



Country Club Uses HDPE to Solve Irrigation Troubles

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West Palm Beach, FL – When the snowbirds show up this winter at Palm Beach Country Club, they'll be chasing golf balls over pristine landscape that is the result of a new state of the art irrigation system. More than 78,000 feet of High Density Polyethylene (HDPE) pipe was heat fused together to replace the old irrigation system which had corroded badly and was in dire need of replacement. The engineering aspects of the project are receiving attention from golf course managers with similar problems and municipal water managers alike.

To avoid water restrictions, Palm Beach Country Club gathers its



water supply from its own deep well. The water is brackish and must be treated through reverse osmosis before it can be used. The process of treating water through reverse osmosis makes the water highly aggressive to metals. This presented officials at the club with a unique set of circumstances and they knew they would need help with the design of the new system. They hired Irrigation Consultant Jim Schumacher with Aquaturf International to design a cost-effective system that would hold up to the damaging affects of the harsh water.

Initially, PVC pipe was considered because most contractors that install irrigation for golf courses are familiar with the material. Schumacher knew that a system free of metal components was needed to provide longevity. If PVC were used, all of the Ductile Iron fittings needed for the system would have to be epoxy coated inside and outside for protection from the aggressive water. This can be very costly. Additionally, the PVC pipe would require joint restraints at each fitting. Schumacher contacted Jim Kirchdorfer, Sr. of ISCO Industries for his expertise in the use of High Density Polyethylene (HDPE).

"I got my start in golf irrigation so I understand the needs of golf course managers," said Kirchdorfer. "I also understand pipeline infrastructure and there's no reason the golf industry shouldn't be using the best technology available." Kirchdorfer is Founder and Chairman of ISCO based in Louisville, KY. ISCO is the largest HDPE distributor in the U.S. and an expert in the McElroy but fusion process. Kirchdorfer assisted Aquaturf in designing a set of plans for using HDPE and the price was almost identical to PVC estimates.

"Once we saw that the HDPE system was the same cost as a PVC system the material became very intriguing," said Paul Crawford, Superintendent of Palm Beach Country Club. "We decided to learn all that we could about HDPE."

Crawford's major concern after the price issue was the lack of knowledge and information on HDPE. Kirchdorfer eased his fears by showing him the 40 year history the pipe has in the gas industry and more recently the adoption of the material for the water industry.

The natural gas industry adopted **polyethylene pipe** over 40 years ago and it is still the material of choice for distribution systems across the US and Canada. It has proven to be the long-term answer to

the decaying infrastructure problem because of its 100 year life, non-corrosion characteristics, ease of installation, low life cycle cost and leak-free qualities.

Now the potable water industry, with its failing infrastructure, is growing in its acceptance of HDPE for the same reasons. The concept of a leak free system is new to the industry that has grown to accept a 15% to 30% loss of treated water because of leaky joints and corrosion failures.

An HDPE piping system is leak free mainly because the pipe joints are butt fused together creating one homogeneous pipeline with no opportunity for leakage at the connection. Water shortages are a major concern nationwide and HDPE is the only pipe that is proven to be leak free. It is a trend that many in the water industry say is here to stay and distributors like Kirchdorfer are ramping up to serve the impending boon.

"HDPE is a natural for golf course irrigation systems because of its ability to diminish water hammer," said Kirchdorfer. "All fittings are HDPE eliminating metal within the system. Even the valves are fused and contain no metal. This irrigation system is the most efficient water piping system technology has to offer and I'm glad ISCO could be a part of it."

"The best part about the new system is that we can now forget about it for a very long time," said Crawford. "It's the kind of permanent fix we were looking for."