

SHILL CHEMICAL CORPORATION

PLAINTIFF'S EXHIBIT

SH-1039

770.1

June 15, 1954

UNITED CONTROL CORPORATION
3214 East 47th Street
Seattle 5, Washington

Attention: Mr. Jay W. Atherton

Gentlemen:

*all 11
6-28-54
SCSF to United Control Corp.*

SHELL DEVELOPMENT CO.			
REC'D JUN 16 1954			
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Feb	<i>[initials]</i>		
TO HANDLE:			
CC - DWE			
ANS'D:		BY:	

In response to your inquiry of June 3, we are attaching a table of data showing the properties of our various EPCON adhesives compared to the requirements of MIL-A-8331, for aluminum. We are also enclosing our data sheets SC: 52-452, Adhesive VI, and SC: 52-46, Adhesive VIII, and our price list.

At the present time, none of these materials has been officially placed on the qualified products list. EPCON Adhesive VIII, however, has passed all the required tests, and we believe EPCON Adhesive IX will pass all, except for cure conditions. Following will be a brief outline of the advantages for each type of EPCON adhesive, and more complete data regarding the two for which we have not yet issued data sheets:

EPCON Adhesive VI

This adhesive is useful at temperatures up to 180°F, where creep strength at the higher temperatures is not required. It has the advantage of curing at room temperature (75°F), using either the normal Curing Agent A where good pot life is required, or diethylene triamine where quicker cure is desired.

EPCON Adhesive VIII

This adhesive fulfills all requirements of MIL-A-8331, and is expected to be qualified under this specification in the near future. It will not cure well at room temperature, requiring 150°F or higher for best properties.

EPCON Adhesive IX

This is a single component adhesive, supplied with the curing agent compounded into the resin. It has the advantage of long shelf life (over one year) and unlimited open assembly time. It may be warmed to 200-250°F for ease of application without hurting either the pot life or final properties. It requires 90 minutes cure at 350°F, or about 8 hours at 300°F.

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EPON Adhesive 422

This is a high temperature adhesive based on EPON resins, developed under the auspices of the U.S. Air Force. It is intended for service at 500°F, and is currently available on special request (see special notice) in the form of a glass-fabric tape, 36 inches wide by 60 inches or more L, 1/16 inch thick, at a price of \$10.25 per pound, delivered by air freight. The material yields about 5 square feet of adhesive per pound. Adhesive 422 has a shelf life of about three weeks at 75°F, which can be extended to about 10 weeks by storage at 30-40°F. This adhesive is cured at contact pressure in 30 minutes at 330°F. It is usually advantageous to hold the bonded assembly at 230°F for 15-30 minutes before increasing the temperature to 330°F.

If, on the basis of the above comments and the attached tabulation of properties, you believe one of our adhesives would be useful, we would be pleased to supply samples for evaluation. If this is desired, or if you have any questions regarding these materials, please feel free to contact us.

Very truly yours,

ORIGINAL SIGNED BY J. L. MORRILL

J. L. Morrill
Chemical Products Department

SC SF

Attachments

bc: EO-Resins & Plastics-Manager
San Francisco District Manager
Portland Representative
Shell Dev. Co., Emeryville  THIS COPY FOR 
Shell Dev. Co., Emeryville - B.W. Klam

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