

Coating Comparison

Type of Coating	Siloxane	Phenolic	Urethane	Epoxy
Market Name	Adsil's MicroGuard1™ 3500			
Bonding Method	Chemical	Mechanical	Mechanical	Mechanical
Organic/Inorganic	Inorganic	Organic	Organic	Organic
Corrosion Protection	18000 Hours ASTM B117	No Data	No Data	No Data
Corrosion Resistance	ISO 16773-3 Barrier Resistance	No Data	No Data	No Data
Dry Film Gap Thickness	3 to 8 Microns	2 to 7 Mils	1.5 to 3 Mils	1 to 4 Mils
Energy Savings	No Data	No Data	No Data	No Data
Field Applied	Yes	No	Maybe	No
Heat Transfer	Improvement	Reduction	Reduction	Reduction
Mold Proliferation	No Mold (ASTM G21 rated 0)	Yes	Yes	Yes
Repairable	Yes	No	Maybe	No
Warranty	5 Year*	1 Year	3 & 5 Year	3 Year
Chemical Resistance	Excellent	Excellent	Good	Good
UV Resistance	Excellent	No	Moderate	Poor
Casing Coating	Yes	Yes	Yes	Yes
Whole Unit	Yes	Maybe	No	No
Bridging	No	Yes	No	Yes
Color	Clear	Brown	Silver	Black
Post Maintenance Cleaning	High Foaming Non-Acid Coil Cleaner	Water Only	Water Only	Water Only

Notes:

- (1) MicroGuard1™ 3500 (MG1-3500) forms a “Covalent” (chemical) bond by sharing an electron with the substrate, while all other coatings form a “London Force” (mechanical) bond, much like an adhesive.
- (2) Organic coatings are comprised of a carbon chain of elements that feed mold and break down from exposure to UV light and most chemicals. Inorganic compounds do not have this carbon chain, cannot oxidize and cannot feed mold.
- (3) There are **25.4 Microns in 1 Mil**. Coating thickness impacts flow through the fins and run time to create the flow. A thicker coating permits less flow so the equipment has to work harder or be sized and designed accordingly.
- (4) Most of the coating manufacturers have field-applied products but the practicality of getting a 3 mil, wet paint through multiple fins and rows is low.
- (5) MicroGuard1™ 3500 (MG1-3500) will adhere to exposed metal but will not adhere to itself. In other words, it will not build up. Paints will build and further attempts to repair will thicken the coating.
- (6) MicroGuard1™ 3500 (MG1-3500) demonstrates sustained energy savings. Thickness is the main determining point for insulating properties of a coating.
- (7) Although the literature claims no bridging occurs, it is physically impossible to dip or spray a wet coating measured in mils without bridging in crevices that are less than 1/8”.
- (8) *MicroGuard1™ 3500 (MG1-3500) offers a limited 5-year product warranty at no extra cost, the warranty requires six-month interval inspections (quarterly if directly on the water) and cleaning by the owner’s representative.