



# PLASTICS · PIPE · INSTITUTE®

THE VOICE OF AN INDUSTRY

## PPI MEMBER COMPANY HIGHLIGHTS ENERGY (OIL & GAS) INFRASTRUCTURE

### RESIN SUPPLY – Info to Know

- The availability of low cost natural gas in the USA has led to significant realized and announced expansions of the chemical and polymer industry
- Construction of new chemical and polymer plants has been announced in areas closer to natural gas sources such as North Dakota and West Virginia
- The majority of the raw materials used to make plastic materials for gas distribution and oil/gas gathering applications are produced using domestic natural gas and domestic production facilities
- Polymers used in gas distribution and oil/gas gathering applications are highly engineered, designed and specified for these critical applications and bear little in common with polymers used for consumable applications such as packaging
- PPI represents the key resin manufacturers that supply the majority of resin and additives to gas & oil pipe production in North America

### POLYETHYLENE (PE) PIPE SYSTEMS – Features & Benefits

- The majority of domestically manufactured product comes from resin supplied by domestic producers (see above)
- PPI member companies supply our North American pipe infrastructure with customers in all 50 states, several Canadian provinces, throughout Mexico and many international locations
- More than 95% of all new natural gas distribution mains installed are PE due to its proven record of safe, leak-free and long-term performance
- Over 600,000 miles of PE gas distribution pipe has been installed since the late 50's
- PE use continues to grow and now represents the majority (more than 55%) of all gas distribution mains installed in the US. versus steel and cast iron.
- PE gas pipe is available through 24" in diameter with 12" and smaller being routinely used while larger dimensions are increasingly being used
- PE pipe is the premier choice for trenchless (no-dig) installations such as pipe bursting, slip lining and horizontal directional drilling (HDD) making the replacement of aging infrastructure easier, more cost effective and environmentally sensitive
- Large diameter coils of 4" and 6" PE pipe can minimize-installation footprints reducing costs and lessening disruptions in communities
- PE pipe is joined using zero-leak, heat fusion procedures to ensure a secure system
- Complete lines of fittings are available as heat-fused, electrofused, or mechanical

## **POLYAMIDE (PA) PIPE SYSTEMS – Features & Benefits**

- PA-11 and PA-12 pipes are designed for high-pressure distribution and medium-pressure transmission applications
- PA-11 and PA-12 pipe enables the replacement of aging higher-pressure, corroded, bare-steel pipelines installed nearly 75 years ago
- PA-11 and PA-12 pipe does not require daily impressed current cathodic corrosion protection maintenance and monitoring, thus improving gas pipeline system safety and reliability
- PPI member companies producing PA-11 and PA-12 resin and pipe cover North America with operations in approximately 30 states, 3 Canadian provinces and Mexico
- PA-11 is a 19-year old validated pipeline material that was included in 49 CFR part 192 for gas distribution, transmission and gas gathering in December 2008
- PA-11 pipe is 100% domestically manufactured from polymer produced in the USA
- PA-11 is a renewable bio-based polymer derived from the oil of castor plants
- PA-12 is now in the process of being added to 49 CFR part 192 providing a new high-performance alternative to aging metallic systems
- PA-11 and PA-12 pipe is manufactured in pressure ratings to 250-psi and diameters to 8-inch IPS Pipe
- PA-11 and PA-12 pipe systems incorporate standard fittings, typically molded or fabricated
- PA-11 and PA-12 pipe is joined by zero-leak-rate heat-fusion joining or electro-fusion joining

## **COMPOSITE PIPE SYSTEMS – Features & Benefits**

- PPI member companies have manufacturing sites in several USA locations and Canadian provinces
- PPI member companies have customers in all gas and oil producing USA locations, several Canadian provinces, the Middle East, Australia, and many other international locations
- Over 15,000 miles of flexible reinforced thermoplastic composite pipe have been installed in the USA since 2005
- Composite pipelines-transport produced fluids, natural gas, crude oil and produced water associated with both conventional and shale resource developments in pressures up to 3000psi
- Flexible composite pipes are delivered and deployed on reels or coils which significantly reduces installation time, minimizes installation footprints, reduces installation costs, and minimizes disruptions in communities
- Composite pipe manufacturers have service and sales personnel located in TX, OK, PA, OH, CO, CA, UT, and ND

## **WHAT DOES THIS MEAN TO OUR NATION'S GAS INFRASTRUCTURE?**

A reliable gas transmission and distribution network is critical to our nation's growth. Replacement of our aging gas infrastructure is accelerating with more than 38 states having accelerated replacement programs in place as reported by the American Gas Association (AGA). PPI members and their products represent thousands of jobs and millions of miles of gas pipelines. PPI members will continue to play a critical role in supplying proven, high-performance materials for the development and modernization of our oil and natural gas pipeline infrastructure.