



Keuka Energy Wind Towers

Ainsworth & Fairfield, Iowa



When it comes to alternative energy sources, Keuka Energy has dedicated over 20 years to research and development. After starting in hydroelectric energy, they moved into research of wind energy in 2006. Keuka owns all of the patents on the design of the wind tower, which was the first of its kind. One important feature of these towers is they allow the production of energy at lower wind speeds. Because of this, they can be used in areas not typically considered for wind power.

In the early design, the wind towers were primed and painted. Keuka was unhappy with the results and corrosion potential. When looking for an alternative protective coating, consideration was given to the initial and life-cycle costs, corrosion performance, and durability. These towers would be assembled and placed in service in agricultural fields in rural Iowa. With corrosive chemicals and irrigation in use, one choice was clear—hot-dip galvanizing would meet the demands of the coating system they required. Senior staff at Keuka said, “We initially tried a prime and paint process and were unhappy with the results, so galvanizing made sense for protecting the machine inside and out.”

Since the original design had been for a painted product, Keuka worked with the galvanizer to redesign some facets of the machine in order to allow for quality hot-dip galvanizing. Hole locations and sizes had to be accounted for in baffles and motor mounts inside the towers. Consideration

was given to keeping the camber of the rim assemblies. After successfully hot-dip galvanizing these wind tower sections, they were shipped to Iowa, assembled and installed. One system is on the grid producing power and the second system was completed at the end of 2012. The owner of the first system said, “I saw a big difference in my electric bill.” With continued positive results and corrosion resistance from hot-dip galvanizing, use of these systems will spread far and wide, providing an alternative energy source for decades to come.

With sustainability on the minds of so many, it is important to show alternative energy sources are a viable option. With its unique design, this wind tower can be used in areas where general wind energy is not usually considered. It produces energy at lower wind speeds and does not have a gear box requiring a great amount of draw, so a single tower can be used in many instances. Hot-dip galvanizing’s maintenance-free longevity and recyclability also play an important role in the sustainability of these wind towers. 🌱

Galvanizer
Valmont Coatings - Tampa Galvanizing

Specifier
Keuka Energy



electrical, utility, and communication