



SHELL CHEMICAL CORPORATION

50 WEST 50TH STREET

NEW YORK 20

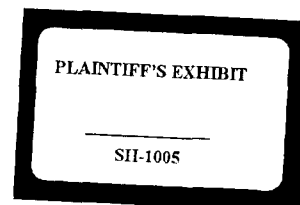
September 3, 1952

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| SHELL DEVELOPMENT CO. |     |
| REC'D SEP. 5, 1952    |     |
| TO HANDLE: DLY        |     |
| ANS'D.                | BY: |

SHELL DEVELOPMENT COMPANY  
4560 Horton Street  
Emeryville 8, California

Attention: Dr. D. L. Yabroff

Gentlemen:



DYES TO FACILITATE COMPLETE MIXING OF ADHESIVE VIII

We are having the Adhesive VIII label prepared here with the instruction that the customer mix the components until the red color is uniformly distributed. We would therefore appreciate your adding 0.5% of Titanox to the adhesive base and 0.2% of Resoform Red BP to the curing agent when the manufacture of Adhesive VIII for sale is initiated.

Very truly yours,

for *F. S. Swackhamer*  
F. S. Swackhamer, Manager  
Resins and Plastics Department

cc: Mr. K. R. Fitzsimmons - E. D.  
Mr. S. T. Raycraft - S. F.

LAM 028945

ABC-018151

SHALL CHEMICAL CORPORATION

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| TO HANDLE:       |     |
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| ANCD.            | BY: |

September 3, 1952

PLYWOOD RESEARCH FOUNDATION  
620 East 26th Street  
Tacoma 4, Washington

Attention: Mr. A. E. Rauch

Gentlemen,

Please refer to your letter of August 11 regarding your adhesive requirements and your interest in EPOX Adhesive VI. We regret the delay in answering this, but Mr. B. C. Brown, to whom your letter was addressed, was in the Pacific Northwest a short time ago and planned to call on you. However, we have received a note from him saying he was unable to do so, and he is now on his vacation. We are therefore pleased to supply the following information regarding EPOX Adhesive VI and modifications which might meet your requirements.

We are pleased to arrange for the shipment of a one-pint sample of EPOX Adhesive VI, with Curing Agent "A", for your evaluation and are enclosing our data sheet, SC-72-13, which describes its use and properties in metal-bonding applications. We are also sending two ounces of diethylamine trimine which should be used in the proportion of 7 to 8 parts per 100 of the adhesive for faster curing. This system, however, will have a shorter pot life which may make it less practical for your use. With diethylamine trimine as curing agent, this material can be cured in approximately 15 minutes at 250°F., or faster at higher temperatures.

Should DPA appear to be satisfactory as far as adhesive properties are concerned, but too short a pot life, it is suggested that you evaluate diethylamine trimine tri-2-ethyl hexamete as a catalyst. At 13.5 parts of this material per 100 parts of the adhesive, the pot life of this mixture will be about 16 hours, and it may be cured in 10-15 minutes at 250-300°F. We do not have specific bond strength data with this material, but it should be comparable to straight DPA in this respect.

Preparation of this salt of DPA is quite simple, involving merely the addition of the acid to the amine in stoichiometric proportions, just as you would with standard acid base titration. If this is inconvenient for you because of lack of proper facilities, please advise us and we will be glad to supply a sample of the amine salt for your initial evaluation.

ABS-018152

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September 3, 1952

Because of the high viscosity of Adhesive VI, it is not possible to spray it. We have not done any appreciable work on the problem of cutting this formulation with solvents and using spray techniques, since our main interest has been to obtain a solvent-free adhesive. It is our understanding that Mr. Brown has already submitted to you a sample of our amine-cured EPOX 1001 system, which is generally used in coatings but which may be useful for adhesive applications as well.

We trust these various samples that are being submitted will be of interest to you and will be suitable for your proposed application. If you have any questions with regard to the use and properties of these materials, or wish to offer your comments on them, we would be glad to hear from you.

Very truly yours,

ORIGINAL SIGNED BY J. L. MORRILL

John L. Morrill  
Chemical Products Department

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Encls.

JLM:gp

cc: HO-Resins & Plastics  
KD-Resins & Plastics  
San Francisco District  
Portland Representative  
Shell Development Company

THIS COPY FOR

(Dr. D. W. Klen)

LAM 028947

ABS-012153