Western Firex®

Heat & Smoke Ventilator

MOFFITT CORPORATION
VENTILATION AND HEATING PRODUCTS

Ventilation's Natural Solution since 1961

EAGLE series Natural Ventilation

(800) 474-3267 | 1351 13th Ave S. Suite 130 Jacksonville Beach, FL 32250 | MoffittHVAC.com

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Western Firex® Product Details

STANDARD FEATURES

- Closed Height: 15 ¾”
- Opening width: 4’
- Opening length range: 4’ - 8’
- Venting area range: 16 ft^2 - 54 ft^2
- Net weight range: 345 lbs. Galv. - 590 lbs. Galv.
- Automatic or Manual Operators

OPTIONAL FEATURES

- Burglar alarms
- E.T.L. links
- Solenoids

BENEFITS

- Opens automatically when subjected to elevated temperatures from fires.
- Low-profile design does not detract from the architectural concept or modern buildings
- Positive operation. Doors open against 10 lbs. per square foot of wind or snow load. Doors have a positive lock in the open position against untimely closing.
- Doors remain tightly sealed against 30 lbs. per square foot uplift pressures until triggered automatically
- Two double-wall doors have laminated honeycomb insulation between steel walls to protect against condensation and heat loss.

APPLICATION

- Foundries
- Chemical plants
- Paper mills
- Rubber products
- General warehouses
- Theatres
- Performance Halls
- Leather goods manufacturing
- Printing presses
- Machine shops w/ combustible chemicals
- Metal stamping plants
- Machine shops
- Painting departments
- Oil quenching
- Breweries
- Food handling
- Emergency Stairwells

DESCRIPTION

The Western Firex® is an economical venting system designed to restrict fire from spreading by extracting heat and smoke, and in turn protecting the building and contents. It also provides additional, often vital, access for fire fighters.

Large industrial and storage buildings with extensive undivided floor areas can make firefighting difficult. Heat responsive ventilation equipment can make firefighters’ jobs safer and more effective. The National Fire Protection Association (NFPA) has performed full scale testing that proves the addition of proper ventilation will assist fire fighters in accessibility of the source of the fire and to take direct action against it thereby reducing overall damage to the building.

Western Firex® Heat and Smoke Ventilators have been manufactured continuously since 1956. During this time, tens of thousands of ventilators have been produced and designs have been constantly upgraded and improved.

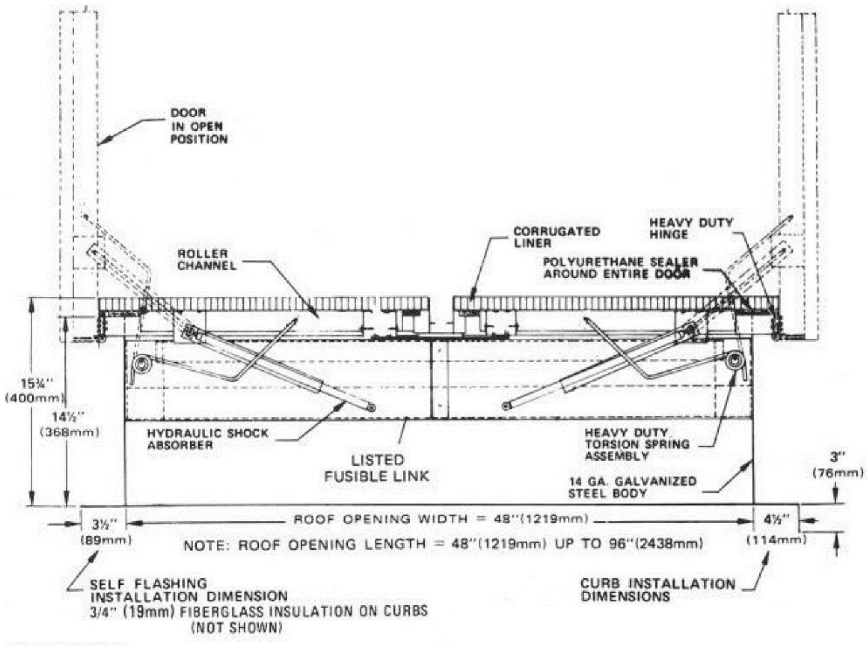
Western Firex® Submittal Data

STANDARD FEATURES

- Closed Height: 15 ¾”.
- Opening width: 4’
- Opening length: 4’ - 8’
- Venting area: 16 - 54 ft^2
- Net weight: 345 lbs. Galv - 590 lbs. Galv
- Withstand uplift pressure up to 30 lbs/ft^2
- Automatic or Manual Operators

OPTIONAL FEATURES

- Burglar alarms
- E.T.L. links
- Solenoids



MODULE NUMBER	INSIDE DIMENSIONS (W × L)	VENT AREA (FT^2)	NET WT. (LBS)
FX-44	48" x 48"	16	345
FX-45	48" x 60"	20	380
FX-46	48" x 72"	24	415
FX-47	48" x 84"	28	450
FX-48	48" x 96"	32	485
FX-55	60" x 60"	25	425
FX-56	60" x 72"	30	465
FX-57	60" x 84"	35	520
FX-58	60" x 96"	40	540
FX-66	72" x 72"	36	525
FX-67	72" x 84"	42	545
FX-68	72" x 96"	48	565
FX-69	72" x 108"	54	590

Western Firex® – Designing for Smoke Relief

The proper size and quantity of fire ventilators required is generally based on the occupancy class of the building relating to the combustible nature of its contents. Listed below are general classes of occupancy and recommended vent areas. These are intended as a general guide only and designers should consult NFPA 204M or Moffitt if specific questions arise.

HOW TO SPECIFY

1. Determine total square feet in space to be protected.
2. See Table (1) to determine classification of occupancy, i.e. low, moderate or high.
3. See Table (2) to determine floor area protection required in square feet.

OCCUPANCY TYPES		
LOW	MODERATE	HIGH
Metal Stamping	Automobile Assembly	Rubber Products
Machine Shops	Leather Goods Mfg.	Paper Mills
Foundries	Printing Presses	Chemical Plants
Breweries	Combustible chemicals areas	Painting Areas
Food Processing	Warehouses	Oil Quenching

Table 1

Type of Occupancy Based on Heat Release	Max. Distance between center lines of any two vents	Max. Ratio of effective vent area to floor area	Max. Area in sq. ft. per 32 ft^2 FIREX
Low	150	1:150	4800
Moderate	120	1:100	3200
High	75 - 100	1:30 - 1.50*	960 - 1600*

Table 2

Venting requirements based on tests and experience compiled by the national fire protection association (NFPA)

- Building designers and fire protection engineers cannot rely on casual inclusion of skylights, windows, or monitors as adequate venting means.
- The vent opening should measure at least four (4) feet in any direction.
- Opening mechanism must operate automatically in the event of a fire, without the use of electricity.
- All automatic vents should be designed to also open manually.
- Opening mechanisms must be made of non-corrodible materials.
- Vents are not a substitute for sprinklers or other fire extinguishing equipment.
- Vents should remain securely closed against internal pressure build-up during wind and rain storms.
- Vents should be regularly inspected and manually tested to assure proper operation.
- The fusible link should never be painted or tampered with.
- In the case of gravity operated vents (dropout panels) the vents should be kept clean of dirt, airborne debris, ice, and snow to insure proper operation.
- Vent spacing should be based on the building occupancy and the heat release potential of the contents as detailed in NFPA 204M dated 1991.
- Noncombustible curtain boards should also be utilized inside a building to assist in directing smoke and heat towards the vents for relief.
- Vent spacing should be based on building occupancy and the heat release potential of the contents.

Western Firex® – The Need for Fire Venting

***Without* WESTERN FIREX® heat & smoke ventilator**
Solid Roofs Spread Heat & Flames

When floor areas are large there is a rapid lateral fire spread in an un-vented building.

Temperature rise in a building without fire ventilation was over three times the temperature rise in the building with fire venting. Where fire venting was absent, the temperature exceeded that point at which the structural steel would become buckled and distorted.

The hot gases from a fire which involves only part of the floor area of the building rise to the ceiling and form a layer which does not usually mix to any extent with the underlying cold air. The layer of hot gases will gradually build down to floor level.

***With* WESTERN FIREX® heat & smoke ventilator**
Ventilated Roofs Allow Smoke & Heat to Escape

PREVENTS SMOKE LOGGING:
First and foremost, by automatically releasing the heat, smoke and general products of combustion Fire venting enables firemen to see the fire, to approach the source and tackle it without breathing apparatus.

PREVENTS EXPLOSION:
Automatic fire venting quickly removes the partially burnt gases which would otherwise accumulate in the roof space and present a danger of explosion.

REDUCES LATERAL SPREAD OF FIRE:
By preventing heat from mushrooming over the fire area and heating materials to the point of ignition, fire venting has a marked effect on reducing the lateral spread of fire.

REDUCES WATER DAMAGE:
By enabling jets to be applied straight onto the fire, instead of being directed generally towards the smoke logged areas. Fire venting reduces water damage throughout the building. Furthermore, where fire venting is used in conjunction with sprinkler systems, the prevention of lateral heat spread reduces the number of sprinkler heads in operation to only those directly centered over the fire.

LIMIT ROOF TEMPERATURE:
A well designed fire venting system will limit the temperature in the roof space of a building to well within the softening temperature of structural steel. This prevents distortion and collapse of the building. Heat and smoke venting keeps temperatures from reaching extremes that can ultimately result in keeping the building standing.

Western Firex® Pictures

CLOSED HATCH

OPEN HATCH

Western Firex® Guide Specification

1.1. DESCRIPTION:

Furnish and Install Western Firex® heat and smoke ventilators and accessories as indicated on drawings. Western Firex® is a registered trademark of Western Canwell LLC.

1.2. QUALITY ASSURANCE:

MOFFITT (Jacksonville, FL, 1-800-474-3267) Products establish the standard of quality required. Manufacturer and erector shall demonstrate a minimum of five (5) years of related industry experience.

1.3. SUBSTITUTIONS:

No substitutions will be considered unless written request for approval has been submitted by the bidder and has been received by the designer at least ten (10) days prior to bid date. Any proposed substitutions should meet the standards set by the specification.

1.4. SUBMITTALS:

Furnish approval drawings prior to fabrication and erection drawings prior to shipment showing all erection procedures and accessories required for the specified product.

2.1. DESIGN

Western Firex® heat and smoke ventilators shall be designed for airflow capacities as shown in the submittal data (page 3 of this catalog).

3.1. INSPECTIONS

Examine roof curb prior to installation to ensure a true flat mounting condition. Make sure flat surface of roof curb is clear of debris to ensure proper adhesion of caulking material between vent and roof curb. Examine alignment of Western Firex® modules it has been installed as per installation instructions.

3.2. INSTALLATION & ERECTION

Install Western Firex® heat and smoke ventilator and accessories in conformance with approved drawings and MOFFITT specifications.

3.3. DAMAGED MATERIAL

Repair or replace all damaged material.