# SECTION 26 05 36

# CABLE TRAYS

## PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The work of this Section is integral with the whole of the Contract Documents and is not intended to be interpreted outside that context.

B. Coordinate the work with all other services affecting the work of this Section.

1.02 DESCRIPTION OF WORK

A. Provide all labour, materials, equipment, services and accessories necessary to furnish an install the work of this Section, complete and functional, as indicated in the Contract Documents and as specified herein.

1.03 RELATED WORK SPECIFIED ELSEWHERE

A. Basic Electrical Materials and Methods

B. Wires and Cables

C. Raceways and Boxes

1.04 REFERENCE STANDARDS

A. BS-729 hot dip galvanized coating on iron and steel articles.

1.05 QUALITY ASSURANCE

A. Reference standards as detailed under Section 16010 and in this Section Clause 1.04.

B. Select the correct grade of cable tray to meet the Specification and site conditions.

1.06 SUBMITTALS

A. Reference Section 16010.

1.07. DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle materials and products in a manner to prevent damage.

B. Reference Section 16010.

1.08 COORDINATION

A. The work of this Section shall be completely coordinated with the work of other services.

## PART 2 PRODUCTS

2.01 GENERAL

A. The cable tray system shall be of one manufacturer and shall include factory-made trays, tray fittings, connectors and necessary accessories and supports to form a complete cable tray support system.

B. The cable tray system shall include the following factory-made tray elements:

1. Straight cable trays and ladders.

2. Fittings as horizontal and vertical bends of various angles, crosses, trees, wyes, reducers, vertical riser elements.

3. Connectors

4. All necessary fixing accessories

C. Manufacturer's standard accessories shall be used and site fabrication shall only be allowed where special sections are required subject to the approval of the Engineer.

D. Horizontal run of cables laid on cable tray and exposed to direct sunlight on roof shall be provided with fixed asbestos cement covering at higher level to allow for ventilation. Cable tray shall be raised 15cm from finished floor level.

2.02 MATERIALS

A. The whole of the tray work, trays, fittings, supports shall be of mild steel hot dipped galvanized after manufacture. The thickness of the protective sheath on any element shall not be less than 55 microns.

B. Cable rays shall be constructed from mild steel of minimum thickness of 1.5mm. Trays in excess of 300mm width shall be of minimum thickness of 2mm.

C. Insert elements, bolts, screws, pins, etc., shall be mild steel cadmium plated.

D. Tray work shall have oval perforations. Ladder type trays shall be used where specified or approved by the Engineer.

E. All trays (straight and fittings) to be welded construction and be a heavy duty returned flanged, perforated type, unless specified otherwise.

F. Tray components are to be accurately rolled or formed to close tolerances and all edges rounded. Flanges are to have full around smooth edges.

G. Ladder racks shall be of similar construction. The rungs shall be spaced at maximum 300mm. The system shall allow for installing additional rungs and for resting rungs.

H. When light-duty trays are permitted, flanges shall be a minimum of 25mm deep. For all other trays, flanges shall be a minimum of 50mm deep, unless otherwise specified.

I. Cable tray width and radius of curved sections shall be selected to suit the number of cables as shown on drawings and to the approval of the Engineer.

## PART 3 EXECUTION

### 3.01 INSTALLATION

A. Drilling, machining or cutting shall not be carried out after application of protective coat, unless previously agreed by the Engineer. If cutting or drilling is necessary, edges shall be cleaned up and painted with zinc based paint before erection.

B. Installation of vertical runs of tray along the line of vertical expansion joints in structure of the building shall not be allowed.

C. Cables shall be fixed to the trays by means of PVC covered saddles or straps secured with brass or cadmium plated bolts, nuts and washers.

### 3.02 ERECTION

A. Cable trays arranged one above the other shall have spacing in relation to their width not exceeding a ratio of 1:2 with a minimum distance of 150mm.

B. Supports

Install fixings and supports.

a). At 1000mm centers.
b). 150mm from bends, tees, intersections and riser.
c). As close as practicable to joints.
d). Each side of expansion joints.

C. The cable trays, shall be fixed in accordance with site conditions and manufacturer's recommendations.

D. Join cable tray and accessories in accordance with manufacture's recommendations.

E. Avoid mid-span joints

F. The Contractor shall submit, as required all calculations relating to tray work and tray supports demonstrating acceptable mechanical stresses and sag.

### 3.03 EARTHING

A. Cable trays and accessories shall be electrically and mechanically continuous throughout their length.

B. The entire cable tray system shall be bonded and 12mm x 2.5mm tinned copper or brass links shall be bolted across each joint in the system by means of brass nut and bolts, complete with flat and spring washers.

C. All cable trays shall be provided with earth continuity copper tape along the whole route of cable trays and to be bonded to the main earthing system of the building.

### 3.04 TEST AND INSPECTION

Test shall be performed at the manufacturers plant in accordance with BS-729.

The manufacturer shall submit the test report to the purchaser for approval.

**END OF SECTION**