**Atkore- HDPE**

This product specification is written according to the Construction Specifications Institute *MasterFormat,* 2018 Update.

**SECTION 26 05 33.13**

**CONDUIT FOR ELECTRICAL SYSTEMS – HDPE**

PART 1 - GENERAL

* 1. RELATED DOCUMENTS

1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections apply to this Section.
   1. SUMMARY
2. This Section includes the following:
3. HDPE conduit
4. Related Sections
5. Section 26 05 26 “Grounding and Bonding for Electrical Systems”
6. Section 26 05 29 “Hangers and Supports for Electrical Systems”
7. Section 26 05 33.16 “Boxes for Electrical Systems”
8. Section 27 05 33 “Conduits and Backboxes for Communications Systems”
9. Section 25 05 28.33 “Conduits and Backboxes for Integrated Automation”
   1. REFERENCES
10. ASTM F2160 Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD).
11. ASTM D 2239 Polyethylene (PE) Plastic Pipe (SIDR) Based on Controlled Inside Diameter.
12. ASTM D3350 Specification for Polyethylene Plastics Pipe and Fittings Material
13. ASTM D2412 External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
14. ASTM D2444 Low Temperature Impact Resistance by Falling Weight.
15. UL 651A High-Density Polyethylene (HDPE) Conduit
16. NEMA TC-7 Smooth Wall Coilable Polyethylene Electrical Plastic Conduit.
17. NFPA 70 – *National Electrical Code® (NEC®)*
18. Plastic Pipe institute Second Edition Handbook of PE Pipe 2008 – Chapter 14 Page 9 Duct and Conduit
    1. SUBMITTALS
19. Manufacturer’s Product Data
20. Certifications to applicable standards
21. Domestic certifications: When required to Buy American Act or Buy America Act, comply with the provisions of Section 01 33 13
    1. QUALITY ASSURANCE
22. HDPE UL Conduit shall be listed and manufactured in accordance with UL 651A.
23. HDPE General Conduit shall be listed and manufactured in accordance with ASTM F2160 and NEMA TC-7.
24. Electrical equipment and materials shall be new and within one year of manufacture, complying with the latest codes and standards. No used, re-built, refurbished and/or re-manufactured electrical equipment and materials shall be furnished on this project.
25. Testing Agency Qualifications: Testing/listing agency shall be one of the following Nationally Recognized Testing Laboratories:
26. Underwriters Laboratories (UL)
27. Intertek Testing Services (ETL)
28. NSF International
    1. STORAGE AND HANDLING
29. Storage: If conduit is stored outdoors, it shall be stored in such a way as to allow air circulation and water drain-off and shall not be directly covered with plastic as per ASTM F2160. Non-UV exposed colored conduit (black included) is protected against UV degradation while outdoors and uncovered for a period of no less than 1 year in compliance with ASTM F2160.

PART 2 – PRODUCTS

2.1 BRANDS

* + 1. Atkore: Allied Tube & Conduit – Heritage Plastics and United Poly Systems

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  Harvey, IL 60426

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2.2 HDPE CONDUIT

2.2.1 ASTM F2160 Compliant Conduit

1. HDPE Conduit produced according to ASTM F2160 shall be available in trade sizes ½” – 26” IPS.
2. HDPE Conduit produced according to ASTM F2160 shall be listed and manufactured in accordance with ASTM F2160.
3. HDPE Conduit can be produced according to ASTM F2160 and NEMA TC-7 when requested by the customer.
4. HDPE Conduit is permitted to contain power conductors rated at 90°C (“wet”) and medium voltage cable rated at 105 °C (“dry”).

2.2.2 UL 651A Compliant Conduit

1. HDPE Conduit produced according to UL 651A shall be available in trade sizes 1”-6” IPS.
2. HDPE Conduit shall be listed and manufactured in accordance with UL 651A.
3. HDPE Conduit can be produced according to UL651A and NEMA TC-7 when requested by the customer.
4. HDPE Conduit produced to UL 651A shall be labeled or marked showing evidence of third-party listing to product standard where applicable.
5. HDPE Conduit produced to UL 651A and NEMA TC-7 shall be labeled or marked showing evidence of third-party listing to product standards where applicable.

2.3 FITTINGS

1. Fittings, including fabricated fittings, junction-box adapters, expansion joints, threaded adapters and service entrance heads shall be listed to UL 651A and manufactured in accordance with NEMA TC-7.
2. Fittings for use in wet locations shall be listed for use in wet locations.

PART 3 – EXECUTION

3.1 INSTALLATION

1. HDPE Conduit, elbows and fittings shall be installed in compliance with the latest version of the National Electrical Code® (NEC®) and other applicable codes and standards as indicated elsewhere in these specifications.
2. HDPE Conduit, elbows and fittings shall be installed in accordance with NECA National Electrical Installation Standard (NEIS) 111, *Standard for Installing Nonmetallic Raceways.*
3. HDPE Conduit shall be installed following ASTM F2620 standard practice for heat fusion joining of polyethylene pipe and fittings.
4. HDPE Conduit shall be acceptable where not subject to physical damage.