

MADISON CHEMICAL INDUSTRIES INC. COST COMPARISON BULLETIN

COATING OF WIND TOWERS - GALVANIZED STEEL

MADISON COATINGS vs. TRADITIONAL COATINGS

OCTOBER 2009

All other things being equal, a fast throughput coating system saves considerable time and money on any coating project but particularly when coating large structures like wind towers. These savings vary from situation to situation, but can exceed the cost of the coating itself.

This bulletin will summarize the projected cost savings utilizing high performance Madison coatings against traditional technologies utilized in the industry.

ASSUMPTIONS

1. Abrasive blasting surface preparation is costed as a commercial blast (SSPC SP-6) using SSPC (Society for Protective Coatings) numbers (see JCPL, July 2008). Note that these numbers do not include the cost of the abrasive media itself, thus in practice this component will be somewhat higher.
2. Prices for traditional systems obtained from SSPC data (JPCL, July 2008) - on a cost per dry mil foot basis - and from discussions with customers. The prices for the Madison systems are based on published list prices; volume discounts will reduce these numbers somewhat. A "Cost-Per-Dry-Mil" chart which facilitates calculation of cost per dry mil is available on request. Ask for Madison InfoTech Bulletin No. 9.
3. Labour and spray equipment operating costs are based on SSPC figures (About 51 cents per square foot for mix-and-apply products and 54 cents per square foot for plural component products).
4. Overbuild, overspray and waste are assumed to be a total of 30% of theoretical coating cost.
5. Overhead and profit are assumed to be 30% of all of the above direct costs.

Traditional System

Epoxy Primer (\$45/gallon): 4 mils
 Urethane Topcoat (\$60/gallon): 6 mils
 Total: 10 mils

Description	The Math	Extension
Commercial abrasive blast	85 cents per square foot	\$.850
Epoxy primer	5.4 cents x 4 ⁽¹⁾	\$.216
Urethane topcoat	6.2 cents x 6 ⁽¹⁾	\$.372
	Sub-Total for coating (incl. 30% waste)	\$.764
Labour	2 coats at 51 cents ea.	\$ 1.020
	Sub Total	\$ 2.634
Overhead and profit	30% of the above total	\$.790
	Grand Total ⁽²⁾	\$ 3.42

Madison System 1

Polyurethane Basecoat (\$52/gallon): 5mils
 Polyurethane Topcoat (\$52/gallon): 5 mils
 Total: 10 mils

Description	The Math	Extension
Commercial abrasive blast	85 cents per square foot	\$.850
AcrylaThane 55 basecoat	5.4 cents x 5 ⁽¹⁾	\$.285
AcrylaThane 55 topcoat	6.2 cents x 5	\$.285
	Sub-Total for coating (incl. 30% waste)	\$.741
Labour	2 coats at 51 cents ea.	\$ 1.02
	Sub Total	\$ 2.611
Overhead and profit	30% of the above total	\$.783
	Grand Total ⁽²⁾	\$ 3.39

Madison System 2

Fast set, 100% solids aliphatic polyurethane (\$115/gallon): 10 mils

Description	The Math	Extension
Commercial abrasive blast	85 cents per square foot	\$.850
Tufsheen	7.1 cents x 10 ⁽¹⁾	\$.710
	Sub-Total for coating (incl. 30% waste)	\$.923
Labour	1 coat at 54 cents	\$.540
	Sub Total	\$ 2.313
Overhead and profit	30% of the above total	\$.694
	Grand Total ⁽²⁾	\$ 3.01

(1) Price in pennies per mil foot multiplied by minimum number of dry mils.

(2) Rounded off to the nearest penny

SUMMARY

If we look at total applied costs from above (per sq. ft.), the picture looks like this:

Traditional System: **3.42**

Madison System 1: **3.39** ~ the same as traditional.

However consider that traditional epoxy basecoats require anywhere from 5 to 8 hours dry time before a topcoat can be applied. By contrast, AcrylaThane 55 requires only 1.5 to 2 hours, about ¼ of the time. As well, the cure to handle time of AcrylaThane 55 is shorter than other topcoats, 3 to 4 hours, compared with 4 to 10 hours. More rapid throughput of AcrylaThane thus lowers operating costs.

Madison System 2: **3.01** ~ 12% less expensive than traditional.

With a rapid setting coating such as Tufsheen, the throughput is significantly higher as only one coat is required, rather than two, and the cure to handle is as short as 30 minutes. Consequently this system provides the greatest impact for lowering production costs.