

# The Green Standard for **Plastic Pipe**

Plastic pipe has many features that make it an environmentally sound choice in replacing infrastructure, installing buildings' plumbing and irrigating property. Its manufacturing processes conserve resources and don't pollute. The light weight of plastic pipe requires less fuel to transport and install. And its long life conserves precious resources while protecting the environment. This white paper will explain these benefits of plastic and also illustrate how JM Eagle, the leading manufacturer of plastic pipe, has taken these green qualities a step further, setting the standard for the production of pipe in the most environmentally conscious ways.

## INTRODUCTION

Plastic pipe should be considered for its environmentally sound properties when rebuilding the nation's infrastructure, as well as specifying other construction and irrigation projects. Plastic pipe from JM Eagle exceeds industry norms with processes that diligently address green manufacturing and, in fact, sets a new standard for the production of plastic pipe.

### MANUFACTURING

- Processes that are certified and audited for energy and resource conservation.
- No hazardous chemicals used in manufacturing.
- Generating little or no pollution of air or water.

### TRANSPORTATION/ INSTALLATION

- Lighter weight and high instances of local use for less fuel in shipping.
- Less heavy equipment used in installation.
- Minimal environmental impact in installation.

### ENVIRONMENTAL PROTECTION

- Preventing waste of precious water resources.
- Complete recyclability of product.
- Protecting environment from flooding, waste and contamination.
- Making products that support other industries and efforts in conservation and protecting the environment.



# Setting the standard in environmental responsibility

From the manufacturing process to the installation to the final product, plastic pipe from JM Eagle sets the standard in the industry through the following:

## MANUFACTURING

JM Eagle employs a water cooling system in its extrusion process using a closed-loop system that re-circulates water to minimize use and water waste. In addition to using lower amounts of water, both its PVC and PE pipe products require lower temperatures and duration of those temperatures in their manufacturing process.

JM Eagle has a 100-percent recycling policy for its scrap product, and releases zero scrap into the waste stream. All waste is reground into new pipe or sold to other plastics companies for their reuse.

As the leader in protecting water quality passing through its pipes, JM Eagle feels as strongly about the air and water around its

Plastic pipe from JM Eagle exceeds industry norms with manufacturing processes that diligently address green manufacturing.

plants. Two of the states in which its plants are located, California and Pennsylvania, require air permits, which are always up to date and verified during onsite EPA audits.

JM Eagle holds its plants in other states to the same air-quality standards.

California also has strict guidelines for the release of pre-production plastics into storm drains, and JM Eagle applies these guidelines to outfall (storm water runoff) programs at all of its plants across the country.

JM Eagle has a 100-percent recycling policy for its scrap product, and releases zero scrap into the waste stream.

JM Eagle is the first plastics manufacturer to participate in the EnergyStar Program, and, upon pending certification, will join only three other industries—automotive, pharmaceutical and wet milling—in receiving its Energy Star Data for green manufacturing processes. Until recently, green data was only derived by the end product that was being manufactured and how much energy that product used. JM Eagle is setting the precedent in the entire building industry for certifying its processes green.

Finally, due to the use of a relatively benign stabilizer with very little chance of release and only minor amounts of acid/pH in water treatments, all JM Eagle plants are considered

“Small Quantity Generators” that do not store, use or manufacture any reportable quantities of hazardous materials. JM Eagle takes cradle-to-grave responsibility for even these negligible amounts. Furthermore JM Eagle does not use any chlorinated solvents in the manufacture of PVC pipes or fittings.

## TRANSPORTATION/INSTALLATION

Because PE and PVC pipe are lighter products than their ductile iron and concrete counterparts, they are easier to transport.

A nominal 8-inch PE pipe used for a water main weighs 8 pounds per foot as compared to 8-inch iron pipe weighing 33 pounds per foot. That means for the same amount of feet per truckload, the amount of fuel required and wear on the roadways is significantly less with plastic.

In addition, JM Eagle’s 22 plants across the United States allow for shipments of shorter distance, further reducing fuel consumption and wear and tear on roads.

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In installation, PVC and PE require less heavy equipment to lift out of the truck and lay it in the ground, again using less fuel.

## ENVIRONMENTAL PROTECTION

The United States loses more than 15 percent, or 2.2 trillion gallons, of its drinkable water

each year due to cracked or deteriorating pipe, as well as leakage at joints.

Plastic pipe protects and reduces waste of this precious resource. PVC has an estimated life span of well beyond 100 years with little or no loss of strength or breakage, protecting the nation’s water supply, and protecting the environment against chemical and biological contamination.

A recent study conducted by Jana Laboratories for the Plastics Pipe Institute confirmed the 100-plus-year life expectancy for pipe made from PE when used in municipal potable water systems under most water quality conditions, service environments and disinfection techniques.

JM Eagle PVC and PE pipe products for water transmission and distribution are certified with ANSI/NSF-61, 14, the American National Standard for Plastic Piping System Components and related material, which confirmed that JM Eagle’s product met the physical performance and health requirement.

JM Eagle is diligent about meeting or exceeding all applicable codes and standards that affect the public welfare. For example, the State of California recently enacted legislation (California Health and Safety Code 11687, formerly known as AB 1953), that specifies a stringent standard in order for pipes to qualify as being “lead free.” JM Eagle recently had its pipe tested by NSF for compliance with this new standard and received certification from NSF that JM Eagle’s pipe used for potable water applications meets these new California low-lead requirements, as well as the low-lead requirements of Vermont Act 193.

JM Eagle plastic pipe is an integral part of green efforts across the country. Its reclaimed water pipe conveys reclaimed water to



recycling centers. EverPEX, its cross-linked polyethylene product, is used in radiant heating. And its geo-thermal PE product is used in water cooling and heating systems.

PE pressure pipe systems have a zero leak rate due to the heat-fusion process that produces watertight joints. Its new and unique Eagle Corr PE product takes extra leak-prevention measures with a dual-gasket joint.

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On the PVC side, JM Eagle recently introduced its Eagle Loc 900 product, which creates a tight and permanent leak-free connection by restraining the joint mechanically on the inside.

All of JM Eagle's products are quality tested for strength and endurance, and are less likely to incur water waste than other products on the market. Before introducing a new product, JM Eagle ensures it is of the design and quality to preserve our precious water resources.

## SUMMARY

Plastic pipe is not a product that is typically associated with the "green" movement. Indeed, iron and clay might be considered more "natural" products and therefore more "environmentally friendly." But those assumptions are wrong; plastic pipe consumes fewer natural resources to manufacture, creates no pollution or debris in the waste stream and, due to its strength and long life, actually protects the environment and our most precious resource, water. As the leader in the industry in breadth of product and manufacturing capacity, JM Eagle is in the forefront of ensuring it is creating the greenest possible product, and in the process setting a new standard for all manufacturers in making plastic pipe green.