3-PART CSI MASTERFORMAT SPECIFICATION

SECTION 07 7200 ROOF ACCESSORIES

SMOKE VENT

###  GENERAL

* + - 1. SUMMARY
				1. Section includes:

Hatch type Heat and Smoke Vents

SunLit eco™ Skylight smoke vent equipped with automatic self-lifting mechanisms

* + - 1. Related Requirements:
				1. Division 05 for ladders and stairs.
				2. Division 07 for roofing and sealants.
			2. COORDINATION
				1. Coordinate layout and installation of roof accessories with roofing membrane and base flashing andinterfacing and adjoining construction to provide a watertight installation.
				2. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.
			3. SUBMITTALS
				1. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances, and other affected Work.

Hatch Units: Show types, elevations, thickness of metals, and full size profiles.

Hardware: Show materials, finishes, locations of fasteners, types of fasteners, locations and types of operating hardware, and details of installation.

General: Show connections of units and hardware to other Work. Include schedules showing location of each type and size of unit.

* + - * 1. Product Data: Manufacturer’s technical data for each type of hatch assembly, including setting drawings, templates, finish requirements, and details of anchorage devices.

Include complete schedule, types, locations, construction details, finishes, latching or locking provisions, and other pertinent data.

* + - * 1. Contract Closeout Submittals

Installation, Operating & Maintenance manuals

* + - 1. Quality Assurance
				1. Regulatory Requirements:

OSHA 29 CFR 1910.23 Guarding floor and wall openings and holes

OSHA 29 CFR 1926.502 Fall protection systems criteria

International Building Code for venting requirements

IBC Section 910 for Factory and Storage occupancies

Underwriters Laboratories Inc, UL 793 Listed for Heat and Smoke Vents

FM Global, Factory Mutual, FM 4430 Heat and Smoke Vents for Roofs

Reference NFPA 204 for general maintenance of Heat and Smoke vents.

* + - 1. DELIVERY, STORAGE, and HANDLING
				1. Deliver materials to Project site ready use.
				2. Exercise proper care in handling of Work so as not to disrupt finished surfaces.
				3. Store materials under cover in a dry and clean location off the ground.
			2. WARRANTY
				1. Provide manufacturer's standard 5 year warranty. Roof hatches and smoke vents shall be free from manufacturing defects in materials and fabrication for a period of 5 years from the date of shipment. Should a product fail to function in normal use within this period, manufacturer shall furnish a replacement or new part at Nystrom’s discretion.

###  PRODUCTS

1. PRODUCTS
	* + 1. MANUFACTURER
				1. Nystrom
				9300 73rd Avenue N
				Minneapolis, MN 55428
				Phone: (800) 547-2635
				[www.nystrom.com](http://www.nystrom.com)
			2. HEAT AND SMOKE VENTS

Coordinate fusible link rating with rating for automated sprinkler system heads.

* + - * 1. Hatch-Type Heat and Smoke Vents: For emergency heat and smoke removal

Type and Size: Sunlit eco Skylight smoke, SVE: vent equipped with automatic self-lifting mechanisms and UL-listed fusible links

Certification: Smoke vent to have official UL label for testing to UL 793 Smoke and Heat Vents

Loads: Minimum 40-lbf/sq. ft. (1.9-kPa) <Insert value> external live load and 40-lbf/sq. ft. (1.9-kPa) internal uplift load

When release is actuated, lid shall open against 10-lbf/sq. ft. (0.5-kPa) snow or wind load and lock in position.

Door Options: Double-leaf lid, **[BSVEA48X96 48 by 96 inches (2440 by 2440 mm)]** [**BSVEA48X48 - 48 by 48 inches (1220 by 1220 mm)**] [**As selected by Architect from manufacturer’s full range**]. <Insert dimensions>.

Door Options: Quad-leaf lid, **[BSVEA48X96 48 by 192 inches (2440 by 4880 mm)]** [**BSVEA48X48 - 48 by 96 inches (1220 by 2440 mm)**] [**As selected by Architect from manufacturer’s full range**]. <**Insert dimensions**>.

Hatch Material

Retain one of two “Cover” Subparagraphs below.

Cover:

0.0808-inch (2.05-mm) extruded aluminum with 0.1285-inch (3.26-mm) cross member for additional strength. Extruded EPDM adhesive-backed gasket seal continuous around perimeter of cover with polycarbonate [**single**] [**double**] dome. Color **[Standard white] [Clear].**

 0.0808-inch (2.05-mm) extruded aluminum with 0.1285-inch (3.26-mm) cross member for additional strength. Extruded EPDM adhesive-backed gasket seal continuous around perimeter of cover with 5/8-inch (16-mm) structural 3-wall multiwall polycarbonate cover. Color: **[White] [Clear] [Green] [Blue] [Bronze].**

Curb:[**Single wall apron mount**] **[Single wall curb mount] [Double wall curb mount]** [**12-inch** **(305-mm-)**]**[height as indicated on drawings]** high 0.0907 inch (2.05 mm) Aluminum with integral counterflashing. Continuous 3.5-inch (89-mm) mounting flange with 5/8-inch (16-mm) mounting holes 1 inch (25 mm)

Delete curb insulation paragraph for single wall apron mount curb

Curb Insulation: [**1-inch (25-mm)**] [**2-inch (50-mm)**]polyisocyanurate insulation around curb perimeter.

Finish: Mill finished aluminum.

Latch: Positive hold zinc plated steel rotary latch assembly designed to hold covers closed against 90 lbf/sq. (4.3 kPa) wind uplift. Upon latch releases, vent covers are closed manually at rooftop level

Latch released manually via internal and external pull handles with cables.

Latch released automatically by UL 33 listed fusible melt-out link at temperature of [**165 deg F (74 deg C)]** [**212 deg** **F** **(100 deg** **C)**] [**280 deg** **F** **(138 deg** **C)**] [**350 deg** **F** **(177 deg** **C)**] [**360 deg F (182 deg C)**][**370 deg** **F** **(188 deg** **C)**] [**386 deg** **F** **(197 deg** **C)**] [**450 deg** **F** **(232 deg** **C)**].

Springs: Gas spring with integrated damper

Hinge: fully integrated extruded and secured into the exterior curb.

Options and Accessories.

Burglar Bars: [**1/2 inch (13 mm)]** [**3/4inch (19 mm)**] diameter steel rod [**6 inches (152 mm) by 12 inches (305 mm)**] [**6 inches (152 mm) by 6 inches (152 mm)**] spacing, attached to inside of curb.

Fall Protection Security Mesh: 3/16 inch (4.8 mm) diameter steel rod, 4 inch (102 mm) by 4 inch (102 mm) spacing, securely attached to inside of curb.

Manual Winch: Operation allowing remote closing of smoke vent from the floor area.

Optional latch release with electrical Belimo motor actuator, [**24 V DC/AC**] [**110 VAC**].

Linear Actuator Operation allowing remote opening and closing of smoke vent. Push button operator includes open and close.

1. EXECUTION

###  EXECUTION

* + - 1. EXAMINATION
				1. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper or timely completion.
				2. Verify that deck, curbs, roof membrane, base flashing, and other items affecting Work of this Section are in place and positioned correctly.
				3. Verify tolerances and correct improper condition
				4. Identify conditions detrimental to providing proper quality and timely completions of work.
				5. Do not proceed with installation until detrimental conditions have been corrected.
			2. Installation
				1. Comply with manufacturer's recommendations.
				2. Coordinate installation of components of this Section with installation of roof deck, roof structure, roofing membrane, and base flashing.
				3. Coordinate installation of sealant and roofing cement with Work of this Section to ensure water tightness.
				4. Securely anchor roof accessories in compliance with manufacturer's instructions.

Set units plumb, level, and true to line without warp or rack. Separate metal from incompatible metal or corrosive substrates, including wood, by coating concealed surfaces, at locations of contact, with bituminous coating or providing other permanent separation.

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

* + - 1. FIELD QUALITY CONTROL
				1. Smoke Vent Testing: Test for proper operation after installation by one or all of the operational methods:
				2. Melting fusible link for inside at smoke vent level recommend using hand held propane tank torch. Replace fusible link, then close vents from the exterior at the roof top level.
				3. Pull internal and/or external manual pull handles and then close vents from the exterior at the roof top level.
				4. If applicable; open the vents using an electrical signal for fire alarm, push button or other, then close vent from the exterior at the roof top level.
				5. Do not paint the internal mechanisms, especially moving parts such as spring/dampers, rotary latches and especially the fusible links. Painting any of these components may damage the vents and will void the warranty.
			2. ADJUSTING
				1. Adjust movable parts for smooth operation.
				2. Operational Units: Test-operate units with operable components. Clean and lubricate joints and hardware. Adjust for proper operation.
			3. cleaning
				1. Clean exposed surfaces per manufacturer's written instructions. Touch up damaged metal coatings.

END OF SECTION