

HIGH-DENSITY
POLYETHYLENE
COMMUNICATIONS DUCT

MEETS ASTM F2160, NON-PRESSURE-RATED CONDUIT



*Building essentials
for a better tomorrow™*



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POLYETHYLENE
COMMUNICATIONS DUCT

Meets ASTM F2160, non-pressure-rated conduit.



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COMMUNICATION DUCT

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01

PRODUCT DESCRIPTION

HIGH DENSITY POLYETHYLENE COMMUNICATION DUCT PIPE

FOR TELECOM AND FIBER-OPTIC, NON-PRESSURIZED OR -POTABLE APPLICATIONS.

RICH HISTORY

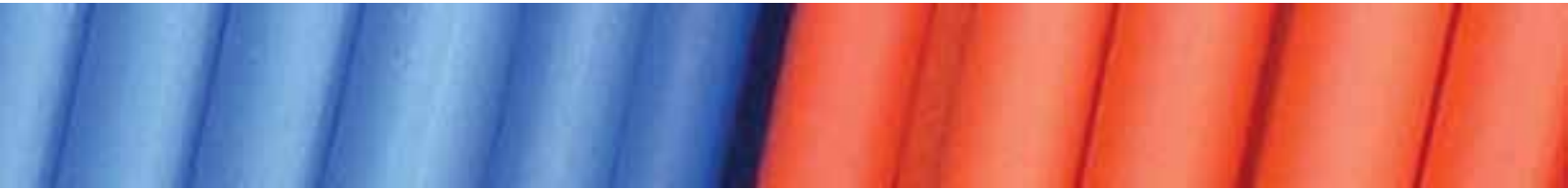
Thanks to the support of its loyal customers and the dedication and hard work from its JM Eagle family members, JM Eagle continues to be the largest manufacturer of PVC pipe in the United States and the world. JM Eagle was formed in 1982 following the purchase of eight PVC pipe manufacturing facilities from the Johns-Manville Corp. Over the course of the years, it has expanded its operations through additional plants in Wharton, Texas; Fontana, Cameron Park, Perris and Visalia, Calif.; Batchelor, La.; Meadville, Pa.; Adel, Ga.; Columbia, Mo.; Hastings, Neb.; and Sunnyside and Tacoma, Wash.; Kingman, Ariz.; Magnolia, Ark.; and Tulsa, Okla. Only a few

pipe manufacturers in the world produce PVC and PE pipe, and JM Eagle is proud to be one of them. With its modern PE pipe production facilities in North America, it is able to fulfill all of its customers' plastic-pipe needs.

DESCRIPTION

JM Eagle manufacturers high-density polyethylene communication duct pipe for telecom and fiber-optic, non-pressurized or -potable applications. It is available in ¾-inch to 6-inch diameters (8-inch and above available upon request), in reels, with or without pull tape, in blue, green, black, orange, white, gray, terracotta and red. It is available with internal lubrication and as parallel reeled.





JM Eagle HDPE communication duct is recognized in the industry for its high stress crack resistance, a coefficient of friction 30 percent lower than PVC, and high tensile strength. It is resistant to corrosive chemicals and aggressive soils and is impervious to bacteria and fungus.

With a COF 30 percent lower than PVC, it remains ductile at low temperatures and offers a maximum operating temperature of 90 degrees, which is compatible with the operating temperatures of the power cables.



LONG LAYING LENGTH

JM Eagle HDPE Communication Duct pipe comes in continuous reels. These lengths allow for greater flexibility in system design, as well as the ability to follow trench contours and avoid underground obstacles.

APPLICABLE SPECIFICATIONS

JM Eagle HDPE communication duct pipe is manufactured in accordance with ASTM F2160, non-pressure-rated conduit. All resin used in HDPE non-pressure duct meets ASTM D3350.

QUALITY CONTROL

JM Eagle takes great pride in the quality and workmanship of all of its products. JM Eagle quality control programs encompass three critical aspects of the manufacturing process: the incoming raw material, pipe production and finished goods. Incoming material is visually inspected and tested to ensure the material meets all applicable requirements before its release for production.



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APPLICATIONS

HIGH DENSITY POLYETHYLENE COMMUNICATION DUCT

(CONTINUED)

During production, JM Eagle visually examines the pipe for any cosmetic defect and collects pipe for physical verification and testing compliance. Personnel subject the pipe to further visual inspection to ensure it has met all the appropriate specifications and packaging requirements. Without exception, JM Eagle pipe is constantly monitored throughout the entire manufacturing process to ensure that it is produced in accordance with all applicable specifications. The JM Eagle Quality Management system is ISO 9001:2000 registered. Copies of the registration certificates are available at www.jmeagle.com.

REDUCED INSTALLATION COST

HDPE Communication Duct is lightweight and flexible, and comes in long lengths, allowing for easy and convenient installation. Because of its flexible nature, it reduces the use of fittings and remains ductile at low temperatures. In addition, its longer pull lengths mean manholes can be placed farther apart, with fewer joints needed for directional drilling and plowing.



APPLICATIONS

HIGH-DENSITY POLYETHYLENE COMMUNICATION DUCT

PE 3408/3608 JM EAGLE™ HDPE COMMUNICATION DUCT PRIMARY PROPERTIES

TABLE 1

PROPERTY	UNIT	TEST PROCEDURE	TYPICAL VALUE
MATERIAL DESIGNATION	—	PPI-TR4	PE 3408/3608
CELL CLASSIFICATION	—	ASTM D3350	* 345464C
DENSITY	g/cm ³	ASTM D1505	0.955
MELT INDEX	g/10 minutes	ASTM D1238	< 0.15
FLEXURAL MODULUS	psi	ASTM D790	110,000 to < 160,000
TENSILE STRENGTH	psi	ASTM D638	3,000 to < 3500
SCG (PENT)	Hours	ASTM F1473	> 100
HDB @ 73.4°F (23°C)	psi	ASTM D2837	1600
HDB @ 140°F (60°C)	psi	ASTM D2837	800
COLOR; UV STABILIZER **	—	—	Black with minimum 2% carbon black
BRITTLENESS TEMPERATURE	°F (°C)	ASTM D746	< -130
HARDNESS	Shore D	ASTM D2240	≥ 60

Note: Non-Black Pipe Cell Classification 345464E, Black Pipe Cell Classification 345464C.

The physical (or chemical) properties of JM Eagle™ products described herein represent typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

* For data, sizes, or classes not reflected in these charts, please contact JM Eagle™ for assistance.

** Colored conduit shall maintain its color for a period of one year when stored outside, or as otherwise agreed to by the specifier and producer.

APPLICATIONS

HIGH-DENSITY POLYETHYLENE COMMUNICATION DUCT

(CONTINUED)

JM EAGLE™ HDPE MARKETS AND APPLICATIONS

TABLE 2

MARKET	COLORS
TELECOM	Black, orange; blue, gray or green available upon request.
CATV	Terracotta; blue, gray or green available upon request.
POWER WIRE	Red.

SHORT FORM SPECIFICATION

HIGH-DENSITY POLYETHYLENE COMMUNICATION DUCT

SCOPE

This specification designates general requirements for ¾-inch through 6-inch high-density PE 3408/3608 for telecommunications.

MATERIALS

JM Eagle HDPE Communication Duct is manufactured with premium highly engineered PE 3408/3608 resin that provides maximum performance benefits to service all of today's municipal and industrial telecommunications needs. It is formulated with a minimum of 2 percent carbon black for maximum protection against UV rays for added assurance. Colored conduit is expected to maintain its color for one year when stored outside.

JM Eagle HDPE Communication Duct material meets or exceeds the requirement outlined in ASTM F2160.

STANDARD LAYING LENGTHS

HDPE telecommunications duct is available in continuous reels. Its longer lengths provide convenience in installation and allow for significant cost savings in labor and equipment.

INSTALLATION DESIGN

HDPE conduit provides effortless installation utilizing the newest technology available today. JM Eagle's HDPE pipe can be joined by various heat fusion methods (see installation guide) such as electrofusion, socket fusion, butt fusion and saddle fusion. Mechanical connections can also be applied to HDPE Communication Duct.

APPLICATIONS

JM Eagle HDPE Communication Duct is versatile and can be used in a wide range of applications including telecom, cable and power.



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DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET

NOMINAL SIZES (IN)	O.D. (IN)	DR	MINIMUM WALL (IN)	AVERAGE I.D. (IN)	WEIGHT (LBS/FT)	STANDARD FT. PER REEL	REEL SIZE (H X W X D)	REEL/TRUCK
0.75	1.05	11	0.095	0.849	0.1243	10000	96" x 48" x 32"	12
		13.5	0.078	0.885	0.1040	10000	96" x 48" x 32"	12
1	1.315	11	0.120	1.061	0.1965	10000	96" x 48" x 32"	12
		13.5	0.097	1.109	0.1621	10000	96" x 48" x 32"	12
		SCH40	0.133	1.033	0.2152	10000	96" x 48" x 32"	12
1.25	1.66	11	0.151	1.340	0.2132	7500	96" x 48" x 32"	12
		13.5	0.123	1.399	0.2594	7500	96" x 48" x 32"	12
		SCH40	0.140	1.363	0.2917	7500	96" x 48" x 32"	12
		SCH80	0.191	1.255	0.3939	7500	96" x 48" x 32"	12
1.5	1.9	11	0.173	1.533	0.4094	6000	102" x 48" x 36"	12
		13.5	0.141	1.601	0.3403	6000	102" x 48" x 36"	12
		SCH40	0.145	1.593	0.3491	6000	102" x 48" x 36"	12
		SCH80	0.200	1.476	0.4655	6000	102" x 48" x 36"	12
2	2.375	11	0.216	1.917	0.6391	3000	96" x 48" x 45"	12
						5000	102" x 48" x 45"	12
		13.5	0.176	2.002	0.5310	3000	96" x 48" x 45"	12
						5000	102" x 48" x 45"	12
		SCH40	0.154	2.049	0.4696	3000	96" x 48" x 45"	12
						5000	102" x 48" x 45"	12
		SCH80	0.218	1.913	0.6444	3000	96" x 48" x 45"	12
						5000	102" x 48" x 45"	12
3	3.5	11	0.318	2.826	1.3867	1000	96" x 48" x 45"	12
						13.5	0.259	2.951
		SCH40	0.216	3.042	0.9741	1000	96" x 48" x 45"	12
						SCH80	0.300	2.864
4	4.5	11	0.409	3.633	2.2930	725	102" x 48" x 68"	12
						13.5	0.333	3.794
		SCH40	0.237	3.998	1.3883	stick pipe only	N/A	N/A
						SCH80	0.337	3.786
5	5.563	11	0.506	4.490	3.5067	500	102" x 48" x 70"	12
						13.5	0.412	4.690
		SCH40	0.258	5.016	1.8815	stick pipe only	N/A	N/A
						SCH80	0.375	4.768
6	6.625	11	0.602	5.349	4.9690	450	120" x 48" x 85"	8
		13.5	0.491	5.584	4.1325	450	120" x 48" x 85"	8
10	10.75	9	1.194	8.219	15.68	stick pipe only	N/A	N/A

* For data, sizes, or classes not reflected in these charts, please contact JM Eagle™ for assistance.

DIMENSIONS AND WEIGHTS

SUBMITTAL AND DATA SHEET

(CONTINUED)

REFERENCE STANDARDS

ASTM D638	Standard Test Method for Tensile Properties of Plastics
ASTM D790	Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulation Materials
ASTM D1238	Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
ASTM D1505	Standard Test Method for Density of Plastics by the Density-Gradient Technique
ASTM D2837	Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
ASTM D3350	Standard Specification for Polyethylene Plastic Pipe and Fittings Material
ASTM F412	Standard Terminology Relating to Plastic Piping Systems
ASTM F2160	Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)

WARRANTY

JM EAGLE™ PRODUCTS LIMITED WARRANTY

J-M Manufacturing Co., Inc. (JM Eagle™) warrants that its standard polyvinyl chloride (PVC), polyethylene (PE), conduit/plumbing/solvent weld and Acrylonitrile-Butadiene-Styrene (ABS) pipe Products ("Products") are manufactured in accordance with applicable industry specifications referenced on the Product and are free from defects in workmanship and materials. Every claim under this warranty shall be void unless in writing and received by JM Eagle™ within thirty (30) days of the date the defect was discovered, and within one (1) year of the date of shipment from the JM Eagle™ plant. Claims for Product appearance defects, such as sun-bleached pipe etc., however, must be made within thirty (30) days of the date of the shipment from the JM Eagle™ plant. This warranty specifically excludes any Products allowed to become sun-bleached after shipment from the JM Eagle™ plant. Proof of purchase with the date thereof must be presented to the satisfaction of JM Eagle™, with any claim made pursuant to this warranty. JM Eagle™ must first be given an opportunity to inspect the alleged defective Products in order to determine if it meets applicable industry standards, if the handling and installation have been satisfactorily performed in accordance with JM Eagle™ recommended practices and if operating conditions are within standards. Written permission and/or a Return Goods Authorization (RGA) must be obtained along with instructions for return shipment to JM Eagle™ of any Products claimed to be defective.

The limited and exclusive remedy for breach of this Limited Warranty shall be, at JM Eagle's sole discretion, the replacement of the same type, size and like quantity of non-defective Product, or credits, offsets, or combination of thereof, for the wholesale purchase price of the defective unit.

This Limited Warranty does not apply for any Product failures caused by user's flawed designs or specifications, unsatisfactory applications, improper installations, use in conjunction with incompatible materials, contact with aggressive chemical agents, freezing or overheating of liquids in the product and any other misuse causes not listed here. This Limited Warranty also excludes failure or damage caused by fire stopping materials, thread sealants, plasticized vinyl Products or damage caused by the fault or negligence of anyone other than JM Eagle™, or any other act or event beyond the control of JM Eagle™.

JM Eagle's liability shall not, at any time, exceed the actual wholesale purchase price of the Product. The warranties in this document are the only warranties applicable to the Product and there are no other warranties, expressed or implied. This Limited Warranty specifically excludes any liability for general damages, consequential or incidental damages, including without limitation, costs incurred from removal, reinstallation, or other expenses resulting from any defect. IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED AND JM EAGLE™ SHALL NOT BE LIABLE IN THIS RESPECT NOTWITHSTANDING JM EAGLE'S ACTUAL KNOWLEDGE OF THE PRODUCT'S INTENDED USE.

JM Eagle's Products should be used in accordance with standards set forth by local plumbing and building laws, codes, or regulations and the applicable standards. Failure to adhere to these standards shall void this Limited Warranty. Products sold by JM Eagle™ that are manufactured by others are warranted only to the extent and limits of the warranty of the manufacturer. No statement, conduct or description by JM Eagle™ or its representative, in addition to or beyond this Limited Warranty, shall constitute a warranty. This Limited Warranty may only be modified in writing signed by an officer of JM Eagle™.

PLANT LOCATIONS

ADEL

2101 J-M Drive
Adel, Georgia 31620

BATCHELOR

2894 Marion Monk Road
Batchelor, Louisiana 70715

BUTNER

2602 West Lyon Station Road
Creedmoor, North Carolina 27522

CAMERON PARK

3500 Robin Lane
Cameron Park, California 95682

COLUMBIA

6500 North Brown Station Road
Columbia, Missouri 65202

CONROE

101 East Avenue M
Conroe, Texas 77301

FONTANA

10990 Hemlock Avenue
Fontana, California 92337

HASTINGS

146 North Maple Avenue
Hastings, Nebraska 68901

KINGMAN

4620 Olympic Way
Kingman, Arizona 86401

MAGNOLIA

2220 Duracrete Drive
Magnolia, Arkansas 71753

MCNARY

31240 Roxbury Road
Umatilla, Oregon 97882

MEADVILLE

15661 Delano Road
Cochranton, Pennsylvania 16314

PERRIS

23711 Rider Street
Perris, California 92570

PUEBLO

1742 E. Platteville Boulevard
Pueblo West, Colorado 81007

STOCKTON

1051 Sperry Road
Stockton, California 95206

SUNNYSIDE

1820 South First Street
Sunnyside, Washington 98944

TACOMA

2330 Port of Tacoma Road
Tacoma, Washington 98421

TULSA

4501 West 49th Street
Tulsa, Oklahoma 74107

VISALIA

8875 Avenue 304
Visalia, California 93291

WHARTON

10807 US 59 RD
Wharton, Texas 77488

WILTON

1314 W. Third Street
Wilton, Iowa 52778

MEXICO

PLASTICS TECHNOLOGY
DE MÉXICO S DE R.L. DE S.A.
Av. Montes Urales No. 8 y 10
Parque Industrial Opción, Carretera
57 Qro. -S.L.P. Km. 57.8
C.P. 37980 San José Iturbide,
Guanajuato México

** Our Mexico location is a joint
venture between JM Eagle™ and
Plastics Technology*

GLOBAL HEADQUARTERS

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Los Angeles, California 90045

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Nine Peach Tree Hill Road
Livingston, New Jersey 07039

J-M Manufacturing Co., Inc. and PW Eagle, Inc. are doing business as JM Eagle™.

JM Eagle

- THE LEADER IN PIPE INNOVATION
- THE HIGHEST LEVEL OF QUALITY
- THE LARGEST BREADTH OF PRODUCT
- THE WIDEST CAPACITY
- EXPRESS DELIVERY



PLANT LOCATIONS

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