**Atkore – Fiberglass Framing Systems**

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

**SECTION 26 05 29**

**HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS**

PART I – GENERAL

* 1. SUMMARY

1. Framing shall be a strut type fiberglass/PVC framing system (Strut System)
2. Strut System shall be used:
   1. To support mechanical and electrical equipment and devices.
   2. For structural applications as applicable.
3. Strut System and components must be supplied from a single approved Manufacturer.
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. QUALITY ASSURANCE
10. Manufacturer’s qualifications:
    1. The manufacturer shall have at least 10 years’ experience in manufacturing Strut Systems.
    2. The manufacturer must certify in writing all components supplied have been produced in accordance with an established quality assurance program.
11. Work shall meet the requirements of the following standards:
    1. Federal, State and Local codes
    2. American Society for Testing and Materials (ASTM)
    3. REFERENCES
12. ASTM D-149 - Dielectric Strength of Insulating Materials
13. ASTM D-150 - Dielectric Constant
14. ASTM D3917 - ASTM Standard Specification for Dimensional Tolerance of Thermosetting Glass-Reinforced Plastic Pultruded Shapes
15. ASTM D4385 - Standard Practice for Classifying Visual Defects in Thermosetting Reinforced Plastic Pultruded Products

# ASTM D495 - High-Voltage, Low-Current, Dry Arc Resistance of Solid Electrical Insulation

1. ASTM D696 - Coefficient of Linear Thermal Expansion of Plastics Between −30°C and 30°C with a Vitreous Silica Dilatometer
2. ASTM D570 – Water Absorption of Plastics
3. ASTM D792 – Specific Gravity
4. ASTM E84 – Surface Burning Characteristics of Building Materials
5. UL 94 – Flammability of Plastic Materials for Parts in Devices and Appliances
   1. SUBMITTALS
      1. Structural calculations by a Registered Professional or Structural Engineer in the State of the Project’s location for approval by the Professional of Record. Calculations may include, but are not limited to:
         1. Description of design criteria
         2. Stress and deflection analysis
         3. Selection of framing members, fittings, and accessories
      2. Assembly drawings necessary to install the Strut System in compliance with the Contract Drawings.
      3. Pertinent manufacturers published data.
   2. PRODUCT DELIVERY, STORAGE, AND HANDLING
      1. All material is to be delivered to the work site in original factory packaging to avoid damage to the finish.
      2. Upon delivery to the work site, all components shall be protected from the elements by a shelter or other covering.
   3. WARRANTY
      1. Manufacturer shall warrant for 1 year from the shipment date that products will be free from defects in material or manufacture. In the event of any such defect in violation of the warranty, Manufacturer shall have the option to repair or replace any such defective product.
      2. Installer shall warrant for 1 year from the date of completion of work that the work will be free of defects in installation. In the event of any such defect in violation of the warranty, Installer shall have the option to repair or replace any such defective product.

PART 2 - PRODUCTS

* 1. ACCEPTABLE MANUFACTURERS
     1. Strut System and components shall be:
        1. Atkore – Aickinstrut, Cope, Power Strut, Unistrut, US Tray

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* 1. MATERIALS
     1. Nonmetallic Solid or Slotted Support Systems: Structural-grade, factory-formed, glass-fiber-resin channels, and angles with minimum 1 by 3/8-inch- (10-mm) diameter holes at a maximum of 8 inches (200 mm) o.d.
     2. Basis-of-Design Product: Subject to compliance with requirements, provide Atkore Aickinstrut, Cope, Power Strut, Unistrut, US Tray.
     3. Channel Dimensions: [Selected for applicable load criteria] [1-5/8 by 1-5/8 inches] [1-1/2 by 1-1/2 inches] [1-1/2 by 1-1/8 inches]
     4. Chanel Dimensions: [Selected for applicable load criteria] [back-to-back system] [1-5/8 by 3-1/4 inches] [1-1/2” by 3’ inches].
     5. Fittings and Accessories: Products provided by channel and angle manufacturer and designed for use with those items.
     6. Fitting and Accessory Materials: Same as those for channels and angles [except metal items may be stainless steel].
     7. Rated Strength: Selected to suit applicable load criteria.
     8. PVC Material (Dark Gray)
     9. FRP channel shall be pultruded glass reinforced polyester (Gray) or vinyl ester (Beige) resin.
        + 1. Some accessories shall be injection molded from 40 percent long glass fiber reinforced polyurethane.
     10. Glass reinforced fiberglass channel shall have a synthetic surfacing veil applied on all exterior surfaces to improve weather resistance and inhibit UV degradation.
         + 1. An ultraviolet stabilizer shall be incorporated into the resin formulation to further inhibit UV degradation.
     11. Glass reinforced channels covered in this specification shall comply with the requirements of ASTM D3917 and ASTM D4385 which govern the dimensional tolerance and visual defects of pultruded shapes.
     12. Any substitutions of product or manufacturer must be approved in writing ten days prior to bid date by the Professional Engineer of Record.

PART 3 - EXECUTION

* 1. EXAMINATION
     1. The installer shall inspect the work area prior to installation. If work area conditions are unsatisfactory, installation shall not proceed until satisfactory corrections are completed.
  2. INSTALLATION
     1. Installation shall be accomplished by a fully trained manufacturer authorized installer.
     2. Set Strut System components into final position true to line, level and plumb, in accordance with approved drawings.
     3. Anchor material firmly in place and tighten all connections to their recommended torques.
     4. All cut and drilled surfaces shall be protected with corrosion resistant sealant and or acrylic spray for material installed as per manufacturers installation instructions.
  3. CLEANUP

1. Upon completion of this section of work, remove all protective wraps and debris. Repair any damage due to installation of this section of work.
   1. PROTECTION
      1. During installation, it shall be the responsibility of the installer to protect this work from damage.
      2. Upon completion of this scope of work, it shall become the responsibility of the general contractor to protect this work from damage during the remainder of construction on the project and until substantial completion.