areas of interest in the use of epoxies--research, current use, and future needs.

The purpose of the survey and the publication of the findings were in keeping with the general scope of the Committee's activity to promote research on the use of adhesives and bonding agents. As a natural sequel to the initial survey, a second survey has been completed by the Committee detailing the nature and status of research being conducted by various agencies on adhesives and bonding agents.

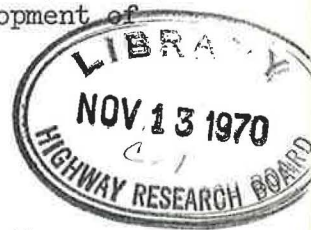
The data in the table published herewith are derived from the 13 answers received from questionnaires sent to 21 organizations, universities, or agencies capable of research in this area. The survey results will provide those in the highway field with a fairly broad overview of what research is being done, where, and on what scale. Such information will hopefully expedite the development of adhesives and bonding agents for specific highway uses.

ACKNOWLEDGEMENTS

The task of conducting the survey, categorizing the data from the answers, and preparation of tabulated results was accomplished by Mr. Ray Schutz, a member of Committee A2G04 (formerly Committee MC-D5).

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U--University
R--Research Organization
G--Government Agency
O--Other

SUMMARY OF RESEARCH ON
ADHESIVE AND BONDING TECHNOLOGY
BY UNIVERSITIES AND OTHER RESEARCH ORGANIZATIONS

Organization Category	Seal Coats			Adhesives					Binders for Mortars					Application Technology			Other Research Projects	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		17
Alabama U					P	P											P--Splices of rebars by adhesives	
Arizona U	P				P	P	P	P	P	P					P		P--Maintenance and Repair of Concrete and Masonry Structures	
Battelle Mem. Institute R	P	P		P		P			P	P	P							
Bureau of Public Roads G																	P--Epoxy Resin as an Admixture	
Corps of Engineers G					C	C	C	C	C	C					C	C		
Const. Engr. Research Lab. R									C				C				C--Sealants, surface and subsurface const.	
Ohio, Cinn. U																	C--Skid resistance polymer concrete	
Ontario Hydro, Can. O					C			C	C				C	C			F--Application of epoxy compounds to immersed surfaces	
Tex. A & M U																	C--Combating deterioration in concrete bridge decks	
Toronto Ontario, Can. U					P													
U. S. Bureau of Reclamation, Colo. G						C	C	&	F	C	&	F	C	&	F	C	&	F

Key:

1. Aggregate selection (particle, size and shape)
2. Binder physical properties (i.e., tensile strength, creep and stress relaxation properties, effect of temperature, and so forth)
3. Binder rheological properties (i.e., viscosity, surface tension, and so forth)
4. Other
5. Test methods for evaluating performance
6. Binder physical properties (i.e., tensile strength, flexural strength, creep and/or stress relaxation, and so forth)
7. Binder cure rate
8. Rheological properties (viscosity, surface tension, and so forth)
9. Other
10. Aggregate selection and mix design
11. Binder physical properties
12. Rheological properties of binder
13. Properties of cured mortar mix
14. Other
15. Surface preparation
16. Equipment and procedure for placement of materials
17. Other

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* Department, Division, and Committee Status
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