

**SECTION 12 31 00.1**  
(FORMERLY 12310.7)

Manufactured Metal Casework  
**SUSPENDED CHAMELEON SERVICE CARRIER**

**PART 1 – GENERAL**

**Summary:**

This Specification identifies the minimum material and construction standards that are required to deliver a quality installation of steel overhead service carriers. Service carriers shall be supplied in accordance with the requirements of this Specification. The service carriers identified in this Specification shall include the miscellaneous metal panels and other related components as identified on the Drawings and that are necessary for the complete installation.

**1.1 SECTION INCLUDES**

- A. Overhead Service Carrier Body
- B. Overhead Service Carrier Post Assembly
- C. Overhead Service Carrier Filler Panel Assembly

**1.2 RELATED SECTIONS**

- A. Division 11 Section 53 00, "Laboratory Equipment"
- B. Division 22 Section 40 00, "Plumbing Fixtures"
- C. Division 26 Section 05 00, "Common Work Results for Electrical"
- D. Division 23 Section 05 00, "Common Work Results for HVAC"
- E. Related Work To Be Performed By Others:
  - 1. Final installation of all plumbing, service and electrical fixtures attached to overhead service carriers.
  - 2. Final connection to service lines of all plumbing, service and electrical fixtures attached to overhead service carriers.

### 1.3 ALTERNATE PROPOSALS

- A. Proposals are invited from alternate manufacturers only if they comply with the minimum design requirements and the minimum performance requirements.

### 1.4 SYSTEM DESIGN REQUIREMENTS

- A. Horizontal service chase ties into the ceiling deck and is suspended below the ceiling t-grid.
- B. Heavy-Duty Vertical Uprights: Support structure for cantilevered shelves with ceiling extension assemblies that can height adjust the horizontal carrier body for different working heights.
- C. Carrier body shall serve as a service chase for all cabling, plumbing, electrical conduit, light fixtures and localized exhaust ductwork.
  - 1. Modular units shall be suitable for floor-mounted cabinets, freestanding tables and mobile equipment racks.
  - 2. Mobile carrier bodies can be ganged side-to-side.
  - 3. Equipped with easy to remove entry covers for ease of utility access, visual inspection and utility shut-offs.
- D. System requirements:
  - 1. Independently supported overhead storage components.
  - 2. Vertical height of shelves can be adjusted with simple, but positive mechanisms.
  - 3. Modular units can be linked in tandem for a continuous service run.
  - 4. Horizontal chase can be supplied with quick connects and disconnects for mobile bench and/or equipment rack applications.
  - 5. Service carrier can be suspended at any height above specified work surface to free workspace of service fixtures, electrical and teledata outlets.

### 1.5 SUBMITTALS

*Include number of each type of submittal required if this information is not covered in Division 1 or elsewhere.*

- A. Shop Drawings: Provide 3/4"=1'-0" scale elevations of all components, cross sections, rough-in and anchor placements, tolerances and clearances. Provide 1/4"= 1'-0" rough-in plan drawings for coordination with trades. Rough in shall show free area.

## 1.6 QUALITY ASSURANCE

- A. Single source responsibility: Laboratory furniture system, casework, work surfaces, laboratory equipment, chemical fume hoods and accessories shall be manufactured or furnished by a single laboratory furniture company.
- B. Manufacturer's qualifications: Modern plant with proper tools, dies, fixtures and skilled workmen to produced high quality laboratory horizontal service chase and equipment, and shall meet the following minimum requirements:
1. Five years or more experience in manufacture of laboratory equipment of type specified.
  2. Ten installations of equal or larger size and requirements.

## 1.7 DELIVERY, STORAGE AND HANDLING

- A. Schedule delivery of laboratory furniture system so that spaces are sufficiently complete that material can be installed immediately following delivery.
- B. Protect finished surfaces from soiling or damage during handling and installation.

## 1.8 PROJECT CONDITIONS

- A. Do not deliver or install equipment until the following conditions have been met:
1. Windows and doors are installed and the building is secure and weather tight.
  2. Ceiling, overhead ductwork and lighting are installed.
  3. All painting is completed and floor tile is installed.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURER

Mott Manufacturing Ltd. Chameleon Overhead Service Carrier as distributed by New England Laboratory Casework Co., Inc. (888) 635-2080. [www.newenglandlab.com](http://www.newenglandlab.com) email [info@newenglandlab.com](mailto:info@newenglandlab.com)

## 2.2 OVERHEAD SERVICE CARRIER

### A. General requirements for carriers:

1. Carrier body and inside/outside access covers shall be fabricated from 20-gauge cold rolled steel.
2. Carrier body shall incorporate UL approved, factory installed junction boxes for electrical and teledata outlets. Electrical and teledata outlets to be field installed.
3. Carrier body shall also incorporate factory punched and plugged service ports. Service fixtures to be field installed.
4. Finish: Chemical resistant powder paint finish in manufacturer's standard color to be selected.
5. Carrier horizontal section shall be equipped with removable top covers to provide a flat upper surface capable of supporting storage cabinets.

### B. Carrier body:

1. Nominal overhead service carrier dimensions:
  - a. Width: [24"] [30"] [36"] [48"] [60"] [72"]
  - b. Depth: [24"] [32"]
  - c. Height: [8.5"]
2. Capable of vertical adjustment in one-inch increments.
3. Interior service bracket: Support bracket of 14-gauge cold rolled steel that can accept attachment brackets for copper and conduit service lines.
4. Carrier body end covers shall be provided only when end of overhead service carrier is exposed.
5. Carrier bottom shall be smooth without removable panels and shall be punched as required to accept lighting, plumbing and local exhaust mounting. Carrier angled sides shall be equipped with removable access panels held in place with plastic friction catches.
6. Lamp assemblies shall consist of 50 watt halogen recessed fixtures. Total quantity shall be 72" unit: 3; 48" unit :2; 24" unit: 1.

7. Lamp assemblies can be rebulbed by a bottom removal of the fixture assembly. Accessibility from the body interior is not acceptable.
8. Load bearing capabilities:
  - a. Total overhead service carrier plus 400 pounds per unit.
  - b. Shelf unit plus 100 to 180 pounds respective of size.

## 2.3 CEILING POST ASSEMBLIES

### A. General requirements for ceiling post assemblies, ceiling extension assemblies structures:

1. Vertical structural support: 16-gauge cold rolled vertical shall integrate a slotted standard to cantilevered components.
2. Nominal height options: [36"][48"][60"]
3. Ceiling gusset assemblies include a set of two gussets to provide a means to attach to the ceiling deck or structural support. Ceiling gusset shall be an integral part of the vertical support and shall be 11-gauge cold rolled steel.
4. Optional filler panel assemblies shall provide an umbilical chase between the ceiling plenum and horizontal chase.
5. A set of two optional filler panels shall enclose the space between the ceiling posts. Nominal dimensions:
  - a. Length: [24"][30"][36"][48"][60"][72"]
  - b. Height: up to 72" to suit site conditions.

## 2.4 SHELVES

### A. General requirements for shelves:

1. Shelf brackets: 16-gauge cold rolled steel.
2. Vertical shelf adjustment: One-inch increments.
3. Depth and weight capacity: [12"-180 lbs., 18"-130 lbs., 24"-100 lbs.]

### B. Outside Shelf:

1. Nominal dimensions:
  - a. Length: [24"][30"][36"][48"][60"][72"]
2. Shelf bracket shall be designed to prevent accidental release from upright.

## 2.5 FINISHES

A. Metal finish to be as in Appendix 1 - Laboratory Steel Furniture Finish.

## PART 3 – EXECUTION

### 3.1 INSTALLATION

A. Furniture system installation:

1. Install system in strict accordance with manufacturer's instructions.
2. Set system components plumb, square, and straight with no distortion and securely anchored to building structure.
3. Overhead Service Carriers are supported by the building structure. Anchorage design is a field condition and local building engineers must be consulted and their instructions complied with.

B. Install Overhead Service Carrier and accessory items per Section 12 35 53.

### 3.2 ADJUSTING

A. Repair or remove and replace defective work, as directed by [Architect] [Owner] upon completion of installation.

### 3.3 CLEANING

A. Clean shop finished laboratory Overhead Service Carrier system and touch up as required.

### 3.4 PROTECTION OF FINISHED WORK

A. Provide all necessary protective measures to prevent exposure of laboratory Overhead Service Carrier system and attached components from exposure to other construction activity.

B. Advise contractor of procedures and precautions for protection of material, installed laboratory Overhead Service Carrier system, and fixtures from damage by work of other trades.

END OF SECTION