

**PVC AND HDPE
APPLICATIONS for the Utility
and Roadway Industries**

AWWA (C905-C900)

- ▣ **Application:**
- ▣ C905 pipe is for use in distribution pipelines of potable water, as well as gravity and/or force main sewer and water reclamation projects.
- ▣ **Benefits:**
- ▣ Maintains performance against tuberculation, corrosion and external galvanic soil conditions without lining wrapping, coating or cathodic protection.
- ▣ Keeps its smooth interior over long years of service with virtually no loss in carrying capacity, allowing for savings in pumping costs, as well as savings on the size of the pipe required.
- ▣ Can be field-cut with a power saw or ordinary handsaw and beveled without the use of expensive or complicated machinery.
- ▣ **Descriptions:**
- ▣ PVC C.I.O.D. Transmission Pipe DR 51/DR 41/DR 32.5/DR 25/DR21/DR18
Pressure Rated 80, 100, 125, 165, 200 and 235 psi Ring-Tite Joints 4" - 48"
- ▣ For Use In Transmission, Municipal Water Systems and Other Services

BULLDOG JOINTS

- ▣ **Descriptions:**
- ▣ Internal Joint Restraint System

- ▣ **Applacations**
- ▣ Direct-bury construction
- ▣ Restrained road bores
- ▣ Aerial crossings
- ▣ Horizontal Directional Drill applications
- ▣ Anywhere you need restrained joint PVC pipe
- ▣ joint restraints with its new internal system,. Featuring BullDog™ technology, installs with a single snap and keeps components away from corrosive elements, making it the cost-effective long-term solution to infrastructure challenges.

Gravity Sewer ASTM D3034

- ▣ **Application:**
- ▣ Ring-Tite PVC Gravity Sewer pipe is for conveying domestic sanitary sewage, as well as certain industrial wastes.
- ▣ **Descriptions:**
- ▣ ASTM D3034
- ▣ SDR 35 and SDR 26
- ▣ Ring-Tite™ Joints 4" - 15"

- ▣ ASTM F679
- ▣ PS46 and PS115
- ▣ Ring-Tite™ Joints 18" - 36"

HDPE Water & Sewer

- ▣ **Application:**
- ▣ High-performance high-density polyethylene water pressure pipes are suitable for municipal and Industrial transmission systems for potable water, sewer, drain, mining, irrigation, and reclaimed water.
- ▣ **Benefits:**
- ▣ Its butt-fused joints eliminate potential leak points, common at 10 to 20 feet with ductile iron pipe, for a zero leak rate.
- ▣ Highly resistant to corrosion and weather, recent studies conclude it will last at least 100 years.
- ▣ Its light weight and flexibility make it easy to install, eliminate the need for fittings required with directional changes, and make it highly suitable for use in earthquake prone areas.
- ▣ Its high-strength walls give it the highest PE pressure rating, outstanding resistance to SCG and increased resistance to rapid crack propagation.
- ▣ The increased working stress rating of high-performance PE 4710 resin material makes it a superior choice over steel or ductile iron pipe, especially for the large diameter
- ▣ pipe sizes.

Ultra Blue PVCO (C909)

- Ultra Blue PVCO pipe is the highest-performing, lightest-weight, most cost-effective pressure pipe for potable water and force main systems.
- Ultra Blue:
 - Is molecularly oriented for a wall that is four times stronger than conventional PVC at half the thickness, with a larger interior diameter for improved performance.
 - Features superior crush-, break- and notch-resistance, greater tapping strength and high pressure toughness.
 - Maintains performance against tuberculation, corrosion and external galvanic soil conditions without lining wrapping, coating or cathodic protection.
 - Keeps its smooth interior over long years of service with virtually no loss in carrying capacity, allowing for savings in pumping costs, as well as savings on the size of the pipe required.



Electrical Conduit and Duct

- ▣ Meets ANSI/UL 651 and NEMA TC-2, ASTM F512 and NEMA TC-6 & 8.
- ▣ Electrical Conduit and Power Duct products are suitable for power, telephone and other electrical systems. JM Eagle offers a complete line of Electrical Conduit and Power Duct pipe that includes Schedule 40 and 80 Conduit (NEMA TC-2, ANSI/UL651), Encased and Direct Burial Conduit (ASTM F512, NEMA TC-6; and/or ANSI/UL 651A), and Type C Telephone Duct. The products may be used for above-ground and underground installations, concrete encasements, and direct burials, as well as telephone applications. They are available in 1/2- to 6-inch diameters, in 10- and/or 20-foot lengths, with one bell end, and come in gray. The solvent-weld joints are designed to provide a rigid (or restrained) joint connection, and the schedule-rated products are specifically engineered for use in partial support systems above ground. A complete line of Schedule 40 and 80, utility duct and junction box fittings complements the conduit products.

COLOR

- ▣ Most PVC manufactures purchase raw PVC resin and blend their own approved formula's.
- ▣ Color coding
- ▣ Blue – potable water
- ▣ Green – Sewer
- ▣ Purple – Reclaimed
- ▣ Gray – Conduit
- ▣ Black – HDPE, which can be striped for identification

COLOR

- ▣ AWWA section 4.3.1 Workmanship. States that pipe shall be uniform in color and density. There is no specification on what shade of blue and etc..
- ▣ Most Manufactures have their own shades of color. This comes from the mixing process and how much pigment is being added in the batch. Each batch is then sent to a silo where it waits until extrusion

Standard/ASTM D1599

- ▣ This test covers the determination of the resistance of either thermoplastic or reinforced thermosetting resin pipe, tubing, or fittings to hydraulic pressure in a short time period.

Test method

- ▣ This test method consists of loading a specimen to failure, of a predetermined level, in a short-time interval by means of continuously increasing internal hydraulic-pressure while immersed in a controlled-temperature environment.

Test specimen

- ▣ Specimen size for pipe sizes of 6 in. or less, the specimen length between the end closures shall be not less than five times the outside diameter of the pipe, but in no case less than 12 in. For larger sizes, the minimum length shall be not less three times the outside diameter, but in no case less than 30 in.

Tester



INSTALLATION ERROR

- ▣ Tapping failure



- ▣ Coupon from failed tap



Tapping Failure

- ▣ The number one reason for tapping failures are due too improper tapping methods such as incorrect drill bits or speed.
- ▣ Coupons will indicate if tapping performed correctly.

INSTALLATION ERROR

OVERHOMING



DEFLECTION



Questions ?

Thank you