

24 September 1990

MEMORANDUM FOR Construction Engineering Research Laboratory, Attn: Al Beitelman,
Corps of Engineers, P.O. Box 4005, Champaign, IL 61820-1305

SUBJECT: Paint Test at L/D 9, Eastman, Wisconsin TAINTER NO. 11

1. On September 11 representatives from Binks Manufacturing Corp. and Polymorphic Polymers Corp. and myself met at Lock 9 to make an experimental test of polymorphic resin on a tainter gate. The painting equipment was set up and transported to the blast barge under the tainter gate that was blasted during the early morning hours of the 11th. The first (primer) coat was applied starting at 0945 hours. The initial portion of the primer was a little thin. Some changes in air pressure and instructions to the Corps painters brought the mil thickness up. The primer coat was complete by 1030 hours. The second coat was started at 1115 hours and was complete by 1230 hours. After lunch the third and final coat was applied and completed by 1530 hours. Only the upstream face (approx. 700 FT²) of the tainter was coated with the polymorphic resin since the Binks demo equipment was only available for one day. The following is a list of materials, equipment, and contents of the coatings:

First Coat (primer): Resin + MEKP catalyst + 40cc DMA/5 gal resin, 0.026 tip.

Second Coat: Resin + MEKP + 40cc DMA + Cabosil + Light Gray Pig., 0.043 tip.

Third Coat: Resin + MEKP + 40cc DMA + Cabosil + Light Gray Pig., + WAX 0.043 tip

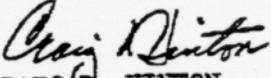
Spray Equipment: Binks B-6 with catalyst pump, 75 feet of 1/4 in. hose, and a Model 755 polycraft gun. Air supply line was 1/2 in.

WX: Temp. 78°F, high humidity, fog in the AM, cloudy PM.

Surface Preparation: Sandblast (silica sand) to near white.

Amount of Resin Applied: 22 gal. for final mil thickness of 35.

2. In summary the Binks pump worked very well. Their metering of catalyst appears to be very accurate. The air assisted spray pattern that mixes the catalyst and resin external to the gun eliminates the problems of "pot life" and having to purge the hoses. The Binks representative suggested that for our gate painting it would be better to increase the air supply line to 3/4 inch and increase the hose size to the gun to 3/8 inch. I inspected the Tainter gate the next morning when the sun was on the gate and the coating looked very good. I used a 5/8 X 4 inch bolt and struck the surface with considerable force and barely marked the coating. The polymorphic coating seems to be very tough.


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