SECTION 07722
ELEVATOR VENT

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

A. The general provision of the Contract, including General and Supplementary Conditions and Division 1 General Requirements, apply to work specified in this Section.

1.02 SUMMARY

A. This Section includes hatch-type heat-and-smoke vent on louvered curb for ventilation of elevator shafts.

B. Related Work Specified in Other Sections:
1. Membrane flashing at vent curb: Section 07540, Thermoplastic Polyolefin (TPO) Membrane Roofing.

1.03 SUBMITTALS

A. Product Data: Manufacturer's detailed technical product data, showing details of construction, and installation instructions.

B. Shop Drawings: Fully dimensioned plans, elevations, sections, details of components, and attachments to other units of Work.

1.04 QUALITY ASSURANCE

A. Standards: Comply with the following:
1. SMACNA "Architectural Sheet Metal Manual" details for fabrication of units, including flanges and cap-flashing to coordinate with type of roofing indicated.
2. NRCA "Roofing and Waterproofing Manual" details for installation of units.
3. NFPA 204M for smoke-and-heat vent design constraints, operation, and location.

PART 2 - PRODUCTS

2.01 ELEVATOR VENTS

A. Manufacturers: Subject to compliance with requirements, furnish products by Bilco Co., Dur-Red Products, or Milcor, Inc. Louver need not be by the same manufacturer:

B. Description: Furnish assembly consisting of heat-and-smoke vent mounted on louvered curb, meeting Code requirements for venting of elevators by providing permanently open area in combination with vent which is automatically opened by fusible link in a the event of a fire.

C. Heat and Smoke Vent: Fabricate units to withstand 40-lbf per sq. ft. external loading and 20-lbf per sq. ft. internal loading pressure.

1. Material: Zinc-coated steel sheets.

2. Type and Size: Single-leaf; 3'-0" wide x 2'-6" long.

3. Lid: Double-wall construction with 0.0785 inch (1.9 mm) thick zinc-coated steel cover, 1 inch thick mineral fiber insulation, and 0.0336 inch (0.8 mm) zinc-coated steel liner.

4. Hardware: Synthetic rubber gasket; corrosion-resistant or hot-dip galvanized hardware including pintle hinges, hold-open devices, and release mechanisms described below.

5. Finish: Paint bond and red oxide primer, prepared for field painting.

D. Release Mechanisms:

1. Fusible Link: 165°F fusible link which releases latch. Design latch so that it can be easily reset after a test or fire, and so that the covers cannot be latched closed unless the mechanism has been reset. Furnish with replacement link for installation after testing.

2. Lifting Mechanism: Spring-lever with hydraulic shock absorber dampers; mounted inside the hatch.

3. Also provide means for manually releasing the hatch from the inside and the outside without disturbing the fusible link.

E. Curb: 14 gauge (1.9 mm) zinc-coated steel; with 1-1/2 inch insulation, cant strips and cap flashing (roofing counterflashing), with welded or sealed mechanical corner joints; with 3-1/2 inch (88.9 mm) or wider roof flange.

1. Height: 12 inches (304.8 mm) high, designed to accept louver within the height of the curb.
2. Mounting: On shaft wall extension. See Drawings A3.1.

F. Louvers: Extruded aluminum fixed blade louver, stormproof blade profile, 1.5 inch deep, with extended flange and insect screen.

1. Louver Free Area based on 4' x 4' Unit: 6.68 square feet, or 42%.
2. Blade and Frame Metal Thickness: 0.063 inch (1.60 mm) thick.
3. Air Velocity at Beginning of Water Penetration: 400 FPM (122 m/min)
4. Metal Finish: Mill finish.
5. Louver Size: 3 louvers, each 22" wide by 6" inches high, installed into the front and sides of the curb.

G. Insect Screens: 14-by-18 mesh with 0.0123-inch-diameter anodized aluminum wire in removable aluminum frames with vinyl spline inserts for screen replacement. Provide insect screen behind each section of louver.

H. Acceptable Product: Bilco Type S-20SV modified to meet specifications, with built-in louver.

2.03 ACCESSORY MATERIALS

A. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by manufacturer. Match finish of exposed fasteners with finish of material being fastened.

B. Bituminous Coating: SSPC-Paint 12, solvent-type bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil dry film thickness per coating.

C. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

D. Elastomeric Sealant: Generic type recommended by unit manufacturer that is compatible with joint surfaces; ASTM C 920, Type S, Grade NS, Class 25, and Uses NT, G, and, A.

PART 3 - EXECUTION

3.01 INSTALLATION

A. General: Comply with manufacturer's instructions and recommendations. Coordinate with installation of roof deck and other substrates to receive accessory units, vapor barriers, roof insulation, roofing and flashing, as required, to ensure that each element of the Work performs properly and that combined elements are waterproof and weathertight, except for louver free-area. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses, as well as inward and outward loading pressures.

1. Except as otherwise indicated, install roof accessory items according to construction details of NRCA "Roofing and Waterproofing Manual."

B. Isolation: Where metal surfaces of units are to be installed in contact with incompatible metal or corrosive substrates, including wood, apply bituminous coating on concealed metal surfaces, or provide other permanent separation.

C. Flange Seals: Unless otherwise indicated, set flanges of accessory units in a thick bed of roofing cement to form a seal.

D. Cap Flashing: Where cap flashing is required as component of accessory, install to provide adequate waterproof overlap with roofing or roof flashing (as counterflashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

3.02 FIELD TESTING AND ADJUSTMENT

A. Elevator Vents: Locate, install, and test according to NFPA 204M. Test for proper installation by fusing the link, and then replace with new link. Clean and lubricate joints and hardware. Adjust for proper operation and latching.

3.03 CLEANING AND PROTECTION

A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.

END OF SECTION 07722