SECTION 26 05 23

ELECTRICAL CABLES

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\*\* NOTE TO SPECIFIER \*\* Genesis; cables, cabling.  
.  
This section is based on the products of Genesis, which is located at:  
7701 95th St.  
Pleasant Prairie, WI 53158  
Toll Free Tel: 800-222-0060  
Tel: 262-947-0720   
Fax: 262-947-0724   
Email: [request info (daniel.dunar@resideo.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Genesis&coid=48358&rep=&fax=262-947-0724)  
Web: <https://www.genesis.resideo.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos48/arc48358.html) ] for additional information.  
At Genesis, our entire line of cable products is designed to better enable the daily success of Architects and Engineers (A&Es), Security Designers, and Consultants. Giving you the confidence to specify the right cable for each and every application - and supporting you every step of the way - we provide the backbone to a variety of home and building systems.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Cabling for the following applications:
       1. Security Cables:
          1. Type: Plenum Rated, Unshielded.
          2. Type: Plenum Rated, Shielded.
          3. Type: Riser Rated, Unshielded.
          4. Type: Riser Rated, Shielded.
          5. Type: General Purpose Rated, Unshielded.
          6. Type: General Purpose Rated, Shielded.
       2. Access Control Cables:
          1. Type: Plenum Rated Profusion Unjacketed Bundle.
          2. Type: Plenum Rated Jacketed Bundle.
          3. Type: Riser Rated Profusion Unjacketed Bundle.
          4. Type: Riser Rated Jacketed Bundle.
       3. Video Surveillance Cables:
          1. Type: Plenum Rated.
          2. Type: Riser Rated.
          3. Type: General Purpose Rated.
          4. Type: Water Resistant Rated.
       4. Network & IP Cables:
          1. Type: Category 6A.
          2. Type: Category 6 Plus.
          3. Type: Category 6.
          4. Type: Category 5e.
       5. Fire Alarm Cables:
          1. Type: Plenum Rated, Unshielded.
          2. Type: Plenum Rated, Shielded.
          3. Type: Riser Rated, Unshielded.
          4. Type: Riser Rated, Shielded.
          5. Type: General Purpose Rated, Unshielded.
          6. Type: General Purpose Rated, Shielded.
          7. Type: Metal Clad.
          8. Type: Direct Burial.
          9. Type: New York City Local Law 5.
       6. HVAC & Thermostat Cables:
          1. Type: Hybrid.
          2. Type: General Purpose Rated.
          3. Type: Plenum Rated.
          4. Type: SPINALCORD Mini Split, Jacketed Metal Clad Cables.
          5. Type: Mini Split Tray Cables.
       7. Intelligent Building System (IBS) Cables:
          1. Type: BACnet/EIA-485.
          2. Type: Echelon LonWorks.
       8. Irrigation, Tracer, and Lighting Cables:
          1. Irrigation/Tracer.
          2. Underground Lighting.
       9. Audio/Video Cables:
          1. Type: Audacious Premium Audio.
          2. Type: Audacious Direct Burial Premium Audio.
          3. Type: Home Theater Sound.
          4. Type: Plenum Rated Video.
          5. Type: Riser Rated Video.
          6. Type: General Purpose Rated Video.
          7. Type: Water Resistant Rated Video.
       10. Multimedia Cables.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any irrelevant sections below; add others as required.

* + 1. Section 28 18 00 - Security Access Detection Equipment.
    2. Section 28 16 00 - Intrusion Detection.
    3. Section 41 67 19 - Plant Safety Equipment.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. Underwriter's Laboratories (UL):
       1. UL 13 - Power-Limited Circuit Cables.
       2. UL 444 - Communications Cables.
       3. UL 1277 - Electrical Power and Control Tray Cables with Optional Fiber Members
       4. UL 1424 - Cables for Power-Limited Fire-Alarm Circuits.
       5. UL 1569 - Metal-Clad Cables.
       6. UL 1838 - Low Voltage Landscape Lighting Systems.
    2. National Electric Code (NEC):
       1. Article 330.
       2. Article 336.
       3. Article 725.
       4. Article 760.
       5. Article 800.
       6. Article 820.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data: Manufacturer's data sheets and detail drawings for each product to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Product literature.
        4. Installation methods.
     3. Manufacturers Certificates, if applicable: Certify product meet or exceed specified requirements.
     4. Testing Agency Qualifications: Products listed by Underwriters Laboratories (UL) or Electrical Testing Laboratories (ETL).
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards.
     2. Test cable upon receipt at project site.
        1. Test each UTP cable pair for shorts or opens.
        2. Test coaxial cables for shorts or opens.
     3. Store products indoors in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.
        1. Storage and handling of cables in ambient temperatures of 32 degrees F or less: Allow cable to acclimate to room temperature for at least 24 hours before installation to ensure optimal cable flexibility.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install systems under environmental conditions outside manufacturer's recommended limits.
     2. Do not install UTP, coaxial, and low-voltage cables and connecting materials in wet work areas. Area must be completely dry and temporary HVAC or other controlled systems must be operating and maintaining proper temperature and humidity.
        1. Exceptions: Manufacturer's cable is indoor/outdoor rated.
           1. Water resistant coaxial cables.
           2. Water resistant UTP cables.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Genesis, which is located at: 7701 95th St.; Pleasant Prairie, WI 53158; Toll Free Tel: 800-222-0060; Tel: 262-947-0720 ; Fax: 262-947-0724 ; Email: [request info (daniel.dunar@resideo.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Genesis&coid=48358&rep=&fax=262-947-0724); Web: <https://www.genesis.resideo.com>

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. SECURITY CABLES (ARTICLE 725/800)

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated, Unshielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Plenum PVC.
          3. Shield: Unshielded.
          4. Jacket Material: Plenum PVC.
          5. Listings: CMP, CL3P, FPLP, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 3101: 22 AWG, 2 solid conductors.
        2. Part 3102: 22 AWG, 2 stranded conductors.
        3. Part 3103: 22 AWG, 4 solid conductors.
        4. Part 3104: 22 AWG, 4 stranded conductors.
        5. Part 3106: 22 AWG, 6 stranded conductors.
        6. Part 3247: 22 AWG, 3 stranded conductor pairs.
        7. Part 3107: 22 AWG, 8 stranded conductors.
        8. Part 3248: 22 AWG, 4 stranded conductor pairs.
        9. Part 3108: 22 AWG, 10 stranded conductors.
        10. Part 3109: 22 AWG, 12 stranded conductors.
        11. Part 3114: 18 AWG, 2 stranded conductors.
        12. Part 3126: 18 AWG, 3 stranded conductors.
        13. Part 3115: 18 AWG, 4 stranded conductors.
        14. Part 3116: 18 AWG, 6 stranded conductors.
        15. Part 3117: 18 AWG, 8 stranded conductors.
        16. Part 3118: 18 AWG, 10 stranded conductors.
        17. Part 3119: 18 AWG, 12 stranded conductors.
        18. Part 3121: 16 AWG, 2 stranded conductors.
        19. Part 3129: 16 AWG, 3 stranded conductors.
        20. Part 3122: 16 AWG, 4 stranded conductors.
        21. Part 3123: 14 AWG, 2 stranded conductors.
        22. Part 3124: 14 AWG, 4 stranded conductors.
        23. Part 3125: 12 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated, Shielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Plenum PVC.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: Plenum PVC.
          5. Listings: CMP, CL3P, FPLP, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 3201: 22 AWG, 2 solid conductors, shielded.
        2. Part 3202: 22 AWG, 2 stranded conductors, shielded.
        3. Part 3227: 22 AWG, 3 stranded conductors, shielded.
        4. Part 3203: 22 AWG, 4 solid conductors, shielded.
        5. Part 3204: 22 AWG, 4 stranded conductors, shielded.
        6. Part 3281: 22 AWG, 2 stranded conductor pairs, shielded.
        7. Part 3206: 22 AWG, 6 stranded conductors, shielded.
        8. Part 3207: 22 AWG, 8 stranded conductors, shielded.
        9. Part 3208: 22 AWG, 10 stranded conductors, shielded.
        10. Part 3209: 22 AWG, 12 stranded conductors, shielded.
        11. Part 3214: 18 AWG, 2 stranded conductors, shielded.
        12. Part 3226: 18 AWG, 3 stranded conductors, shielded.
        13. Part 3215: 18 AWG, 4 stranded conductors, shielded.
        14. Part 3276: 18 AWG, 5 stranded conductors, shielded.
        15. Part 3216: 18 AWG, 6 stranded conductors, shielded.
        16. Part 3217: 18 AWG, 8 stranded conductors, shielded.
        17. Part 3218: 18 AWG, 10 stranded conductors, shielded.
        18. Part 3221: 16 AWG, 2 stranded conductors, shielded.
        19. Part 3222: 16 AWG, 4 stranded conductors, shielded.
        20. Part 3223: 14 AWG, 2 stranded conductors, shielded.
        21. Part 3224: 14 AWG, 4 stranded conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated, Unshielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: Unshielded.
          4. Jacket Material: PVC.
          5. Listings: CMR, CL3R, FPLR, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 2101: 22 AWG, 2 solid conductors.
        2. Part 2102: 22 AWG, 2 stranded conductors.
        3. Part 2103: 22 AWG, 4 solid conductors.
        4. Part 2104: 22 AWG, 4 stranded conductors.
        5. Part 2106: 22 AWG, 6 stranded conductors.
        6. Part 2109: 22 AWG, 12 stranded conductors.
        7. Part 2114: 18 AWG, 2 stranded conductors.
        8. Part 2115: 18 AWG, 4 stranded conductors.
        9. Part 2116: 18 AWG, 6 stranded conductors.
        10. Part 2117: 18 AWG, 8 stranded conductors.
        11. Part 2118: 18 AWG, 10 stranded conductors.
        12. Part 2119: 18 AWG, 12 stranded conductors.
        13. Part 2121: 16 AWG, 2 stranded conductors.
        14. Part 2122: 16 AWG, 4 stranded conductors.
        15. Part 2123: 14 AWG, 2 stranded conductors.
        16. Part 2124: 14 AWG, 4 stranded conductors.
        17. Part 2125: 12 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated, Shielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: PVC.
          5. Listings: CMR, CL3R, FPLR, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 2202: 22 AWG, 2 stranded conductors, shielded.
        2. Part 2203: 22 AWG, 4 solid conductors, shielded.
        3. Part 2204: 22 AWG, 4 stranded conductors, shielded.
        4. Part 2206: 22 AWG, 6 stranded conductors, shielded.
        5. Part 2207: 22 AWG, 8 stranded conductors, shielded.
        6. Part 2208: 22 AWG, 10 stranded conductors, shielded.
        7. Part 2209: 22 AWG, 12 stranded conductors, shielded.
        8. Part 2214: 18 AWG, 2 stranded conductors, shielded.
        9. Part 2215: 18 AWG, 4 stranded conductors, shielded.
        10. Part 2216: 18 AWG, 6 stranded conductors, shielded.
        11. Part 2217: 18 AWG, 8 stranded conductors, shielded.
        12. Part 2218: 18 AWG, 10 stranded conductors, shielded.
        13. Part 2219: 18 AWG, 12 stranded conductors, shielded.
        14. Part 2221: 16 AWG, 2 stranded conductors, shielded.
        15. Part 2222: 16 AWG, 4 stranded conductors, shielded.
        16. Part 2223: 14 AWG, 2 stranded conductors, shielded.
        17. Part 2224: 14 AWG, 4 stranded conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated, Unshielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: Unshielded.
          4. Jacket Material: PVC.
          5. Listings: CM, CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 1101: 22 AWG, 2 solid conductors.
        2. Part 1102: 22 AWG, 2 stranded conductors.
        3. Part 1103: 22 AWG, 4 solid conductors.
        4. Part 1104: 22 AWG, 4 stranded conductors.
        5. Part 1106: 22 AWG, 6 solid conductors.
        6. Part 1107: 22 AWG, 6 stranded conductors.
        7. Part 1108: 22 AWG, 8 solid conductors.
        8. Part 1109: 22 AWG, 8 stranded conductors.
        9. Part 1110: 22 AWG, 10 solid conductors.
        10. Part 1111: 22 AWG, 10 stranded conductors.
        11. Part 1112: 22 AWG, 12 solid conductors.
        12. Part 1113: 22 AWG, 12 stranded conductors.
        13. Part 1118: 18 AWG, 2 stranded conductors.
        14. Part 1130: 18 AWG, 3 stranded conductors.
        15. Part 1119: 18 AWG, 4 stranded conductors.
        16. Part 1120: 18 AWG, 6 stranded conductors.
        17. Part 1121: 18 AWG, 8 stranded conductors.
        18. Part 1123: 18 AWG, 12 stranded conductors.
        19. Part 1125: 16 AWG, 2 stranded conductors.
        20. Part 1126: 16 AWG, 4 stranded conductors.
        21. Part 1131: 14 AWG, 1 solid conductor.
        22. Part 1127: 14 AWG, 2 stranded conductors.
        23. Part 1129: 12 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated, Shielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: PVC.
          5. Listings: CM, CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 1202: 22 AWG, 2 stranded conductors, shielded.
        2. Part 1204: 22 AWG, 4 stranded conductors, shielded.
        3. Part 1206: 22 AWG, 6 stranded conductors, shielded.
        4. Part 1207: 22 AWG, 8 stranded conductors, shielded.
        5. Part 1208: 22 AWG, 10 stranded conductors, shielded.
        6. Part 1209: 22 AWG, 12 stranded conductors, shielded.
        7. Part 1214: 18 AWG, 2 stranded conductors, shielded.
        8. Part 1228: 18 AWG, 3 stranded conductors, shielded.
        9. Part 1215: 18 AWG, 4 stranded conductors, shielded.
        10. Part 1216: 18 AWG, 6 stranded conductors, shielded.
        11. Part 1217: 18 AWG, 8 stranded conductors, shielded.
        12. Part 1218: 18 AWG, 10 stranded conductors, shielded.
        13. Part 1221: 16 AWG, 2 stranded conductors, shielded.
        14. Part 1229: 16 AWG, 3 stranded conductors, shielded.
        15. Part 1222: 16 AWG, 4 stranded conductors, shielded.
        16. Part 1223: 14 AWG, 2 stranded conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. ACCESS CONTROL CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Profusion Unjacketed Bundle:
       1. Part 3195: Plenum Rated, CMP, CL3P, FPLP, FT6 Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors.
          3. Component 3: 22 AWG, 2 stranded conductors.
          4. Component 4: 22 AWG, 4 stranded conductors.
       2. Part 3295: Plenum Rated, CMP, CL3P, FPLP, FT6 Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors, shielded.
          3. Component 3: 22 AWG, 2 stranded conductors, shielded.
          4. Component 4: 22 AWG, 4 stranded conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Jacketed Bundle:
       1. Part 3196: Plenum Rated, CMP, CL3P, FPLP, FT6 Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors.
          3. Component 3: 22 AWG, 2 stranded conductors.
          4. Component 4: 22 AWG, 4 stranded conductors.
       2. Part 3296: Plenum Rated, CMP, CL3P, FPLP, FT6 Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors, shielded.
          3. Component 3: 22 AWG, 2 stranded conductors, shielded.
          4. Component 4: 22 AWG, 4 stranded conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Profusion Unjacketed Bundle:
       1. Part 2195: Riser Rated, CMR, CL3R, FPLR, FT4, Sunlight Resistant Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors.
          3. Component 3: 22 AWG, 2 stranded conductors.
          4. Component 4: 22 AWG, 4 stranded conductors.
       2. Part 2295: Riser Rated, CMR, CL3R, FPLR, FT4, Sunlight Resistant Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors, shielded.
          3. Component 3: 22 AWG, 2 stranded conductors, shielded.
          4. Component 4: 22 AWG, 4 stranded conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Jacketed Bundle:
       1. Part 2196: Riser Rated, CMR, CL3R, FPLR, FT4, Sunlight Resistant Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors.
          3. Component 3: 22 AWG, 2 stranded conductors.
          4. Component 4: 22 AWG, 4 stranded conductors.
       2. Part 2296: Riser Rated, CMR, CL3R, FPLR, FT4, Sunlight Resistant Listed.
          1. Component 1: 22 AWG, 6 stranded conductors, shielded.
          2. Component 2: 18 AWG, 4 stranded conductors, shielded.
          3. Component 3: 22 AWG, 2 stranded conductors, shielded.
          4. Component 4: 22 AWG, 4 stranded conductors, shielded.
  1. VIDEO SURVEILLANCE CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated:
       1. Construction:
          1. Center Conductor Material: Bare Copper.
          2. Shield: 95% Bare Copper Braid.
          3. Jacket Material: Plenum PVC.
          4. Listings: CMP, CL2P, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5352: 18 AWG RG6.
        2. Part 5351: 20 AWG RG59.
        3. Part 5355: 20 AWG RG59 + 18 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated:
       1. Construction:
          1. Center Conductor Material: Bare Copper.
          2. Shield: 95% Bare Copper Braid.
          3. Jacket Material: PVC.
          4. Listings: CMR, CL2R, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5302: 18 AWG RG6.
        2. Part 5301: 20 AWG RG59.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated:
       1. Construction:
          1. Center Conductor Material: Bare Copper.
          2. Shield: 95% Bare Copper (BC) or Copper Clad Aluminum (CCA) Braid.
          3. Jacket Material: PVC.
          4. Listings: CM, CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5002: 18 AWG RG6, BC Braid.
        2. Part 5001: 20 AWG RG59, BC Braid.
        3. Part 5013: 20 AWG RG59, BC Braid + 18 AWG, 2 stranded conductors.
        4. Part 6501: 20 AWG RG59, CCA Braid.
        5. Part 6508: 20 AWG RG59, CCA Braid + 18 AWG, 2 stranded conductors.
        6. Part 5020: 24 AWG, BC Braid.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Water Resistant Rated:
       1. Construction:
          1. Center Conductor Material: Bare Copper.
          2. Shield: 95% Bare Copper Braid.
          3. Jacket Material: Polyethylene.
          4. Approvals: Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - 1. Part 5103: 20 AWG RG59.
         1. Part 5104: 20 AWG RG59 + 18 AWG, 2 stranded conductors.
  1. NETWORK & IP CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Category 6A:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: FEP.
          3. Jacket Material: Plenum PVC.
          4. Listings: CMP, CL2P, FT6.
          5. Sweep Test Frequency: 500 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 6A.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5393: 23 AWG, 4 Unshielded Twisted Pairs (UTP).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Category 6A:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polyethylene.
          3. Jacket Material: PVC.
          4. Listings: CMR, FT4, Sunlight Resistant.
          5. Sweep Test Frequency: 500 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 6A.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5193: 23 AWG, 4 Unshielded Twisted Pairs (UTP).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Category 6 Plus Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: FEP.
          3. Jacket Material: Plenum PVC.
          4. Listings: CMP, FT6.
          5. Sweep Test Frequency: 500 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5102: 23 AWG, 4 Unshielded Twisted Pairs (UTP).
        2. Part 5392: 23 AWG, 4 Foil Screened Twisted Pairs (F/UTP).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Category 6 Plus Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polyethylene.
          3. Jacket Material: PVC.
          4. Listings: CMR, FT4, Sunlight Resistant.
          5. Sweep Test Frequency: 500 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5092: 23 AWG, 4 Unshielded Twisted Pairs (UTP).
        2. Part 5192: 23 AWG, 4 Foil Screened Twisted Pairs (F/UTP).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Category 6 Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: FEP.
          3. Jacket Material: Plenum PVC.
          4. Listings: CMP, FT6.
          5. Sweep Test Frequency: 350 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 6361: 23 AWG, 4 Unshielded Twisted Pairs.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Category 6 Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polyethylene.
          3. Jacket Material: PVC.
          4. Listings: CMR, FT4, Sunlight Resistant.
          5. Sweep Test Frequency: 350 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 6360: 23 AWG, 4 Unshielded Twisted Pairs.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Category 5e Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: FEP.
          3. Jacket Material: Plenum PVC.
          4. Listings: CMP, FT6.
          5. Sweep Test Frequency: 350 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 5e.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5088: 24 AWG, 4 Unshielded Twisted Pairs (UTP).
        2. Part 5388: 23 AWG, 4 Foil Screened Twisted Pairs (F/UTP).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Category 5e Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polyethylene.
          3. Jacket Material: PVC.
          4. Listings: CMR, FT4, Sunlight Resistant.
          5. Sweep Test Frequency: 350 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 5e.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5078: 24 AWG, 4 Unshielded Twisted Pairs (UTP).
        2. Part 5178: 24 AWG, 4 Foil Screened Twisted Pairs (F/UTP).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Direct Burial Rated Category 5e Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Jacket Material: LLDPE.
          4. Approvals: Direct Burial, Sunlight Resistant.
          5. Sweep Test Frequency: 350 MHz.
          6. Verified to TIA/EIA-568-C.2 Cat 5e.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5090: 24 AWG, 4 Unshielded Twisted Pairs (UTP).
  1. FIRE ALARM CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated, Unshielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Plenum PVC.
          3. Shield: Unshielded.
          4. Jacket Material: Plenum PVC.
          5. Listings: FPLP, CL3P, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4506: 18 AWG, 2 solid conductors.
        2. Part 4507: 18 AWG, 4 solid conductors.
        3. Part 4508: 18 AWG, 6 solid conductors.
        4. Part 4511: 16 AWG, 2 solid conductors.
        5. Part 4523: 16 AWG, 2 stranded conductors.
        6. Part 4512: 16 AWG, 4 solid conductors.
        7. Part 4526: 16 AWG, 4 stranded conductors.
        8. Part 4513: 14 AWG, 2 solid conductors.
        9. Part 4522: 14 AWG, 2 stranded conductors.
        10. Part 4514: 14 AWG, 4 solid conductors.
        11. Part 4527: 14 AWG, 4 stranded conductors.
        12. Part 4515: 12 AWG, 2 solid conductors.
        13. Part 4521: 12 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated, Shielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Plenum PVC.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: Plenum PVC.
          5. Listings: FPLP, CL3P, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4502: 18 AWG, 2 solid conductors, shielded.
        2. Part 4614: 18 AWG, 2 stranded conductors, shielded.
        3. Part 4603: 18 AWG, 4 solid conductors, shielded.
        4. Part 4604: 18 AWG, 6 solid conductors, shielded.
        5. Part 4606: 16 AWG, 2 solid conductors, shielded.
        6. Part 4607: 16 AWG, 4 solid conductors, shielded.
        7. Part 4608: 14 AWG, 2 solid conductors, shielded.
        8. Part 4609: 14 AWG, 4 solid conductors, shielded.
        9. Part 4610: 12 AWG, 2 solid conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated, Unshielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: Unshielded.
          4. Jacket Material: PVC.
          5. Listings: FPLR, CL3R, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4301: 22 AWG, 4 solid conductors.
        2. Part 4306: 18 AWG, 2 solid conductors.
        3. Part 4431: 18 AWG, 2 solid conductors, mid. capacitance.
        4. Part 4307: 18 AWG, 4 solid conductors.
        5. Part 4308: 18 AWG, 6 solid conductors.
        6. Part 4310: 18 AWG, 10 solid conductors.
        7. Part 4311: 16 AWG, 2 solid conductors.
        8. Part 4432: 16 AWG, 2 solid conductors, mid. capacitance.
        9. Part 4312: 16 AWG, 4 solid conductors.
        10. Part 4313: 14 AWG, 2 solid conductors.
        11. Part 4314: 14 AWG, 4 solid conductors.
        12. Part 4315: 12 AWG, 2 solid conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated, Shielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: PVC.
          5. Listings: FPLR, CL3R, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4402: 18 AWG, 2 solid conductors, shielded.
        2. Part 4441: 18 AWG, 2 solid conductors, shielded, mid. capacitance.
        3. Part 4403: 18 AWG, 4 solid conductors, shielded.
        4. Part 4404: 18 AWG, 6 solid conductors, shielded.
        5. Part 4405: 18 AWG, 8 solid conductors, shielded.
        6. Part 4406: 16 AWG, 2 solid conductors, shielded.
        7. Part 4442: 16 AWG, 2 solid conductors, shielded, mid. capacitance.
        8. Part 4407: 16 AWG, 4 solid conductors, shielded.
        9. Part 4408: 14 AWG, 2 solid conductors, shielded.
        10. Part 4409: 14 AWG, 4 solid conductors, shielded.
        11. Part 4410: 12 AWG, 2 solid conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated, Unshielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: Unshielded.
          4. Jacket Material: PVC.
          5. Listings: FPL, CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4101: 22 AWG, 4 solid conductors.
        2. Part 4102: 22 AWG, 6 solid conductors.
        3. Part 4106: 18 AWG, 2 solid conductors.
        4. Part 4107: 18 AWG, 4 solid conductors.
        5. Part 4108: 18 AWG, 6 solid conductors.
        6. Part 4109: 18 AWG, 8 solid conductors.
        7. Part 4110: 18 AWG, 10 solid conductors.
        8. Part 4111: 16 AWG, 2 solid conductors.
        9. Part 4112: 16 AWG, 4 solid conductors.
        10. Part 4113: 14 AWG, 2 solid conductors.
        11. Part 4114: 14 AWG, 4 solid conductors.
        12. Part 4115: 12 AWG, 2 solid conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated, Shielded:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: PVC.
          5. Listings: FPL, CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4201: 22 AWG, 4 solid conductors, shielded.
        2. Part 4202: 18 AWG, 2 solid conductors, shielded.
        3. Part 4203: 18 AWG, 4 solid conductors, shielded.
        4. Part 4204: 18 AWG, 6 solid conductors, shielded.
        5. Part 4205: 18 AWG, 8 solid conductors, shielded.
        6. Part 4206: 16 AWG, 2 solid conductors, shielded.
        7. Part 4207: 16 AWG, 4 solid conductors, shielded.
        8. Part 4208: 14 AWG, 2 solid conductors, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Metal Clad (Type MC):
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: TFN or THHN/THWN.
          3. Shield: Unshielded.
          4. Armor: Aluminum interlocking.
          5. Marking: Continuous helical red tape.
          6. Listings: Type MC, FPL.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4290: 18 AWG TFN, 2 solid conductors + ground.
        2. Part 4291: 18 AWG TFN, 4 solid conductors + ground.
        3. Part 4292: 16 AWG TFN, 2 solid conductors + ground.
        4. Part 4293: 16 AWG TFN, 4 solid conductors + ground.
        5. Part 4294: 14 AWG THHN, 2 solid conductors + ground.
        6. Part 4295: 14 AWG THHN, 4 solid conductors + ground.
        7. Part 4296: 12 AWG THHN, 2 solid conductors + ground.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Direct Burial Rated:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Semi-rigid PVC.
          3. Shield: Unshielded.
          4. Jacket Material: PVC.
          5. Listings: FPL, CL2, Sunlight Resistant, Direct Burial.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4156: 18 AWG, 2 stranded conductors.
        2. Part 4157: 18 AWG, 4 stranded conductors.
        3. Part 4158: 18 AWG, 6 stranded conductors.
        4. Part 4159: 18 AWG, 8 stranded conductors.
        5. Part 4151: 16 AWG, 2 stranded conductors.
        6. Part 4152: 16 AWG, 4 stranded conductors.
        7. Part 4153: 14 AWG, 2 stranded conductors.
        8. Part 4154: 14 AWG, 4 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. New York City Local Law 5 Rated:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Fluoropolymer.
          3. Jacket Material: Fluoropolymer.
          4. Listings: NYC Certified Fire Alarm, FPLP, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5500: 18 AWG, 1 solid conductor pair.
        2. Part 5501: 18 AWG, 2 solid conductor pairs.
        3. Part 5502: 16 AWG, 1 solid conductor pair.
        4. Part 5503: 16 AWG, 2 solid conductor pairs.
        5. Part 5504: 14 AWG, 1 solid conductor pair.
        6. Part 5506: 14 AWG, 2 solid conductor pairs.
        7. Part 5505: 12 AWG, 1 solid conductor pair.
        8. Part 5550: 18 AWG, 1 solid conductor pair, shielded.
        9. Part 5552: 16 AWG, 1 solid conductor pair, shielded.
        10. Part 5553: 16 AWG, 2 solid conductor pairs, shielded.
        11. Part 5554: 14 AWG, 1 solid conductor pair, shielded.
        12. Part 5555: 14 AWG, 2 solid conductor pairs, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. HVAC & THERMOSTAT CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Hybrid Thermostat Cables
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Jacket Material: PVC.
          4. Listings: CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 6713: 5 Conductors:

18 AWG, 1 solid conductor.

20 AWG, 4 solid conductors.

* + - * 1. Part 6714: 6 Conductors:

18 AWG, 1 solid conductor.

20 AWG, 5 solid conductors.

* + - * 1. Part 6716: 8 Conductors:

18 AWG, 1 solid conductor.

20 AWG, 7 solid conductors.

* + - * 1. Part 6718: 10 Conductors:

18 AWG, 2 solid conductor.

20 AWG, 8 solid conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated Thermostat Cables
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polypropylene.
          3. Jacket Material: PVC.
          4. Listings: CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4701: 20 AWG, 2 solid conductors.
        2. Part 4702: 20 AWG, 3 solid conductors.
        3. Part 4703: 20 AWG, 4 solid conductors.
        4. Part 4704: 20 AWG, 5 solid conductors.
        5. Part 4705: 20 AWG, 6 solid conductors.
        6. Part 4706: 20 AWG, 7 solid conductors.
        7. Part 4707: 20 AWG, 8 solid conductors.
        8. Part 4709: 20 AWG, 10 solid conductors.
        9. Part 4710: 18 AWG, 2 solid conductors.
        10. Part 4711: 18 AWG, 3 solid conductors.
        11. Part 4712: 18 AWG, 4 solid conductors.
        12. Part 4713: 18 AWG, 5 solid conductors.
        13. Part 4714: 18 AWG, 6 solid conductors.
        14. Part 4715: 18 AWG, 7 solid conductors.
        15. Part 4716: 18 AWG, 8 solid conductors.
        16. Part 4717: 18 AWG, 9 solid conductors.
        17. Part 4718: 18 AWG, 10 solid conductors.
        18. Part 4719: 18 AWG, 12 solid conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Thermostat Cables
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Plenum PVC.
          3. Jacket Material: Plenum PVC.
          4. Listings: CL2P, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 4760: 18 AWG, 2 solid conductors.
        2. Part 4761: 18 AWG, 3 solid conductors.
        3. Part 4762: 18 AWG, 4 solid conductors.
        4. Part 4763: 18 AWG, 5 solid conductors.
        5. Part 4764: 18 AWG, 6 solid conductors.
        6. Part 4766: 18 AWG, 8 solid conductors.
        7. Part 4768: 18 AWG, 10 solid conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. SPINALCORD Mini Split, Jacketed Metal Clad Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: THHN/THWN.
          3. Armor Material: Aluminum Interlocking.
          4. Jacket Material: Plenum PVC.
          5. Listings: Type TC, Direct Burial, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 1075: 14 AWG, 4 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Mini Split Tray Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: THHN/THWN.
          3. Jacket Material: Plenum PVC.
          4. Listings: Type TC, Direct Burial, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 1068: 16 AWG, 4 stranded conductors.
        2. Part 1070: 14 AWG, 4 stranded conductors.
        3. Part 1073: 14 AWG, 7 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. INTELLIGENT BUILDING SYSTEM CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. TIA/EIA-485, BACnet Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: FEP.
          3. Shield: 100% Aluminum Foil/Mylar.
          4. Jacket Material: Plenum PVC.
          5. Listings: CMP, CL3P, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 3319: 24 AWG, 1 stranded conductor pair, shielded.
        2. Part 3323: 24 AWG, 1.5 stranded conductor pairs, shielded.
        3. Part 3320: 22 AWG, 1 stranded conductor pair, shielded.
        4. Part 3324, 22 AWG, 1.5 stranded conductor pairs, shielded.
        5. Part 3328, 22 AWG, 2 stranded conductor pairs, shielded.
        6. Part 3322, 18 AWG, 1 conductor pair, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Echelon LonWorks Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: FEP.
          3. Jacket Material: Plenum PVC.
          4. Listings: CMP, CL3P, FT6.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part No.: 3252, 22 AWG, 1 conductor pair.
        2. Part No.: 3253, 22 AWG, 2 conductor pairs.
        3. Part No.: 3254, 22 AWG, 1 conductor pair, shielded.
        4. Part No.: 3255, 22 AWG, 2 conductor pairs, shielded.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. IRRIGATION, TRACER, AND LIGHTING CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Irrigation/Tracer Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: Polyethylene.
          3. Ratings: 600V Direct Burial.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 1301: 18 AWG, 1 solid conductor.
        2. Part 1303: 14 AWG, 1 solid conductor.
        3. Part 1304: 12 AWG, 1 solid conductor.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Underground Lighting Cables:
       1. Construction:
          1. Conductor Material: Bare Copper.
          2. Insulation Material: PVC.
          3. Listings: Underground Low Energy Circuit Cable, Direct Burial, Sunlight Resistant.
          4. Rating: 150V.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 1021: 14 AWG, 2 stranded conductors.
        2. Part 1019: 12 AWG, 2 stranded conductors.
        3. Part 1018: 10 AWG, 2 stranded conductors.
        4. Part 1017: 8 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. AUDIO/VIDEO CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Audacious Premium Audio:
       1. Construction:
          1. Conductor Material: Oxygen-Free Bare Copper.
          2. Insulation Material: PVC.
          3. Jacket: PVC Waveflex.
          4. Listings: CMR, CL3R, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5473: 16 AWG, 2 stranded conductors.
        2. Part 5474: 16 AWG, 4 stranded conductors.
        3. Part 5475: 14 AWG, 2 stranded conductors.
        4. Part 5476: 14 AWG, 4 stranded conductors.
        5. Part 5477: 12 AWG, 2 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Audacious Direct Burial Premium Audio:
       1. Construction:
          1. Conductor Material: Oxygen-Free Bare Copper.
          2. Insulation Material: PVC.
          3. Jacket: PVC.
          4. Listings: CM, CL3, Direct Burial, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5283: 16 AWG, 2 stranded conductors.
        2. Part 5284: 16 AWG, 4 stranded conductors.
        3. Part 5285: 14 AWG, 2 stranded conductors.
        4. Part 5286: 14 AWG, 4 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - * 1. Home Theater Sound:
      1. Construction:
         1. Conductor Material: Bare Copper.
         2. Insulation Material: Polypropylene.
         3. Jacket: PVC.
         4. Listings: CM, CL3, Sunlight Resistant.
      2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5250: 16 AWG, 2 stranded conductors.
        2. Part 5251: 16 AWG, 4 stranded conductors.
        3. Part 5252: 14 AWG, 2 stranded conductors.
        4. Part 5253: 14 AWG, 4 stranded conductors.
        5. Part 5254: 12 AWG, 2 stranded conductors.
        6. Part 5255: 12 AWG, 4 stranded conductors.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Plenum Rated Video Cables:
       1. Construction:
          1. Conductor Material: Copper Clad Steel.
          2. Shield: Quad or Dual shielded.
          3. Jacket: Plenum PVC.
          4. Listings: CATVP, CL2P.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5356: 18 AWG RG6, quad-shield.
        2. Part 5353: 18 AWG RG6, dual-shield.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Riser Rated Video Cables:
       1. Construction:
          1. Conductor Material: Copper Clad Steel (CCS) or Bare Copper (BC).
          2. Shield: Quad or Dual shielded.
          3. Jacket: PVC.
          4. Listings: CATVR, CL2R, FT4, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5307: 18 AWG CCS RG6, quad-shield.
        2. Part 5303: 18 AWG CCS RG6, dual-shield.
        3. Part 5304: 18 AWG BC RG6, dual-shield.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. General Purpose Rated Video Cables:
       1. Construction:
          1. Conductor Material: Copper Clad Steel (CCS) or Bare Copper (BC).
          2. Shield: Quad or Dual shielded.
          3. Jacket: PVC.
          4. Listings: CATV, CL2, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5018: 14 AWG CCS RG11, dual-shield.
        2. Part 5007: 18 AWG CCS RG6, quad-shield.
        3. Part 5008: 2x18 AWG CCS RG6, quad-shield.
        4. Part 5027: 18 AWG BC RG6, quad-shield.
        5. Part 5003: 18 AWG CCS, dual-shield.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Water Resistant Rated Video Cables:
       1. Construction:
          1. Conductor Material: Copper Clad Steel (CCS).
          2. Shield: Quad or Dual shielded.
          3. Jacket: Polyethylene.
          4. Approvals: Wet Location, Sunlight Resistant.
       2. Products:

\*\* NOTE TO SPECIFIER \*\* Delete Part No.'s not required.

* + - * 1. Part 5106: 18 AWG RG6, quad-shield.
        2. Part 5105: 18 AWG RG6, dual-shield.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. MULTIMEDIA CABLES

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Jacketed Multimedia Cables:
       1. Part 5065: General Purpose Rated.
          1. Component 1: 18 AWG RG6 CCS, quad-shield.
          2. Component 2: 18 AWG RG6 CCS, quad-shield.
          3. Component 3: 23 AWG, 4 pairs, Cat 6 Plus.
          4. Component 4: 23 AWG, 4 pairs, Cat 6 Plus.
       2. Part 5050: General Purpose Rated.
          1. Component 1: 18 AWG RG6 CCS, quad-shield.
          2. Component 2: 18 AWG RG6 CCS, quad-shield.
          3. Component 3: 24 AWG, 4 pairs, Cat 5e.
          4. Component 4: 24 AWG, 4 pairs, Cat 5e.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Dual-Zip Multimedia Cables:
       1. Part 5066: General Purpose Rated.
          1. Component 1: 18 AWG RG6 CCS, quad-shield.
          2. Component 2: 23 AWG, 4 pairs, Cat 6 Plus.
       2. Part 5067: General Purpose Rated.
          1. Component 1: 18 AWG RG6 CCS, dual-shield.
          2. Component 2: 23 AWG, 4 pairs, Cat 6 Plus.

1. PRODUCTS
   1. EXAMINATION AND PREPARATION
      1. Inspect and prepare substrates using the methods recommended by the manufacturer for achieving best result for the substrates under project conditions.
      2. Do not proceed with installation until substrates have been prepared using the methods recommended by the manufacturer and deviations from manufacturer's recommended tolerances are corrected. Commencement of installation constitutes acceptance of conditions.
      3. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
   2. INSTALLATION
      1. Installation of Pathways:
         1. Cable trays: UTP - Comply with NEMA and TIA/EIA-569-A-7.
         2. Comply with requirements for demarcation points, pathways, cabinets, and racks specified in Division 16.
         3. Comply with TIA/EIA-569-A for pull box sizing and length of conduit and number of bends between pull points.
         4. Comply with requirements in Division 16 for installation of conduits and raceways.
         5. Install manufactured conduit sweeps and long radius elbows whenever possible.
         6. Backboards: Install backboard with 96 inch dimension vertical. Butt adjacent sheets tightly, and form smooth gap-free corners and joints.
      2. Installation Of Conductors And Cables: Comply with NECA 1.
         1. General Requirements for Cabling:
            1. Comply with TIA/EIA 568-C series for UTP installations
            2. Comply with BICSI manuals - Cable Termination Practices
            3. Install 110 style IDC termination hardware for UTP installations
            4. Cables may not be spliced except in the cases of coaxial, fire alarm, and access control installations where splicing is necessary
            5. Secure and support cables at intervals not to exceed 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals for all UTP installations
            6. Comply with Genesis Catalog's Technical Section for pull tensions and minimum bend radius requirements for all cable installations
            7. Do not install bruised, cut, scored, deformed, or abraded cable.
            8. Allow cables to reach room temperature before dereeling. Do not use heating equipment such as heat lamps to make the cable more flexible.
            9. For proper cable pulling, refer to BICSI manuals, NSCA training manuals, NICET training manuals, or Infocomm training manuals.
            10. Plenum cables may be installed in all portions of the building cable routing and raceways. Do not install outdoor or riser rated cable in building plenum areas.
            11. Separation from EMI sources - Maintain adequate separation between communications cables in ground metallic raceways and unshielded power lines or electrical equipment.

2.5 inches: Electrical equipment - rating less than 2kVA.

6 inches: Electrical equipment - rating between 2-5kVA.

12 inches: Electrical equipment - rating more than 5kVA.

* + - * 1. Separation from EMI sources - Maintain adequate separation between communications cables in ground metallic raceways and power lines or electrical equipment located in grounded metallic conduits or enclosures.

No requirements: Electrical equipment - rating less than 2.5kVA.

3 inches: Electrical equipment - rating between 2-5kVA.

6 inches: Electrical equipment - rating more than 5kVA.

* + - * 1. Separation between communication cables and electrical motors/transformers, 5kVA or larger - minimum 48 inches.
        2. Separation between communication cables and fluorescent fixtures: Minimum 5 inches.
      1. UTP installations:
         1. Comply with TIA/EIA 568-C series standards.
         2. Refer to BICSI Manuals
      2. Coaxial Cabling Installations:
         1. Bend Radius: 10 times cable O.D.
         2. Maintain Impedance throughout the system: 75 Ohm cable - 75 Ohm connectors.
         3. Pull Tension:

RG59/U Coaxial Cables: Maximum 48 lbs.

RG6/U Coaxial Cables: Maximum 69 lbs.

RG11/U Coaxial Cables: Maximum 145 lbs.

* + - * 1. Make coaxial connections with approved connectors.
        2. Use appropriate tools to ensure proper connections.
        3. Outdoor Coaxial Installations: Install outdoor connections in enclosures that comply with NEMA 250, Type 4X. Install water-sealed connectors. O-rings may be required.
      1. RS-485 Installation:
         1. Bend Radius: 4-6 times cable O.D.
         2. Pull Tension: Refer to cable specification data.
         3. Use approved crimp-on plug, terminal connections, or other connectors suitable for data RS terminations.
      2. Fire Alarm Cabling Installation:
         1. Comply with NECA 1 and NFPA 72.
         2. Wiring methods: Install wiring in metal raceway according to Division 16.

Install plenum rated cable in environmental air spaces- Plenum spaces.

Fire alarm circuits and equipment control wiring associated with the fire alarm system shall be installed in a dedicated raceway system. This system shall not be used for any other wire or cable.

* + - * 1. Outdoor: For Indoor/Outdoor fire alarm installations, use sunlight and moisture resistant wire or cables.
        2. Wiring with Enclosures:

Separate power-limited and non-power limited conductors as recommended by manufacturer.

Install conductors parallel or at right angles to sides and back of the enclosures.

Bundle, lace, and train conductors to terminal points with no excess.

Connect to terminal blocks all conductors that are terminated, spliced, or interrupted in any enclosure associated with the fire alarm.

Mark each terminal according to the system's wiring diagrams.

Make all connections with approved crimp-on terminal spade plugs, pressure type terminal blocks, or plug connectors.

* + - * 1. Cable Taps: Use numbered terminal strips in junction, pull, outlet boxes, as well as cabinets or equipment enclosures where circuit connections are made.
        2. Color Coding: Color code fire alarm conductors differently from the normal building power wiring. It is recommended, but not required that the fire alarm cabling jacket be red. Special jacket striping may be used for easy identification of the fire alarm wiring.
    1. Connections: Comply with requirements in Division 16.
    2. Firestopping: Comply with requirements in Division 7, TIA/EIA 569-A Firestopping Annex A and BICSI TDMM.
    3. Grounding:
       1. For communication wiring, comply with ANSI-J-STD-607-A and BICSI TDMM - Grounding, bonding, and electrical protection.
       2. For low voltage wiring and cabling, comply with requirements in Division 16.
    4. Identification: Identification of system components, wiring, and cabling comply with TIA/EIA 606-A, Division 16.
    5. Field Quality Control:
       1. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
       2. Perform test and inspection of cables upon delivery.
       3. Testing and Inspection:
          1. Visually inspect cables for deformities.
          2. Visually inspect cable packaging for damage.
          3. Test for shorts or opens.
       4. UTP testing shall be required for end-to-end verification.
  1. PROTECTION
     1. Protect installed products until completion of project.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION