

## History of FRP Bridge Drain Pipe

Two leaders in the industry for solving problems related to corrosion are Jeff Foster of Grace Composites of Lonoke, Arkansas and Garland Westfall of Westfall Company, Inc. St. Louis, Missouri. Over the last twenty plus years, these two have combined their skills in manufacturing, marketing and engineering to develop a light-weight, corrosion resistant, low maintenance and easy to install bridge drain system.

The first bridge drain pipe (BDP) project was completed in the early 1980's. The Chief Bridge Engineer for the Illinois Department of Transportation (IDOT) read an advertisement about corrosion resistant reinforced thermosetting resin pipe – Known to most as FRP (fiberglass reinforced plastic). He contacted Garland Westfall to see if this product, normally used for chemical and water applications, could be modified for runoff water for a small bridge project in Chicago, Illinois. After several meetings, it was decided that the A.O. Smith Fiberglass Red Thread® II pipe (now Fiber Glass Systems) and standard pressure fittings could be used for the project. This first project had favorable results from the contractor and IDOT. The Chief Engineer for IDOT realized this product could solve his corrosion and stress problems due to heavy metal pipe currently being used on bridges and overpasses. This led to several other BDP projects over the next few years.

The Red Thread II pipe was prepped for accepting color pigmentation, but meeting the DOT standards for weathering and color presented a problem. The pigment did not adhere to the pipe as expected. The source for the FRP pipe supplied from A.O. Smith Fiberglass Pipe presented a problem because their factories were designed to mass produce standard pipe and fittings. Westfall Company, Inc. had a relationship with a firm in Little Rock, Arkansas called FMN Industries. Jeff Foster, who now owns Grace Composites, was a lead designer and Manager for FMN. With input from Garland Westfall and Jeff Foster, a light-weight filament wound Bridge Drain Pipe was developed with DOT approved color pigmentation throughout. In addition, matching fittings and accessories were developed.

The Missouri Department of Transportation (MODOT) visited the Chicago Bridge site and admired the FRP bridge drain project. MODOT specified the FRP bridge drain pipe for a very large project on Interstate 70 next to the Gateway Arch in Downtown St. Louis. The design called for non-standard pipe fittings, as well as scuppers, cleanouts and other unique equipment. This project was completed in 1984 and still looks new today. This led to FRP Bridge Drain Pipe becoming a standard for MODOT, and many projects can be witnessed on its major interstates.



The FRP Bridge Drain Pipe market was up and running. Over the course of a few years, seminars were conducted at 26 state level Departments of Transportation. Our participation in major Bridge Conferences, as an exhibitor and speaker, has helped boost the presence of the product.

In 2001, due to the high demand and requirements for delivery, all production was moved to Grace Composites of Lonoke, Arkansas (near Little Rock, AR). Grace Composites proved their desire to join forces with Westfall Company, Inc. in manufacturing and developing the BDP market. FRP Bridge Drain Pipe has been installed in most states in the United States, as well as many locations in Canada. For more information please visit us at [www.frpbridgedrainpipe.com](http://www.frpbridgedrainpipe.com)