R. Hinojosa, P.E.

FLORIDA

150 Azalea, Ste. A
Destin, FL 32541

October 20, 2010

Michael D. Moore
AmCoat Industries, Inc.
4012 Commons Drive, Unit 116
Destin, FL 32541

Dear Mr. Moore:

Pursuant to your request, R. Hinojosa, PE performed and observed "field" tests in order to determine a U-value calculation based on an R-equivalent value for the **RhinoShield Durable Finish Coat** coating product. The testing was performed on October 20, 2010 at the AmCoat Industries facility in Destin, FL.

An R-value is a measure of thermal resistance used in the building and construction industry. Under uniform conditions it is the ratio of the temperature difference across an insulator and the heat flux through it. U-value is the reciprocal of R-value. The field testing was conducted in order to determine an R-equivalent value for the coating and then using that R-equivalent value to calculate the U-value.

The coating was applied to a pane, with a know R-value of 1.28, at a dry film milage (DFM) thickness of 9 - 10 mils. The same heat source was applied under uniform conditions at an equivalent distance of five and one quarter (5–¼") inches away from the coating, and three other materials with a known R-value. The other materials were [1] an R-4 pane of glass, [2] one and three-quarters of an inch of Dow fiberglass insulation with a known R value equal to R-6.5, and [3] three and one-half inch of Dow fiberglass insulation with a known R value equal to R-13.

Temperature readings on the surface of the materials opposite the heat source were taken at the beginning of the test, and at five minute intervals up to fifteen minutes. Heat from the source, by means of conduction, transferred through each of the materials at a different rate based on the different R values of the materials. The temperature readings were taken via an infrared thermometer and the temperature of the sample was compared to the temperature of the know R-value materials. The initial temperatures at Time = 0 minutes and final temperatures at Time = 15 minutes was as follows:

Material	Temp. °F at T_0	Temp. °F at T_f
R-4 Glass	77.5	110.5
R-6.5 Insulation	78.5	102.5
R-13 Insulation	76.5	88.0
RhinoShield	76.5	97.5

As you can see, the temperature of the RhinoShield was slightly less than the R-6.5 Insulation. It should be noted, however that the coating was applied on an R-1.28 pane of glass. As such, the glass must be taken into consideration. Based on the results of the testing, the R-equivalent of the RhinoShield **Durable Finish Coat** as applied at a DFM of 9-10 mils is 6.89 (ft^2•°F•h)/Btu. As such, the **U-value is .145 Btu/(h•°F•ft^2)**.

I appreciate the opportunity to provide service to your company in this practical field U-value calculation for the RhinoShield Durrable Finish coating product. Let me know if there is any other assistance I can be to your company with regard to this product.

Respectfully Submitted,

Robért Hinojosa, PE
Florida PE No. 64095