



NEWS RELEASE

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USDOT APPROVES AND EXPANDS

USE OF PLASTIC PIPE FOR

NATURAL GAS SYSTEMS

Federal Ruling Includes Updated Standards,
Increased Pressure Limits, Additional Pipe Sizes;
Documented Listing Now Required

IRVING, Texas - Dec. 19, 2018 - The Plastics Pipe Institute, Inc. (PPI), said today that the new rules amending the use of plastic pipe in natural and other gas systems will improve safety and reduce costs. Members of PPI worked with the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA), providing independent technical expertise and data at the request of PHMSA. The update to the CFR 49 part 192 rule is effective January 19, 2019. PPI is the major North American trade association representing all segments of the plastics pipe industry.

"This is another major milestone in providing the nation with a reliable system of natural gas delivery," stated Tony Radoszewski, CAE, president of PPI. "PHMSA's new ruling encompasses a number of items that will reduce costs and improve safety. These include expanding the diameter range of approved pipe, increasing pressure limits, adding to the inclusion of technologically advanced plastic pipe, and requiring that all plastic pipe have a listed Hydrostatic Design Basis (HDB)."

Other updates include an updated design factor that is estimated to reduce by ten percent the cost of materials annually to produce new pipe, which, according to PHMSA will

result in a savings of approximately \$32 million for transmission, gathering and distribution operators.

“Advancements in plastic pipe design and manufacturing have resulted in products that are much safer today than they were 20 years ago,” PHMSA Administrator Skip Elliott said in a news release. “These regulatory updates will significantly contribute to advancing public safety.”

PPI's Radoszewski elaborated, "Polyethylene (PE) piping systems have been successfully used for more than 50 years in all types of fuel gas piping applications because it has a well-documented inertness to both the external soil environment and to natural gas," Radoszewski continued. "These PE piping materials have been continually improved during those five decades assuring the safe, cost-effective, transport of fuel gases in residential, commercial and industrial applications.

"Even though plastic resins and structures continue to be improved and created, one key property still finds exceptional demand: flexibility. It has been documented many times that gas distribution systems are more apt to survive severe ground shifts, especially from earthquakes, when they are made from PE pipe. But that flexibility also makes PE pipe the material of choice in the growing use of trenchless installation including horizontal directional drilling (HDD), pipe bursting and sliplining

According to PPI, In North America, there are more than 3.9 billion feet of polyethylene pipe (PE) being used in gas distribution along with more than 47 million PE gas services for residential and commercial applications. While improved performance during the lifetime of the pipeline is critical, economic factors need to be considered as well.

"The cost for direct burial installations of pipe from three to six inches range from \$4.00 to \$32.00 a foot for PE," explained Randall Knapp, Ph.D., director of engineering for PPI's Energy Piping Systems Division (EPSD), "while similar sizes of protected steel pipe range from \$12.00 to \$75.00 a foot. It has also been shown that 12-inch diameter PE mains are

cost effective compared to steel, and as a result, are considered standard products.

Chemical resistance, abrasion resistance and a fused joining system are just some of the reasons high-density polyethylene (HDPE) and medium-density polyethylene (MDPE) pipe are so widely accepted in this industry.

"Polyamides (PA), commonly known as "nylons," have been used to produce pipe and fittings in gas systems since the 1990's. PA11 and PA12 are the most common of these grades used. Being technologically advanced, they bring the same corrosion resistant and leak-free characteristics as PE pipe systems but with a higher hydrostatic design basis (HDB) allowing use at higher pressures and higher temperatures."

While working with the 115th Congress, members of the PPI EPS Division along with the group's liaison to Capitol Hill, Eben Wyman of E. Wyman and Associates, LLC (Washington, DC), provided input including data from the industry's research and development programs.

"The changes in this rule are effectively a deregulatory action," Wyman stated. "And by allowing higher pressures and more sizes of thermoplastic pipe to be used, Congress and PHMSA are broadening the use of the pipe, which reduces costs to the system operator and ultimately to the consumer. The force driving this expansion is the technological improvements that the industry continues to develop and bring to the marketplace. We thank the Chairman of House Energy and Commerce Committee, Congressman Greg Walden and Congressman Frank Pallone, Jr. for their help and acknowledging the attributes of the technology behind this new rule.

"We believe the next step is for PHMSA to recognize spoolable composite pipe. PPI has petitioned PHMSA to allow the use of spoolable composite pipe systems in gas distribution, gas transmission, and oil and gas gathering systems regulated by federal pipeline safety regulations. While most gathering or disposal line applications are not currently regulated by PHMSA, use of spoolable composite pipe in these applications has

grown rapidly, and operators are increasingly realizing multiple benefits. Many of these operators oversee systems that are subject to DOT regulatory requirements, or may be following pending regulatory activity.

"It is estimated," he continued, "that there are more than 40,000 miles of spoolable composite pipelines installed globally during the past 15 years, with the vast majority of these having been installed in United States oil and gas applications. In Canada, the use of spoolable composite pipelines for the oil and gas industry has been allowed and regulated since 2007.

Independent Industry Approval Mandated

Another point in the ruling is the requirement that all thermoplastic pipe have an Hydrostatic Design Basis (HDB) listing in PPI TR-4. The HSB is a technical-based group of voluntary industry experts, operating under the auspices of PPI. It is comprised of engineers, chemists, scientists and others with expertise in thermoplastics, ingredients, processing and long-term strength testing. The Board is chaired by the PPI HSB Chairman, Sarah Patterson.

"PPI HSB programs define procedures for determining the long-term strength of plastic pipe compounds and composite structures," Patterson said, "and for converting this strength into an allowable design stress which, in turn, is used to determine the pressure rating of the plastic or composite pipe."

"PPI TR-4 listings are referenced in product standards developed by organizations such as ASTM International, American Water Works Association (AWWA), CSA Group, formerly the Canadian Standards Association, and certification programs such as NSF International," she explained.

"Code bodies such as the American Society of Mechanical Engineers (ASME) and DOT PHMSA also reference PPI TR-4 listings due to the rigorous program requirements and the HSB's involvement in the industry since the early 1950s."

"A listing in the HSB program does not require PPI membership," stated PPI's Radoszewski, "as the program is a service to the entire plastics industry hosted and managed by PPI. The data gathering and other efforts by manufacturers required to obtain an HSB listing, whether they are PPI members or not, display a high level of commitment to the integrity of their products. The PPI TR-4 listing requirement is one of the many important benefits of the new PHMSA ruling. We were pleased to be part of this process."

Additional information can be found on the PPI website: www.plasticpipe.org.

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About PPI:

The Plastics Pipe Institute, Inc. (PPI) is the major North American trade association representing all segments of the plastic pipe industry and is dedicated to promoting plastic as the materials of choice for pipe and conduit applications. PPI is the premier technical, engineering and industry knowledge resource publishing data for use in the development and design of plastic pipe and conduit systems. Additionally, PPI collaborates with industry organizations that set standards for manufacturing practices and installation methods.