

Section 27 05 00
COMMON WORK RESULTS FOR COMMUNICATIONS

Section 27 05 36
CABLE TRAYS FOR COMMUNICATIONS SYSTEMS

PART 1 GENERAL

1.1. SECTION INCLUDES:

- A. Requirements for wire mesh cable trays systems used to support network and communications cabling.
- B. Includes wire mesh cable tray, splices, supports and accessories.

1.2. RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including ...

1.3. SUMMARY:

- A. Related Sections:
 - a. Section 26 05 36 – Cable Trays for Communications Systems
- B. References:
 - a. BS EN61537 (2007) – Cable Tray Systems and Cable Ladder Systems
 - b. NEMA VE 1-2002/CSA C22.2 No. 126.1-02 – Metal Cable Tray Systems
 - c. TIA 569-A (1998) – Commercial Building Standard for Telecommunications Pathways and Spaces
 - d. BS EN 12329 (2000) – Corrosion protection of metals. Electrodeposited coatings of zinc with supplementary treatment on iron or steel.
 - e. JG/T3045-1998 – Specification of franklinism powder spraying coating for steel doors and saches

1.4. SUBMITTALS:

- A. Follow the requirements in Section 01330 – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data sheet for cable tray system indicating tray size, material, finish, cable fill area and maximum load/span.
- C. Coordination Drawings: Include floor plans, sections, schedules, as required, to describe planned cable pathway, and general methods of splicing and support for cable trays.

1.5. QUALITY ASSURANCE:

- A. Source: Obtain cable tray, splices, supports and accessories through a single source and from a single manufacturer.

1.6. DELIVERY AND STORAGE:

- A. Inspect for damage and replace damages units.
- B. Store in a clean, dry location, in the original, unopened packaging until ready for installation.

1.7. COORDINATION:

- A. Coordinate layout and installation of cable tray with other installations.
- B. Revise layout as required and as approved by the owner's representative.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - a. Equipment and materials shall be of the quality and manufacture indicated. Substitutions shall be equivalent in every way to that of the equipment specified and subject to the control and approval of the Owner or Owner Representative.
 - b. Acceptable manufacturers include Chatsworth Products, Inc.

2.2. GENERAL

- A. Communications cable trays shall consist of a continuous pathway for supporting and guiding network and communications cabling created by assembling and supporting individual wire mesh cable tray sections.
- B. Communications cable tray(s) shall have the following attributes:
 - a. Wire mesh cable tray sections shall be manufactured from multiple round steel wires, welded into a rectangular mesh and formed into straight sections of U-shaped tray in various heights and widths.
 - b. By cutting and removing various sections of wire from the tray, the tray shall be able to be field-formed in smooth side-to-side turns, intersections or changes in elevation.
 - c. Various splices to secure tray sections end-to-end, at turns and intersections
 - d. Grounding lugs to electrically bond tray sections together
 - e. Various supports to attach tray sections to building structure: walls, the ceiling or the floor
 - f. Various accessories to divide and cover cable trays and support cables when they enter or exit the tray

2.3. STRUCTURE

- A. Wire mesh cable tray:
 - a. Material: manufactured from round medium carbon steel wires that are 5 mm in diameter.
 - b. Construction: welded at intersections to form a 2" x 4" (50 mm x 100 mm) grid pattern.
 - c. Forming: the tray shall be U-shaped with equal height sidewalls.
 - d. Length: individual tray sections shall be 10' (3m) long.
 - e. Heights: sidewalls shall be 2" (50 mm), 4" (100 mm) or 6" (150 mm) high.
 - f. Widths: individual tray sections shall be 4" (100 mm), 6" (150 mm), 8" (200 mm), 12" (300 mm), 16" (400 mm), 18" (450 mm), 20" (500 mm), 24" (600 mm), 28" (700 mm), 32" (800 mm) or 36" (900 mm) wide.
 - g. Finish: electro-zinc plated after fabrication, ≥ 12 microns thick to meet BS EN 12329-2000 requirements or painted black with powder coat paint, 60 microns to 100 microns thick to meet JG/T3045-1998 requirements.
 - h. Cable fill: combined area of cables within the tray must not exceed 50% of the internal/usable cross sectional area of the cable tray.
 - i. Load/span criteria: BS EN61537:2007 Cable Management – Cable Tray Systems and Cable Ladder Systems.

- j. Support requirement: support tray every 5 ft. (1.5 m) of span, and on both sides of each splice, intersection or change in elevation.
- B. Splices:
 - a. Assemble trays into a continuous pathway using the tray manufacturer's splices and recommended assembly practices.
 - b. Spring splices are acceptable for trays that are less than 18" (450 mm) wide.
 - c. Mechanical/bolted splices are required for all trays wider than 16" (400 mm).
- C. Bonding and Grounding:
 - a. Bond individual tray sections together using a common bonding conductor.
 - b. Attach the bonding conductor directly to each tray using a split bolt ground lug according to the tray manufacturer's installation instructions.
 - c. Verify bond across each splice.
 - d. Bond tray pathway to the telecommunications grounding busbar.
- D. Supports:
 - a. Support trays from the wall, ceiling or floor using the tray manufacturer's supports and recommended installation practices.
 - b. The installer will provide appropriate installation hardware for each support based on site requirements.
 - c. The installer will secure the tray to the support before loading the tray with cables.
- E. Accessories:
 - a. Provide a radius drop to support cables at any point where cables enter or exit the pathway.
 - b. Separate and cover pathways as required in the project drawings.
- F. Installation Hardware:
 - a. No installation hardware is included with tray supports.
 - b. The installer shall provide all installation hardware, as required, separately.
 - c. Installation hardware and application must meet local code requirements.
- G. Design Make:
 - a. Chatsworth Products (CPI), GlobalTrac Wire Mesh Cable Tray System.

PART 3 EXECUTION

3.1. EXAMINATION

- A. Notify owner's representative of any unsatisfactory existing site conditions before beginning installation.

3.2. INSTALLATION

- A. Install the cable tray system according to the coordination drawings and the tray manufacturer's assembly and installation instructions.

GlobalTrac Wire Basket Cable Tray – Available outside of the US and Canada.