

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 07-0588	Issue Date:	CBL: 135 E012001
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Location of Construction: 476 STEVENS AVE	Owner Name: ROCK PROPERTIES LLC	Owner Address: 45 WORDSWORTH ST	Phone:
Business Name:	Contractor Name: Atlantic Restaurant Services	Contractor Address: 34 Albion Road Windham	Phone 2076530645
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commerical	Zone: B-1

Past Use: Commercial / Restaraunt	Proposed Use: Commercial / Restaraunt install a hood system	Permit Fee:	Cost of Work: \$11,000.00	CEO District: 5
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FIRE DEPT:  Approved  Denied  
 Signature: *Jay Kelley P.F.D. 5/31/07*

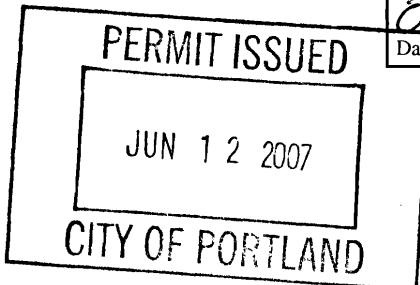
INSPECTION:  
 Use Group: *A2* Type: *Hood*  
 Signature: *JMB 6/6/07*

Proposed Project Description:  
Install a hood system

PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)  
 Action:  Approved  Approved w/Conditions  Denied  
 Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Permit Taken By: dmartin	Date Applied For: 05/22/2007	<b>Zoning Approval</b>	
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1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules. 2. Building permits do not include plumbing, septic or electrical work. 3. Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..	Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/>	Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied	Historic Preservation <input checked="" type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied
	Date: <i>5/23/07</i>	Date: _____	



**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

<b>Permit No:</b> 07-0588	<b>Date Applied For:</b> 05/22/2007	<b>CBL:</b> 135 E012001
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<b>Location of Construction:</b> 476 STEVENS AVE	<b>Owner Name:</b> ROCK PROPERTIES LLC	<b>Owner Address:</b> 45 WORDSWORTH ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Atlantic Restaurant Services	<b>Contractor Address:</b> 34 Albion Road Windham	<b>Phone</b> (207) 653-0645
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Hood Systems, Commerical	

<b>Proposed Use:</b> Commercial / Restaraunt install a hood system	<b>Proposed Project Description:</b> Install a hood system
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**Dept:** Zoning      **Status:** Approved with Conditions      **Reviewer:** Marge Schmuckal      **Approval Date:** 05/23/2007**Note:** **Ok to Issue:** 

- 1) This permit is being approved on the basis of plans submitted. Any deviations shall require a separate approval before starting that work.
- 2) This hood system shall meet all the external effects requirements including the noise ordinance for the B-1 zone. Noise complaints are vigorously enforced.

**Dept:** Building      **Status:** Approved with Conditions      **Reviewer:** Jeanine Bourke      **Approval Date:** 06/06/2007**Note:** **Ok to Issue:** 

- 1) The Hood shall be installed per IMC 2003 and NFPA 96  
This permit is approved based on the plans submitted and updated for reductions in the cleaances based on the application of a UL approved fire wrap or equivalent assembly per code.

**Dept:** Fire      **Status:** Approved with Conditions      **Reviewer:** Jay Kelley      **Approval Date:** 05/31/2007**Note:** **Ok to Issue:** 

- 1) NFPA 96 code required

**Comments:**

6/5/2007-jmb: Left voicemsg w/ Mark for distance of the makeup air to the exhaust and verify no combustibles in the wall hood is mounted on

6/6/2007-jmb: Mark called to say the air intake would be 10' away and the exhaust is above the intake on the roof, ok to issue

Please call 874-8703 or 874-8693 to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

By initialzing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.

A Pre-construction Meeting will take place upon receipt of your building permit.

- ~~NA~~ Footing/Building Location Inspection: Prior to pouring concrete
- ~~NA~~ Re-Bar Schedule Inspection: Prior to pouring concrete
- ~~NA~~ Foundation Inspection: Prior to placing ANY backfill
- ~~NA~~ Framing/Rough Plumbing/Electrical: Prior to any insulating or drywalling
- ~~CALL~~ Final/Certificate of Occupancy: Prior to any occupancy of the structure or use. NOTE: There is a \$75.00 fee per inspection at this point.

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection

If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.

~~CERTIFICATE OF OCCUPANCIES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED~~

Signature of Applicant/Designee

Date

Signature of Inspections Official

Date

CBL: 135 E001

Building Permit #: 070588

130<sup>00</sup>  
1/30<sup>00</sup>

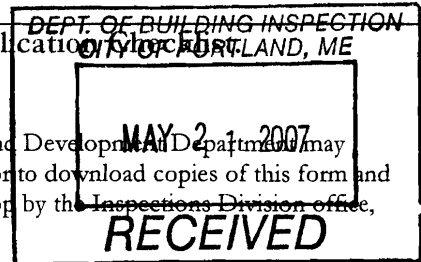


# General Building Permit Application

If you or the property owner owes real estate or personal property taxes or user charges on any property within the City, payment arrangements must be made before permits of any kind are accepted.

Location/Address of Construction: <u>476 STEVENS AVE</u>		
Total Square Footage of Proposed Structure		Square Footage of Lot
Tax Assessor's Chart, Block & Lot Chart#      Block#      Lot#	Owner: <u>JOE PUMPEO</u> <u>ROCK PROPERTIES LLC</u>	Telephone: <u>632 5622</u>
Lessee/Buyer's Name (If Applicable)	Applicant name, address & telephone: <u>ATLANTIC REST SVL.</u> <u>34 ALBION RD</u> <u>WINDHAM, ME 04062</u>	Cost Of Work: \$ <u>11,000</u> Fee: \$ <u>130</u> C of O Fee: \$ _____
Current legal use (i.e. single family) <u>VACANT</u> If vacant, what was the previous use? <u>REST</u> Proposed Specific use: <u>SAME</u> Is property part of a subdivision? <u>NO</u> If yes, please name _____ Project description: <u>INSTALL EXHAUST HOOD USING EXISTING DUCT, CURBS, &amp; APPLICABLE</u>		
Contractor's name, address & telephone: <u>ATLANTIC REST SVL.</u> Who should we contact when the permit is ready: <u>MARK</u> Mailing address: _____ Phone: <u>653-0645</u>		

Please submit all of the information outlined in the Commercial Application or Residential Application. Failure to do so will result in the automatic denial of your permit.



In order to be sure the City fully understands the full scope of the project, the Planning and Development Department may request additional information prior to the issuance of a permit. For further information or to download copies of this form and other applications visit the Inspections Division on-line at [www.portlandmaine.gov](http://www.portlandmaine.gov), or stop by the Inspections Division office, room 315 City Hall or call 874-8703.

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in this application is issued, I certify that the Code Official's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

Signature of applicant: <u>[Signature]</u>	Date: <u>5/20/07</u>
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This is not a permit; you may not commence ANY work until the permit is issued.

476 STEVENS -



# PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Lee Urban- Director of Planning and Development  
Michael J. Nugent- Inspections Division Director

## Kitchen Exhaust System Checklist and Code Provisions

Dear Applicant,

The following is a checklist to assist you in filing for a permit for a Kitchen Exhaust system. The applicable Mechanical Code provisions have also been attached. Please complete this and submit job specific construction documents that demonstrate compliance with the attached information.

### Type of System:

Type I  Type II

(Type I systems are systems that vent fryers, grills, broilers, ovens or woks. Type II systems are systems that vent steamers and other non grease producing appliances)

### Type of Materials:

Is the hood Stainless steel or other type of steel? STAINLESS If Other, what Type? \_\_\_\_\_

Is the duct work Stainless steel or other type of steel? ALUM If Other, what type? \_\_\_\_\_

Thickness of the steel for the hood 18GA

Thickness of the duct for the hood 16GA

Type of Hood and Duct supports

BOX HOOD EXHAUST w/ MAKE UP AIR  
THREADED ROD SUPPORTS

Type of seams and Joints WELDED

Grease Gutters provided? YES

Hood Clearance from Combustibles materials > 18"

Duct Clearance from Combustibles materials < 6" (WRAP TO BE INSTALLED)

Vibration Isolation System:

\_\_\_\_\_

Air Velocity within the duct system 3000 CFM (4000 CFM CAP)  
Blower

Grease accumulation prevention system  
\_\_\_\_\_

Cleanouts \_\_\_\_\_

Grease Duct enclosure Thermal Ceramic Fire Mastec

Exhaust Termination Roof Top

Fire Suppression system UL 300

Exhaust fan mounting and clearance from the roof or wall GREATER THAN 10'

Exhaust fan distance from other vents or openings GREATER THAN 10'

Exhaust fan height above adjoining grade GREATER THAN 40"

**Hood Specs**

Style of hood Box w/ MAKE UP CAJITY

Type of Filter: BAFFLE Accum.

Height of filter above nearest cooking surface: < 2'

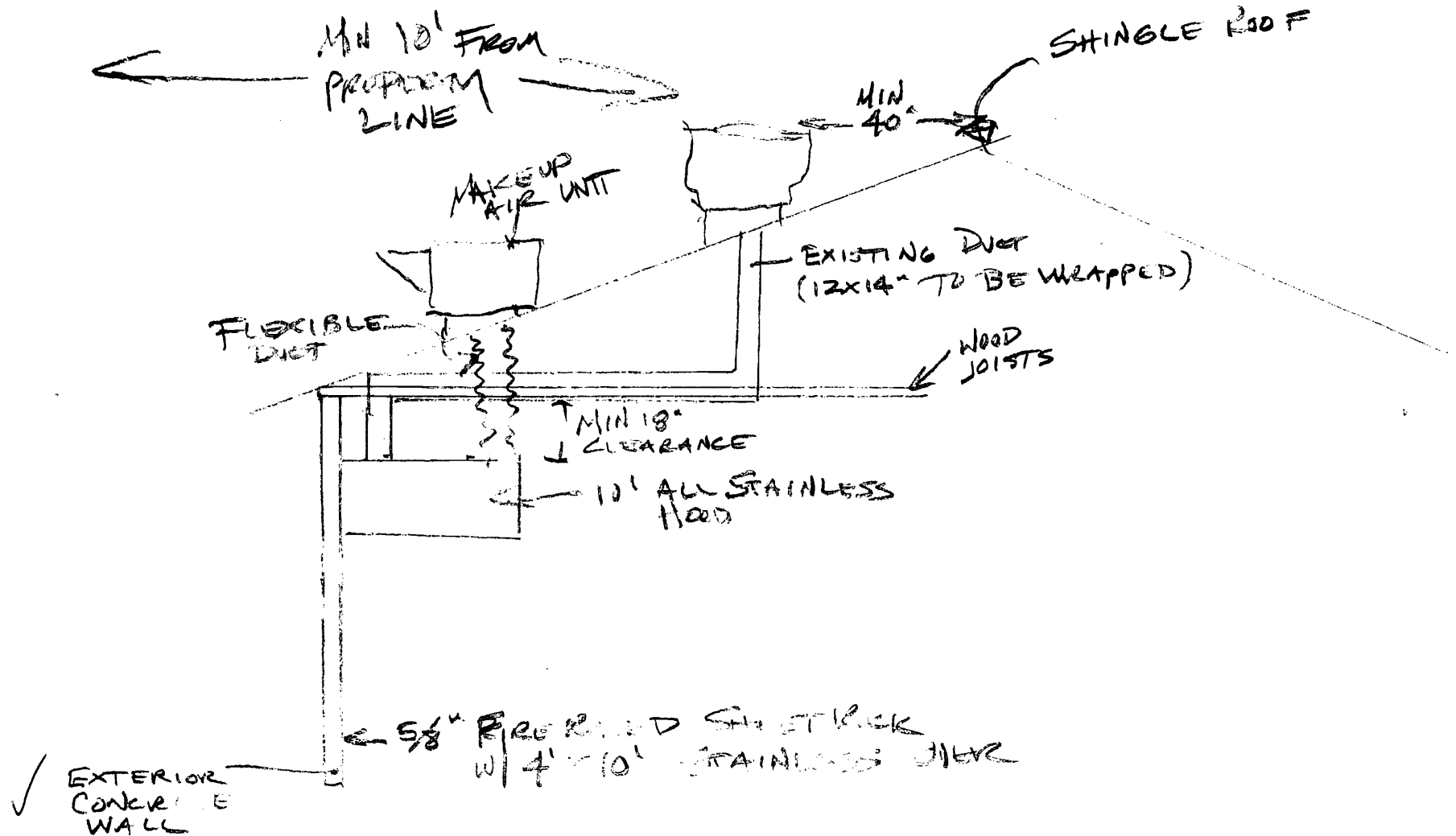
Capacity of hood in CFM 5000 CFM

Make up Air system description and capacity  
MECHANICALLY ACTUATED 3800 CFM CAP

Atlantic Restaurant Service  
34 Albion Road  
Windham, ME 04062

207-893-1550

Project: **POMPEOS**





Print printed May 22, 2007



### Exhaust Vent,16 1/2 In

Exhaust Ventilator, Centrifugal Upblast With Drive Package. CFM @ 0.000-In SP 3996. @ 0.250-In SP 3806. 21 Sones @ 0.250-In SP, Roof Mounting Location. Base Width 26 In. Base Length 26 In. Overall Height 28 1/4 In. Max Inlet Temp. 300 Deg. F. Motor Voltage 115/230. 1 Phase. Motor 1 HP. 1390 RPM. Wheel Dia 16 1/2 In. Application General/Kitchen. Includes NEMA 1 Junction Box

Grainger Item #	7A626
Price (ea.)	<b>\$1,067.00</b>
Brand	DAYTON
Mfr. Model #	7A626
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	110.7
Usually Ships	Today
Catalog Page No.	3037

Price shown may not reflect your price. Log in or register

#### Additional Info

#### Centrifugal Belt-Drive Upblast Exhaust Ventilators

#### Tech Specs

Item: Exhaust Ventilator  
 Type: Centrifugal Upblast With Drive Package  
 Wheel Dia. (In.): 16 1/2  
 Wheel Type: Backward Incline  
 CFM @ 0.000-In. SP: 3996  
 CFM @ 0.125-In. SP: 3901  
 CFM @ 0.250-In. SP: 3806  
 CFM @ 0.375-In. SP: 3698  
 CFM @ 0.500-In. SP: 3584  
 CFM @ 0.675-In. SP: 3464  
 CFM @ 0.750-In. SP: 3340  
 CFM @ 0.875-In. SP: 3213  
 CFM @ 1.000-In. SP: 3078  
 CFM @ 1.250-In. SP: 2785  
 CFM @ 1.500-In. SP: 2394  
 CFM Range: 2515 to 3996 @ 0.0" SP  
 Sones @ 0.125-In. SP @ 5 Ft.: 21  
 Sones @ 0.250-In. SP @ 5 Ft.: 21  
 Max. Inlet Temp. (Deg. F): 300  
 Motor Voltage: 115/230  
 Motor Hz: 60  
 Phase: 1  
 Bearing Type: Sealed  
 Motor HP: 1  
 Motor HP Range: 1/4 to 1  
 Max. BHP: 1.05  
 RPM: 1390  
 RPM Range: 875 to 1390  
 Speed Controllable: No  
 Mounting Location: Roof

#### Optional Accessories

##### Hinge Kit



Item #: 4HX79  
 Brand: DAYTON  
 Usually Ships: Today  
 Price (ea): \$78.05

##### Grease Trap,7 In Width



Item #: 4HX78  
 Brand: DAYTON  
 Usually Ships: Today  
 Price (ea): \$80.45

##### Damper, Roof Mount



Item #: 4HX66  
 Brand: DAYTON  
 Usually Ships: Today  
 Price (ea): \$29.90

##### Birdscreen,12 1/4 In

Item #: 4YY79  
 Brand: DAYTON  
 Usually Ships: Today





Print *printed May 22, 2007*



### Supply Vent,13 1/4 In

Supply Ventilator, Centrifugal Belt Drive, 3353 CFM @ 0.250-In SP, 24 Sones @ 0.250-In SP, Mounting Location Wall/Roof, Housing Height 34 1/2 In, Housing Length 34 1/2 In, Housing Width 64 1/2 In, Base Width 32 1/2 In, Base Length 32 1/2 In, Motor Voltage 115/230, 1 Phase, Motor HP 1, Fan RPM 810, Wheel Dia 13 1/4 In, Discharge Length 13 3/4 In, Discharge Width 15 5/8 In, Bearing Type Sleeve, Requires Roof Curb For New Installations. Includes Washable Aluminum Filters

Grainger Item #	7D503
Price (ea.)	<b>\$1,103.00</b>
Brand	DAYTON
Mfr. Model #	7D503
Ship Qty.	1
Sell Qty. (Will-Call)	1
Ship Weight (lbs.)	252.4
Usually Ships	Today
Catalog Page No.	3039

Price shown may not reflect your price. Log in or register

#### Additional Info

#### Centrifugal Belt-Drive Filtered Supply Ventilators

Designed to supply untempered filtered make-up air to commercial and institutional buildings, or in commercial kitchen applications

Heavy gauge galvanized steel construction. Neoprene isolators minimize vibration and noise. Include a weatherhood with removable 1" aluminum washable filters. Nos. 4YC82 and 4YC47 can be wall or roof mounted; Nos. 4YC83, 5AU56, and 5AU57 are roof mount only. UL and C-UL Listed. Order ventilator with or without motor/drive package; drive packages are packed separately.

- Max. inlet air temperature: 120 DegreeF
- Lifting lugs on drive frame
- Air handling quality bearings are selected to meet a minimum of L10-100,000 hours
- UL 705 Listed for Power Ventilators
- Optional NEMA 1 and 4 disconnects available separately
- Units 11 1/8 through 18 1/2" wheel diameter have sealed pillow block bearings
- Units 20 1/2" wheel diameter have regreasable pillow block bearings

#### Tech Specs

Item: Supply Ventilator  
 Type: Centrifugal Belt Drive  
 CFM @ 0.125-In. SP: 3557  
 CFM @ 0.250-In. SP: 3353  
 CFM @ 0.375-In. SP: 3119  
 CFM @ 0.500-In. SP: 2747  
 CFM @ 0.675-In. SP: 2363  
 Sones @ 0.125-In. SP @ 5 Ft.: 25  
 Sones @ 0.250-In. SP @ 5 Ft.: 24  
 Mounting Location: Wall/Roof  
 Housing Height (In.): 34 1/2  
 Housing Length (In.): 34 1/2  
 Housing Width (In.): 64 1/2  
 Base Height (In.): 1 1/2

#### Optional Accessories

##### Switch,Manual,2 Pole



Item #: 1H400  
 Brand: SQUARE D  
 Usually Ships: Today  
 Price (ea): \$41.20

##### Switch,Manual,2 Pole

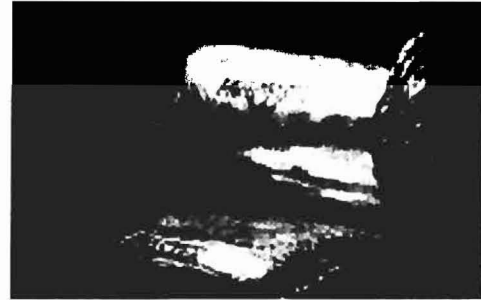


Item #: 1H408  
 Brand: SQUARE D  
 Usually Ships: Today

### Product Data & Installation Guide



NFPA 96  
MEA  
IMC



#### 1. Product Description

Thermal Ceramics Duct Wrap and Duct Wrap+ FireMaster fire protection products are totally foil-encapsulated, non-combustible, high temperature, inorganic flexible fireproofing wrap materials specifically tested to provide a 1 or 2 hour fire rated enclosure for commercial kitchen grease and air ventilation ducts. The difference between the two wrap products is the core material basic chemistries. Duct Wrap is a high temperature ceramic fiber insulating blanket composed primarily of alumina and silica. Duct Wrap+ is a body soluble, low biopersistence, alkaline-earth silicate wool. Both chemistries are free of binders and lubricants. Duct Wrap and Duct Wrap+ products are classified by Underwriters Laboratories Listing and Follow-up Service Program to ensure uniform thickness and density specifications, thus providing consistency in end physical properties for required fire ratings based on the number of wraps applied. Duct Wrap and Duct Wrap+ products are proven performance alternatives through extensive testing to 1 or 2 hour fire-resistance rated shaft enclosures for commercial kitchen grease and air ventilation duct systems. With its excellent insulating capability of withstanding fire temperatures from 2000°F to 2300°F (1093°C to 1260°C), it protects combustible constructions at zero clearance throughout the entire cocoon wrap enclosure for commercial kitchen grease ducts in tight congested areas. When the commercial kitchen grease or air ventilation duct penetrates fire rated walls and floors, Tremco Fyre-Sil silicone firestop sealant used in combination with Duct Wrap and Duct Wrap+ provides an alternate means of protection to rigid shafts by maintaining the integrity of the 1 or 2 hour floor or wall assembly. Duct Wrap and Duct wrap+ are resistant to mold growth in test conditions at 75-95% relative humidity (ASTM D6329).

#### Product Features

- Completely inorganic
- Low biopersistence with Duct Wrap+
- Does not contain low temperature fiberglass or mineral wool
- Shaft alternate to rigid board systems
- Zero clearance to combustibles throughout the entire enclosure system
- Lightweight, flexible wrap saves labor
- Totally foil encapsulated system protects against material degradation and potential fire hazards
- Passive fire proof material does not shrink, become brittle, or lose fire fighting capabilities with age
- Product markings on foil ensure proper material identification for easy inspections
- Wide variety of through-penetration systems
- Resistant to mold growth

#### 2. Applications

- 1 or 2 Hour Commercial Kitchen Grease Ducts
- 1 or 2 Hour Air Ventilation Ducts

#### 3. Physical Characteristics

Duct FireMaster Fire Protection Product	Unit	Size	Units/Ctn.	Wt./Ctn.
Duct Wrap Duct Wrap+	Roll	1½" x 24" x 25' (38.1 mm x 610 mm x 7.6 m)	1	45 lbs. (20 kg)
Duct Wrap Duct Wrap+	Roll	1½" x 48" x 25' (38.1 mm x 1.2 m x 7.6 m)	1	87 lbs. (39 kg)
Color: White blanket with silver foil encapsulation				

#### 4. Specifications

This specification guide covers the application of Duct Wrap, Duct Wrap+ and Tremco Fyre-Sil silicone firestop sealant.

Application	Fire Resistive Rating	Enclosure System	Through Penetration System
Grease Ducts	1 or 2 hours	2 layers, 1½" Duct Wrap or Duct Wrap+ UL HNKT: G-2, perimeter and longitudinal overlap 3" (75mm)	UL C-AJ 7014 ULW- L-7041 ULC-FRD-4
Air Ventilation Duct Systems	1 hour	1 layer, 1½" Duct Wrap or Duct Wrap+, V-1, V-3, perimeter and longitudinal overlap or optional butt joint plus collar wrap method 3" (75mm)	UL C-AJ 7012 UL C-AJ 7019 UL W-L-7041 ULC-FRD-3 ULC-FRD-5
Air Ventilation Duct Systems	2 hours	2 layers Duct Wrap or Duct Wrap+ UL V-2, V-4, perimeter and longitudinal overlap or optional butt joint plus collar wrap method 3" (75mm)	UL C-AJ 7014 UL C-AJ 7021 UL W-L-7041 ULC-FRD-3 ULC-FRD-5

#### 5. Performance

##### A. Thermal Ceramics Duct Wrap and Duct Wrap+ Duct FireMaster Fire Protection Product

Flammability (ASTM # 84/UL 723)		
Foil:	Flame spread	5
	Smoke developed	5
Blanket:	Flame spread	0
	Smoke developed	0
Thermal Resistance	R value per ASTM C 518 4.15 per inch at 70°F (21°C)	

##### B. Fire Stop Sealant

Tremco Fyre-Sil silicone firestop sealant	Gun grade	Self-leveling
Color	limestone	rust red
Working Time (min.)	5 - 10	20 - 40
Cure Time at 77°F (25°C), 50% R.H.	14 - 21 days	14 - 21 days
Flow, Sag, or Slump	Nil	Self Leveling

## 6. Listings

Agency	Reference Standard/File No.
Underwriters Laboratories Inc.	Grease Duct Enclosures (HNKT): G-2; Fire Resistance Ventilation Duct Assemblies (HNLJ): V-1, V-2, V-3, V-4; Batts and Blankets (BKNV): R8418; Through-Penetration Firestop Systems (XHEZ): C-AJ-7012, C-AJ-7019, C-AJ-7014, C-AJ 7021, W-L-7041
International Code Council	SBCCI: Legacy Report 9424E BOCA: Legacy Report 22.25
NFPA 96	Section 4.3.1, 2004 Edition
California State Fire Marshal	Listing Nos. 2440-1361:100, 4485-1361:101
New York City MEA	417-92-M Vol III (air ventilation ducts), 417-92-M Vol. IV (grease ducts)
North Carolina Mechanical Code	Sections 308.4.7, 308.4.10 Vol. III
International Mechanical Code	Section 506 Commercial Kitchen Grease Ducts and Exhaust Equipment, Section 507 Commercial Kitchen Hoods

## 7. Installation

The Duct Wrap and Duct Wrap+ products shall be installed by a qualified contractor in accordance with the manufacturer's instructions and the referenced standards.

### Materials and Equipment

- Duct Wrap and Duct Wrap+ blanket, 1½" (38.1 mm) thick, 24" (610 mm) or 48" (120 cm) wide, 6 pcf density, 25' (7.6 m) long rolls, 48" (120 cm) wide blanket helps to minimize waste
- Aluminum foil tape
- Minimum ¾" (19 mm) wide filament tape (optional)
- Carbon steel or stainless steel banding material, minimum ½" (12.5 mm) wide, minimum 0.015" (0.38 mm) thick, with steel banding clips
- Hand banding tensioner and crimping tool
- Minimum 12 gage steel insulation pins, 4" to 5" long (102 - 127 mm); galvanized steel speed clips, minimum 1½" (38 mm) x 1½" (38 mm) square or 1½" dia. (38 mm), or equivalent sized cup-head pins; capacitor discharge stud gun
- Access door hardware: four galvanized steel threaded rods, ¼" diameter (6.35 mm) by 4½" to 5" long (114 to 127 mm) with ¼" (6.35 mm) wing nuts and ¼" (6.35 mm) washers; 4" (102 mm) long steel tubing to fit threaded rods
- Tremco Fyre-Sil silicone firestop sealant

### Storage:

Thermal Ceramics Duct Wrap, Duct Wrap+, and Tremco Fyre-Sil silicone firestop sealant must be stored in a dry warehouse environment on pallets. Pallets should not be stacked.

### Preparatory Work:

Duct Wrap and Duct Wrap+ are installed with common tools, such as knives, banders and capacitor discharge guns for applying insulation pins. In order to install the duct fire stop system, the surfaces of all openings and penetrating items need to be clean, dry, frost free, and free of dust.

Installation techniques for Thermal Ceramics Duct Wrap and Duct Wrap+ (figure 1):

- 3" (75 mm) Overlap Wrap Telescope - Each blanket overlaps one adjacent blanket a minimum of 3" (75 mm), and each blanket has one edge exposed and one edge covered by the next blanket as

shown in figure 1. The visible edges of the longitudinal overlaps all point in the same direction.

- Butt Joint & Collar System - The adjacent blankets of both interior and exterior layers are firmly butted together with the exterior joints located 12" (30 cm) away from the interior joints. An 6" (15 cm) wide collar made from Duct Wrap or Duct Wrap+ is centered over each exterior joint, overlapping each blanket by 3" (75 mm) as shown in figure 1. The collar overlaps itself with a 3" (75 mm) perimeter overlap.
- 2 & 3 Sided Wrap System - When space does not allow for a full wrap enclosure on all four sides of the duct, the Duct Wrap or Duct Wrap+ may be installed on 2 or 3 sides of the duct and mechanically attached to a concrete or CMU assembly on the unexposed side of the duct.

### General:

#### Applies to all Duct Wrap and Duct Wrap+ Installation Methods

To minimize waste, Duct Wrap and Duct Wrap+ material should be rolled out tautly before measuring. Cut edges of the blanket shall be taped with aluminum foil tape to prevent exposed edges of the insulation from wicking moisture from condensation or grease from a compromised leaking duct joint into the material and causing degradation of the fire barrier. The Duct Wrap and Duct Wrap+ material may be installed with either a mechanical banding system or insulation pins and clips (see Mechanical Attachment Methods below and figures 1 and 2). When using the banding technique, caution shall be taken to ensure that the bands are not fitted too snug as which could result in cutting into the blanket. To prevent blanket sag on ducts with dimensions greater than or equal to 24" (600 mm), insulation pins, long enough to extend through the layers of blanket insulation, are welded to the duct in columns spaced 12" (305 mm) apart, between 6" and 12" (152 and 305 mm) from each edge and 10½" (267 mm) on center along the bottom horizontal and outside vertical duct runs as shown in figure 3. Insulation pins that extend beyond the blanket wrap shall be tuned down to eliminate sharp points.

Support hanger systems do not need to be wrapped provided that the steel hanger rods are at least a minimum of ⅜" (9.5 mm) diameter and the steel angle is a minimum of 1½" x 1½" x ⅛" (38 mm x 38 mm x 3.2 mm). Horizontal trapeze support system may be incorporated into the wrap enclosure.

### A. Overlap Wrap Telescope Installation

Duct Wrap and Duct Wrap+ commercial kitchen grease duct and air ventilation duct 2 hour enclosure includes a two-layer wrap construction for 1 or 2 hour grease ducts and 2 hour air ventilation ducts, or a one-layer wrap for 1 hour air ventilation ducts applied directly to all surfaces of the duct (see figure 1 and 2). The first or interior layer of Duct Wrap or Duct Wrap+ blanket is wrapped around the perimeter of the duct and is cut to a length with enough excess to overlap itself not less than 3" (75 mm). Adjacent blankets are placed to overlap the previous blanket not less than 3" (75 mm). The overlap made by adjacent blankets forms the "longitudinal" overlap. The overlap a blanket makes with itself is called the "perimeter" overlap. The first layer may be held in place with filament tape 1½" (38 mm) from each blanket edge and in the center of the blanket. The second layer is wrapped around the perimeter of the first layer with the longitudinal overlaps of the exterior layer spaced 10½" (26 cm) away from those of the interior layer and may be held in place with filament tape 1½" (38 mm) from each blanket edge and in the center of the blanket until banding is in place or the pinning attachment is fully secured.