



STAHLIN NON-METALLIC ENCLOSURES

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Durable Stahlin Non-Metallic Enclosures resist diverse, potentially-damaging environmental factors in solar control applications

THE SITUATION

City Water LLC provides municipalities turnkey wastewater treatment plant solutions capable of effectively accommodating between 500 to 10,000 gallons. The evolution of this system featured the need to overcome a significant challenge specific to the reliable protection of critical controls.



THE CHALLENGE

Many of City Water's wastewater treatment systems are in demanding environments subject to high humidity, corrosive salt water and strong UV degradation. After two-to-three years of service in such applications they began to notice that the integrity of their controls was being threatened by failure of the electrical enclosures used to house and supposedly protect them. At that time, they used stainless steel enclosures that were not suitable for long-term reliability within this particular combination of environmental pressures. Part of this problem originates with the fact that although tensile strength is high with metal enclosures, flexural strength (the material's ability to withstand denting) is relatively low. Once metal has gone beyond its elastic limit it has created a potential leak path that could compromise an enclosure's seal integrity.

Initially they thought that simply by switching to non-metallic enclosures the problem would be solved. However, even with some non-metallics the harmful effects of UV rays were still evident through "blooming" of the polymeric substrate. They were also not satisfied with design elements that seemed to inhibit the amount of available space within such enclosures --- and the ease with which controls could be mounted inside the boxes. Although they had improved performance results in flexural strength and the ability to withstand an impact without permanent deformation or denting, they still had not found the ideal enclosure product.

THE SOLUTION TO THE CHALLENGE

City Water began to explore property performance characteristics of available product lines and discovered Stahlin Non-Metallic Enclosures. A primary difference in this product line is the fact that all enclosures are molded from

SolarGuard®, a patented sheet molded compound formulation that provides superior molded-in UV resistance. SolarGuard® requires no field maintenance, and is provided at no additional product cost. In extensive independent comparison testing, SolarGuard® outperformed all other available SMC formulations by as much as 60% in its ability to retain gloss and color after exposure to concentrated UV light. Additionally, the fact that Stahlin's non-metallic enclosures are manufactured from a rugged composite material versus a molded thermoplastic, results in significant durability and impact resistance because of low coefficient of thermal expansion versus stainless steel. Certain design features have also proven to be of value. Specifically, the rounded corners, swing-out panels and optimum enclosure depth are conducive to easy, effective installation of controls.



A seamless poured polyurethane gasket ensures that the enclosures remain waterproof and dust-tight.

THE RESULTS

Not all enclosures are created equal. Success in any application demands that the proper enclosure product be specified to meet the individual environmental factors impacting the reliability of proper protection for important controls and electrical systems.

Jim Brant
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FOR ADDITIONAL INFORMATION ABOUT CITY WATER:

www.citywaterllc.com

FOR ADDITIONAL INFORMATION ABOUT STAHLIN NON-METALLIC ENCLOSURES:

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