

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

Please Read Application And Notes, If Any, Attached

PERMIT ISSUED JUN 19 2007 CITY OF PORTLAND

Permit Number: 070632

This is to certify that HANNAFORD BROS CO # C/Bellino - Grosso has permission to 2 exhaust hoods w/ Ansul Systems, make up air 1 hood into exhaust fan from existing exhaust fan. AT 295 FOREST AVE 034A C001001

provided that the person or persons firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and when permission procedure is complete this building or part thereof is closed or services closed-in. 4 HOUR NOTICE REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

OTHER REQUIRED APPROVALS Fire Dept. Health Dept. Appeal Board Other Department Name

Signature: Jamie Lanke 6/19/07 Director - Building & Inspection Services

PENALTY FOR REMOVING THIS CARD

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 07-0632	Issue Date:	CBL: 034A C001001
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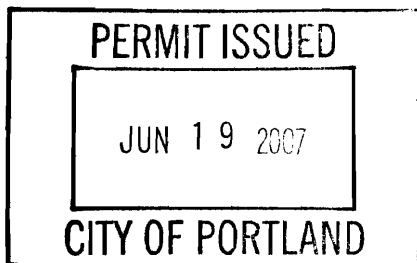
Location of Construction: 295 FOREST AVE	Owner Name: HANNAFORD BROS CO #351C	Owner Address: PO BOX 1000	Phone:
Business Name:	Contractor Name: Bellino - Grosso	Contractor Address: 980 Riverside St Portland	Phone 2078782087
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commerical	Zone:

Past Use: Commercial - Hannaford	Proposed Use: Commercial - Hannaford- 2 exhaust hoods w/ Ansul Systems, make-up air unit, 1 hood tie into exhaust fan from existing oven hood 1 will exit through roof	Permit Fee:	Cost of Work: \$48,000.00	CEO District: 1
Proposed Project Description: 2 exhaust hoods w/ Ansul Systems, make-up air unit, 1 hood tie into exhaust fan from existing oven hood 1 will exit through roof		FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied TO NHPA 96	INSPECTION: Use Group: A2 Type: Hood IMC-2003 Signature: JMB 6/19/07	
		PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.) Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Signature: _____ Date: _____		

Permit Taken By: Idobson	Date Applied For: 05/31/2007	Zoning Approval
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- This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
- Building permits do not include plumbing, septic or electrical work.
- 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	Zoning Appeal	Historic Preservation
<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"/> Date: JMB 6/19/07	<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 Date: _____	<input 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: _____



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

Permit No: 07-0632	Date Applied For: 05/31/2007	CBL: 034A C001001
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Location of Construction: 295 FOREST AVE	Owner Name: HANNAFORD BROS CO #351C	Owner Address: PO BOX 1000	Phone:
Business Name:	Contractor Name: Bellino - Grosso	Contractor Address: 980 Riverside St Portland	Phone (207) 878-2087
Lessee/Buyer's Name	Phone:	Permit Type: Hood Systems, Commerical	

Proposed Use: Commercial - Hannaford- 2 exhaust hoods w/ Ansul Systems, make-up air unit, 1 hood tie into exhaust fan from existing oven hood 1 will exit through roof	Proposed Project Description: 2 exhaust hoods w/ Ansul Systems, make-up air unit, 1 hood tie into exhaust fan from existing oven hood 1 will exit through roof
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Dept: Zoning **Status:** Approved with Conditions **Reviewer:** Jeanine Bourke **Approval Date:** 06/19/2007
Note: **Ok to Issue:**
 1) Zoning approved on permit # 07-0414

Dept: Building **Status:** Approved with Conditions **Reviewer:** Jeanine Bourke **Approval Date:** 06/19/2007
Note: **Ok to Issue:**
 1) Per Jason Grasso, the hood and duct will be installed per code as the engineers stamped letter confirms. No details were provided for wall construction or hood to ceiling distances or combustibles.
 2) 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 clearances based on the application of a UL approved fire wrap or equivalent assembly per code.

Dept: Fire **Status:** Approved with Conditions **Reviewer:** Capt Greg Cass **Approval Date:** 06/12/2007
Note: Hoods and exhaust shall be separate. **Ok to Issue:**
 1) Install shall comply with NFPA 96

Comments:
 6/19/2007-jmb: Received fax from Bellino-G, including letter from WBRC stating that the design is in accordance with NFPA 96 and IBC 2003. The plan M-1 does not detail the wall construction that hood # 1 is against, and the sections do not give detail of the distance to the roof/ceiling assembly. Issue with conditions.
 6/15/2007-jmb: Left voicemail for Jason Grasso 878-2087 for detail on hood clearance to combustibles and termination of exhaust.
 6/18/2007-jmb: Jason G. Called and will fax some details. Asked for a section of the hood installation and clearances to roof/ceiling and the full wall.

From: "Jason Grosso" <Jason@bellinogrossoinc.com>
To: <gec@portlandmaine.gov>
Date: 6/13/2007 7:59:43 AM
Subject: hann. forest ave permit

We have been instructed to change the Kitchen Hood exhaust ductwork from Zero Clearance Grease Duct to Shop Fabricated Ductwork for the above referenced project.

The Shop Fabricated Ductwork for Hood #1 will be fabricated from 16 gauge Type 304 2B Finish Stainless Steel and the Ductwork for Hood #2 will be fabricated from 16 gauge Black Iron. It is my understanding that we are to provide Zero Clearance Ductwrap Insulation for the ductwork from Hood #2 to the connection point on the existing Zero Clearance Grease Duct. We will also provide Zero Clearance Ductwrap Insulation for the section of ductwork is at the curb blocking at the roof line only for Hood #1. The rest of the ductwork for Hood #1 will not have any insulation.

please call me and let me know where we are at with this permit

I need to finish this job asap

also your fax machine is not working 874-8716

thank you,

Jason Grosso



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 Steel If Other, what Type? _____

Is the duct work Stainless steel or other type of steel? Stainless Steel If Other, what type? Metal-Fab IPIC Grease Duct

Thickness of the steel for the hood 19 ga

Thickness of the duct for the hood 20 ga. Inner

Type of Hood and Duct supports

Threaded Rod and Spanning Uni-Strut

Type of seams and Joints welded seams; Flanged Joints with Hi-Temp Sealant with Integral Band

Grease Gutters provided?

Hood Clearance from Combustibles materials 1"

Duct Clearance from Combustibles materials 2"

Vibration Isolation System:

None

Air Velocity within the duct system 1300 ft. per Min.

Grease accumulation prevention system

Stainless Steel Baffle Filters at Hoods; Grease Box at Fans

Cleanouts Clean outs At Tee sections For Horizontal Runs

Grease Duct enclosure 4" Insulation with stainless steel casing

Exhaust Termination Roof Mounted Exhaust Fans (Upblast)

Fire Suppression system

Ausul R102

Exhaust fan mounting and clearance from the roof or wall Curb Mount; Upblast Arrangement; H-1 = 50" and H-2 = 40" Above Roof

Exhaust fan distance from other vents or openings 15'

Exhaust fan height above adjoining grade 40" min.

Hood Specs

Style of hood H-1 Island; H-2 Canopy

Type of Filter: Stainless Steel Baffle

Height of filter above nearest cooking surface: 42"

Capacity of hood in CFM H-1 = 5,100 CFM; H-2 = 610 CFM

Make up Air system description and capacity

Roof Mounted Direct Fired Make up Air Unit at 4,335 CFM

MAY-30-2007 12:37

CITY OF PORTLAND

207 874 8949 P.01/01



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>295 FOREST AVE.</u>		
Total Square Footage of Proposed Structure		Square Footage of Lot
Tax Assessor's Chart, Block & Lot Chart# Block# Lot#	Owner: <u>HANNAFORD BROS.</u>	Telephone: <u>761-5965</u>
Lessee/Buyer's Name (If Applicable)	Applicant name, address & telephone: <u>Bellino Grosso Inc.</u> <u>980 Riverside St.</u> <u>Portland 04103</u>	Cost Of Work: \$ <u>48,000</u> Fee: \$ <u>500.00</u> C of O Fee: \$ _____
Current legal use (i.e. single family) <u>BUSINESS</u> If vacant, what was the previous use? _____ Proposed Specific use: _____ Is property part of a subdivision? _____ If yes, please name _____ Project description: <u>ANSUL System w/ makeup Air tie into exhaust fan from existing oven 2 Hoods</u>		
Contractor's name, address & telephone: <u>BELLINO GROSSO INC.</u>		
Who should we contact when the permit is ready: <u>JASON GROSSO</u>		
Mailing address: <u>980 RIVERSIDE ST.</u> <u>Portland, ME 04103</u> Phone: <u>879-2087</u>		

Please submit all of the information outlined in the Commercial Application Checklist. 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 visit us on-line at: www.portlandmaine.gov, stop by the Building Inspections 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/hers 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: 	Date: <u>5-30-07</u>
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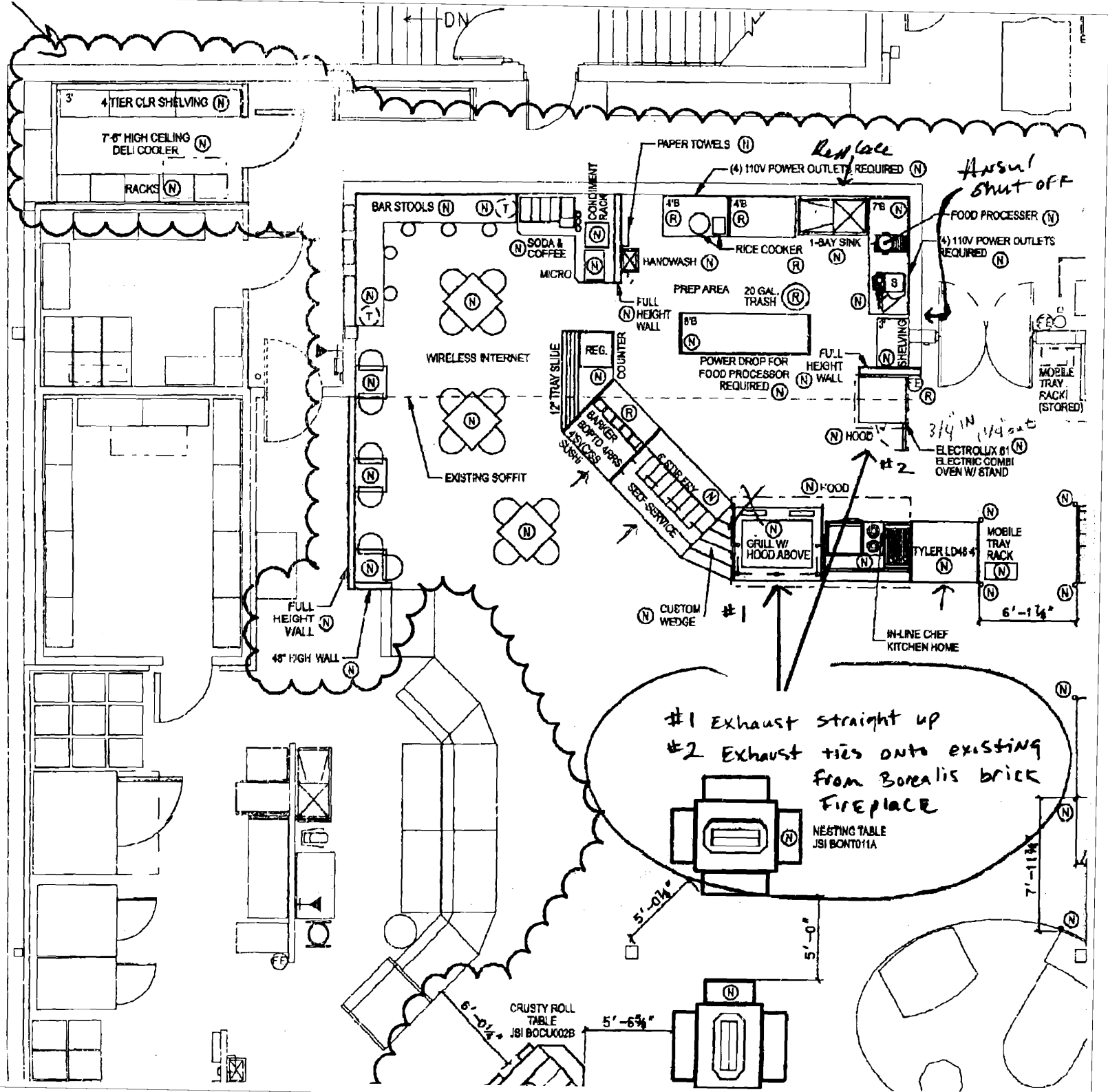
This is not a permit; you may not commence ANY work until the permit is issued.

LANNIE

not include fixtures

5' Casispace below frame
Anusul system
make up air unit
the into exhaust from oven
& hoods

9 WEEKS
STRUCTURAL SAN NIGHT
Cutting holes by per
LIST by per
CARGS



Bellino-Grosso Inc.

980 Riverside Street Portland, ME 04103

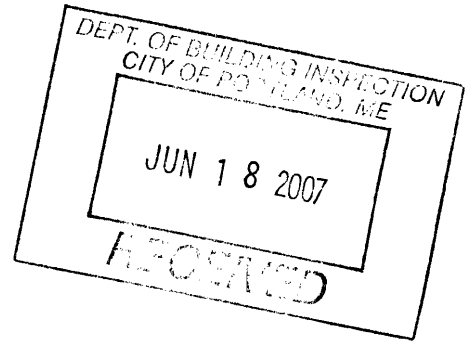
Phone 207-878-2087 Fax 207-878-9560

FAX

DATE: 6-18-07

TO: CODE/PERMITS
FAX No. 874-8949
ATTN.: Jeannie

FROM: Jason Grosso



SUBJ: HANNAFORD FOREST AVE

PAGES INCLUDING COVER PAGE: ~~1~~ 2

Hood #1 exhaust goes straight up out of the hood.
Hood #2 ties into existing zero clearance grease duct remaining from Bourealis Breads oven. The bread oven has been removed.

The Shop Fabricated Ductwork for Hood #1 will be fabricated from 16 gauge Type 304 2B Finish Stainless Steel and the Ductwork for Hood #2 will be fabricated from 16 gauge Black Iron. It is my understanding that we are to provide Zero Clearance Duct wrap Insulation for the ductwork from Hood #2 to the connection point on the existing Zero Clearance Grease Duct. We will also provide Zero Clearance Duct wrap Insulation for the section of ductwork is at the curb blocking at the roof line only for Hood #1. The rest of the ductwork for Hood #1 will not have any insulation.

Please call me with any questions
207-329-2222

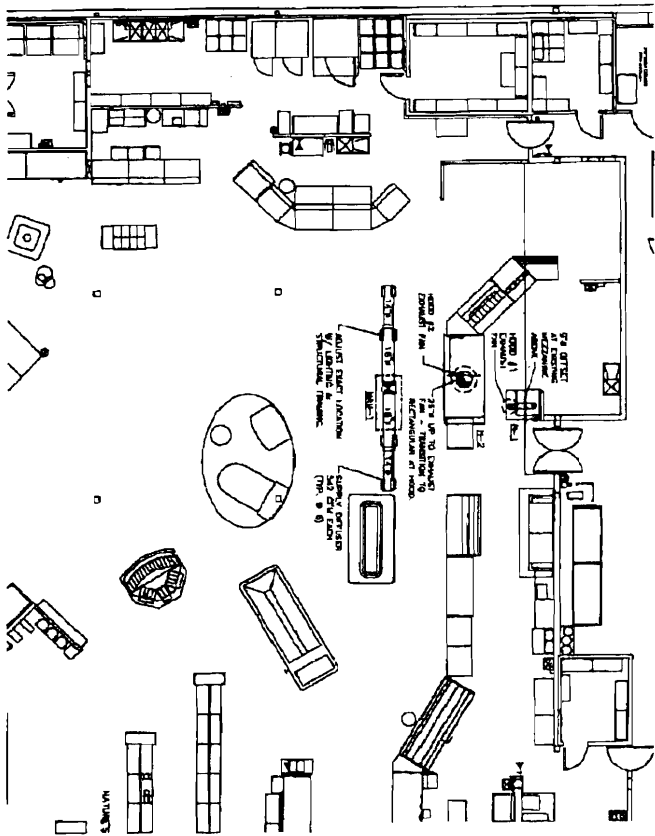
Thank you,

Jason Grosso

cell 329-2222

Apr 30, 2007 - 12:00pm
 WOODMANHARD FORD RENT-A-CAR Washroom

A-1
 is going
 to connect
 to existing
 abandoned
 grease duct
 FROM
 Borealis
 Bread oven



HOOD SCHEDULE											
NO.	GRADE	MANUFACTURER	MODEL	LOADS	CFM	EXHAUST DIA.	EXHAUST S.P.	MODEL	ELECTRICAL	HOOD DIMENSIONS	REMARKS
H-1	1st	CONTRACTOR	BRAND-2	3-100	310	12"	1/2"	DUSTRA	1/2"	4'-11" x 1'-0"	WALL MOUNT, SWIVEL, CHIMNEY, COVER AND TRAY
H-2	1st / 1st	CONTRACTOR	BRAND	1-100	1100	12"	1/2"	MACHIVA	3"	4'-5 1/2" x 1'-2" x 0"	SUSPENDED, EXTERNAL, CHIMNEY, COVER

MECHANICAL CONTRACTOR IS RESPONSIBLE FOR STRIKE-UP OF HIS EQUIPMENT

MAKEUP AIR UNIT SCHEDULE									
NO.	GRADE	MANUFACTURER	MODEL	CFM	S.A.	HP	HP	DATE	TEST NOTES
M-1	1st	CONTRACTOR	12-1200-118	430	0.40"	0.14	2.0	2007	TEST BY: [blank] DATE: [blank]

MECHANICAL CONTRACTOR IS RESPONSIBLE FOR STRIKE-UP OF HIS EQUIPMENT.
 REMOVE BY MECH. CONTRACTOR & SUPPLY IN THE WASHROOM

WBRC
 ARCHITECTURAL SERVICES
 3000 W. 10th Ave.
 MINNEAPOLIS, MN 55412
 (612) 338-1111

MANNAFORD
 FOREST AVE
 MINNEAPOLIS, MN

MECHANICAL
 ELECTRICAL PLAN

DATE: 06/18/07
 DRAWN BY: [blank]
 CHECKED BY: [blank]

Central City Board Walk
 36 Coffin Ave.
 Broomfield, CO 80016
 303-438-0320

REV. OCCURRENCE DATE



June 15, 2007

Dana Dubois
 Central City Sheet Metal
 26 Coffin Ave
 Brewer ME 04412

RE: Commercial Exhaust Hoods
 Forest Avenue, Portland ME

Dear Dana,

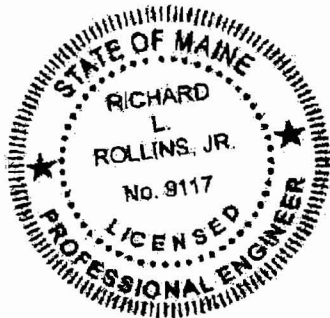
This letter is to confirm that the design for the commercial exhaust hoods shown on drawing "Mechanical Ductwork Plan", M1 dated June 15, 2007 is in accordance with NFPA 96 and IBC 2003 requirements. A copy of the IBC 2003 standards are included with the Kitchen Exhaust System Checklist provided by the City of Portland.

Please call if you have any questions regarding this item.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Rich Rollins".

Richard L. Rollins, P.E., LEED^{AP}
 Mechanical Engineer



ARCHITECTURE • ENGINEERING • PLANNING • INTERIOR DESIGN

WBRC Architects • Engineers, Inc.

44 Central Street • Bangor, Maine 04401-5116 • 207-947-4511 phone • 207-947-4628 fax

8130 Lakewood Main Street, Suite 210 • Lakewood Ranch, Florida 34202 • 941-556-0757 phone • 941-556-0759 fax

www.wbrcae.com

Thermal Ceramics

FIREMASTER
Fire Protection Systems

Product Data and Installation Guide



NFPA 96 IMC

1. Product Description - New and Improved FastWrap+
Thermal Ceramics new and improved FastWrap+ is a one-layer, totally foil-encapsulated, non-combustible 2000°F (1093°C) rated, low blorersistence, flexible fireproofing wrap specifically tested to provide a 1 or 2 hour fire rated enclosure for horizontal and vertical commercial kitchen grease and air ventilation ducts. The core blanket chemistry is alkaline-earth silicate wool free of binders and lubricants. FastWrap+ is classified by Omega Point Laboratories and Underwriter's 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. FastWrap+ is a proven performance alternative through extensive testing to 1 or 2 hour fire-resistance rated shaft enclosures. With its excellent insulating capability of withstanding fire condition temperatures up to 2000°F (1093°C), it protects combustible constructions at zero clearance throughout the entire enclosure system. When the duct penetrates fire rated walls and floors, an approved silicone firestop sealant used in combination with FastWrap+ provides an alternate means of protection to rigid shafts by maintaining the integrity of the 1 or 2 hour fire rated wall and floor assembly. FastWrap+ is resistant to mold growth in test conditions of 75-95% relative humidity (ASTM D6329).

Product Features

- One-layer system with 3 optional installation techniques
- Low biopersistent insulation blanket
- Does not contain low temperature fiberglass or mineral wool
- Shaft alternative to rigid board systems
- Zero clearance to combustibles protection throughout the entire enclosure system
- Lightweight, flexible wrap saves labor
- Passive fire proof material does not shrink, become brittle, or lose fire fighting capabilities with age
- Totally foil encapsulated system protects against material degradation, and potential fire hazards
- 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 Duct Enclosure
- 1 or 2 Hour Air Ventilation Duct Enclosure

FastWrap+ 1 1/2" Commercial Kitchen Grease Duct Air Ventilation Duct



3. Physical Characteristics

Duct FireMaster Fire Protection Product	Unit	Size	Units/Ctn.	Wt./Ctn.
FastWrap+	Roll	1 1/2" x 24' x 25' (38.1 mm x 610 mm x 7.6 m)	1	37.5 lbs. (17 kg)
FastWrap+	Roll	1 1/2" x 48' x 25' (38.1 mm x 1.2 m x 7.6 m)	1	75 lbs. (34 kg)
FastWrap+ Collar	Roll	1 1/2" x 6" x 25' (38.1 mm x 152 mm x 7.6 m)	4	53 lbs. (24 kg)
Color	White blanket with silver foil encapsulation			

4. Specifications

This specification guide covers the application of Thermal Ceramics FastWrap+ Duct FireMaster Fire Protection Product and an approved silicone firestop sealant.

Application	Fire Resistive Rating	Enclosure System	Through Penetration System
Grease Ducts	1 or 2 hours	1 layer, 1 1/2" FastWrap+, perimeter and longitudinal overlap 3" (75 mm), GD 544 F, GD 582 F, UL G-14	OPL FS 587F UL C-AJ-7098
Air Ducts	2 hours	1 layer, 1 1/2" FastWrap+, perimeter and longitudinal overlap 3" (75 mm), UL V-19	C-AJ-7095, UL-W-L-7121 UL-F-C-7036 UL-F-C-7037

5. Performance

A. Thermal Ceramics FastWrap+ Duct FireMaster Fire Protection Product

Flammability (ASTM # 84/UL 723)		
Foil:	Flame spread	5
	Smoke developed	10
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 Sealants

Tremco Inc.	Fyre Sil sealant or Fyre-Sil S/L Sealant (for floor assemblies only)
Specified Technologies Inc.	Pensil 300
Rectoseal	835+ Sealant
HILTI Construction Chemicals, Division of HILTI Inc.	FS One Sealant

6. Listings

Agency	Reference Standard/File No.
Omega Point Laboratories, Inc.	Listing # 11660-3
Underwriters Laboratory	Grease Duct Enclosures (HNKT): G-14; Fire Resistive Ventilation Duct Assemblies (HNLJ): V-19; Through- Penetration FireStop System (XHEZ): C-AJ-7095, C-AJ-7098
NFPA 96	Section 4.3.1, 2004 Edition
International Mechanical Code	Section 506.3.10 Commercial Kitchen Grease Ducts and Exhaust Equipment, Section 507 Commercial Kitchen Hoods, 2003 Edition
New York MEA	412-02-M, 413-02-M
International Code Council	SBCCI Legacy Report No. 9424E BOCA Legacy Report No. 22.25
City of Los Angeles	RR8425
California State Fire Marshal	2440-1361:103 2440-1361:105

7. Installation

A qualified contractor in accordance with manufacturer's instructions and referenced standards shall install the new or original FastWrap+ system using the installation methods as described in sections A-D. See Figures 1 - 4 complete drawing details.

Materials and Equipment:

FastWrap+ blanket, 1½" (38.1 mm) thick, 6 pcf (96 kg/m³), 24" (600 mm), or 48" (1.2 m) wide, and 25' (7.6 m) long rolls; optional 6" wide x 20' long (150 mm x 6 m) rolls

- FastWrap+: 25' (7.6 m) standard length, 48" (1220 mm) wide blanket helps to minimize waste
- Aluminum foil tape
- Minimum ¾" (19.0 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; 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
- An approved silicone firestop sealant

Storage:

The FastWrap+ and an approved silicone firestop sealant must be stored in a dry warehouse environment on pallets. Pallets should not be stacked.

Preparatory Work:

FastWrap+ is 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 FastWrap+ (Figures 1 and 3):

- **3" (75 mm) Overlap Wrap Telescope** - Each blanket overlaps one adjacent blanket, and each blanket has one edge exposed and one edge covered by the next blanket as shown in Figures 1 and 3. The visible edges of the longitudinal overlaps all point in the same direction.
- **Overlap Checkerboard Pattern** - Blankets with both edges exposed alternate with blankets with covered edges, as shown in Figures 1 and 3. The visible edges of the longitudinal overlaps

alternate their directions and appear on every other blanket.

- **Butt Joint & Collar System** - Adjacent blankets are butted tightly together and a 6" (152 mm) wide collar of FastWrap+ is centered over the joint, overlapping each blanket by 3" (75 mm) as shown in Figures 1 and 3.
- **2 & 3 Sided Enclosure System** - When space does not allow for full wrap enclosure on all four sides of the duct, the FastWrap+ 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:

To minimize waste, 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 FastWrap+ material may be installed with either a mechanical banding system or insulation pins and clips (see Mechanical Attachment Methods below and Figures 1 and 3). 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. 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 ⅜" (38 mm x 38 mm x 3.2 mm), or SMACNA equivalent support system (SMACNA band strap support systems do not apply). Horizontal trapeze support systems may be incorporated into the wrap enclosure.

A. Overlap Wrap Telescope Installation

FastWrap+ commercial kitchen grease or air ventilation duct 1 or 2 hour enclosure includes a one-layer wrap construction applied directly to all surfaces of the duct (Figures 1 and 3). The FastWrap+ blanket is wrapped one layer 1½" (38.1 mm) or 2" (50 mm) thick around the perimeter of the duct with a length cut to provide 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 wrap layer may be held temporarily in place with filament tape 1½" (38 mm) from each blanket edge and in the center of the blanket until the mechanical banding or pinning and clip attachment method is secured.

B. Checkerboard Wrap Installation

FastWrap+ is cut to completely wrap around the perimeter of the duct with enough excess to provide an overlap of not less than 3" (75 mm) (Figures 1 and 3). The blankets with both edges exposed alternate with blankets with covered edges as shown in Figures 1 and 3. The visible edges of the longitudinal overlaps alternate their directions and appear on every other blanket. A 3" (75 mm) longitudinal overlap is installed onto the previous adjacent wrap forming a "checkerboard" construction. The wrap layer may be held temporarily in place with filament tape 1½" (38 mm) from each blanket edge and in the center of the blanket until the mechanical banding or pinning and clip attachment method is secured.

C. Butt Joint / Collar Installation

FastWrap+ is installed in a single layer directly to the duct with a tight butt joint construction (Figures 1 and 3). The FastWrap+ material may be held in place with filament glass tape 1½" (38 mm) from each blanket edge and in the center of the blanket temporarily until the mechanical banding or pinning and clip attachment method is secured. A 6" (152 mm) wide FastWrap+ Collar is centered over the joints overlapping on each side of the blanket joint 3" (75 mm).

D. 2 & 3 Sided Wrap System

When space does not allow for a complete wrap applied to the duct on all four sides, the FastWrap+ can be installed in a single layer on the 2 or 3 sides of the unexposed duct and mechanically attached to a concrete or CMU assembly. The FastWrap+ is installed on the duct as described in one of the three installation methods described above with the starting edge of the blanket attached to the concrete or CMU assembly and then wrapped around the duct until the other end can be affixed to the other concrete or CMU assembly, thus encapsulating the duct with insulation around all accessible sides. The blanket is to flange out onto the concrete or CMU assembly. It should be secured to the adjoining assembly with minimum ¾" (19 mm) diameter, 4" (100 mm) long concrete anchors, footed to a minimum 1½" (38 mm) wide x ¾" (19 mm) thick steel strip/strap with pre-drilled holes spaced a maximum 10" (254 mm) on center. The FastWrap+ insulation wrap is secured to the duct with banding (see Mechanical Attachment Methods for Insulation Wrap section below or Figures 1 and 3). The ends of the banding are to loop into the steel strips/straps that foot the blanket to the concrete floor or wall, and are tightened down. The trapeze support system may be incorporated within the wrap system.

Mechanical Attachment Methods for Insulation Wrap

1. Banding - ½" (12.7 mm) wide carbon steel or stainless steel banding, 0.015" (0.376 mm) thick, is placed around the entire perimeter of the insulated duct with maximum 10½" (267 mm) spacing centers and 1½" (38 mm) from each blanket edge or 1" (25 mm) from each collar edge when using the butt joint and collar method. When banding, filament tape can be used to temporarily hold the blanket in place until the banding is applied. The banding is placed around the material and tightened so as to firmly hold the FastWrap+ in place against the duct, but not cause any cutting or damage to the blanket.

2. Pinning - Min. 12 gage, 5" long (125 mm) steel insulation pins are welded to the duct at all blanket overlap locations (see Figures 1 and 3) spaced in rows max. 10½" (267 mm) on center and maximum 8" (200 mm) apart. An insulation pin is located in the middle of the perimeter overlap and center spaced between the pins. Pins are locked into place with 1½" (38 mm) diameter square or round, galvanized steel, speed clips or cup head pins. Pins that extend beyond outer blanket wrap layer shall be turned down to eliminate sharp edges or the excess length cut off.

NOTE: Pinning is required for grease ducts larger than 24" x 48".

Through-Penetration Firestop System

When the duct penetrates a concrete or drywall fire rated wall, ceiling, or floor, an approved fire stop system must be employed. (Figures 2 and 4). FastWrap+ approved through penetration fire stop systems are listed in Section 4, Specifications.

To fire stop the through penetration void area, cut strips of FastWrap+ 4½" (108 mm) wide and as long as the opening and install at a minimum 50% compression. Install the strips so that they are recessed ¼" (6.35 mm) from the top surface of the wall or floor. Install a minimum ¼" (6.35 mm) depth of an approved silicone firestop sealant into the opening to the recess around the top surface of the floor or wall through-penetration opening.

Grease Duct Access Door Installation

Four galvanized steel threaded rods, ¼" diameter (6.35 mm) by 4½" to 5" long (114 to 125 mm) are welded to the duct at the corners of the door opening. Four 5" (125 mm) long 12 gage insulation pins are welded to the door panel for installation of the blanket. Two layers of FastWrap+ are installed on the door. The first layer is cut and placed on the pins and over the access opening with a ½" (13 mm) overlap. When the door is installed, this first layer is compressed and fitted against the wrap surrounding the door opening to form a tight butt joint. The second layer is centered over the first piece so that a minimum 1" (25 mm) overlap exists around the perimeter. It is essential that this layer fit tightly against the wrap surrounding the access door opening with no through openings. The second layer is impaled over the pins and both layers are locked in place with speed clips. Pins that extend beyond the outer layer of FastWrap+ shall be turned down to avoid sharp points on the door.

The insulated door panel and the steel tubes are placed over the threaded rods and held in place with washers and wing nuts. The steel tubes hold the door to the duct and protect the wrap from damage as the door is removed. Alternatively, insulated pre-fabricated access doors are available from dealers. See the Thermal Ceramics FastWrap+ Design and Installation Manual for complete installation and drawing details.

8. Maintenance

No maintenance is required when installed in accordance with Thermal Ceramics installation instructions. Once installed, if any section that is greater than 8" x 8" is damaged or if the overlap area is damaged, the following procedures will apply:

- The damaged section should be removed by cutting the steel banding or removing the clips holding it in place
 - A new section of the same dimension should be cut from a roll of FastWrap+, either 24" (610 mm) or 48" (1220 mm) wide. Cut edges of the blanket shall be taped to prevent exposed edges of the insulation from wicking moisture or grease into the material and degradation of the fire barrier
 - The new section should be placed per Thermal Ceramics manufacturer's Installation Instructions ensuring the same overlap that existed previously
 - The steel banding should be placed around the material and tensioned so as to sufficiently hold the FastWrap+ in place without cutting the blanket
 - If the blanket has not been damaged but the foil has ripped, seal the opening with aluminum foil tape
- For damaged areas less than or equal to 8" X 8" the following procedure may be used.
- The damaged section should be removed by cutting out a square or rectangular that includes the damaged area and does not exceed 8" in width or length.
 - A repair section should be cut from a section of FastWrap+ that is 1" wider and 1" longer than the damaged area that has been removed. Cut edges of the blanket shall be taped to prevent the exposed edges of the insulation from wicking moisture or grease into the material.
 - A single min. 12 Gauge insulation pin min. 3" long should be welded to the grease duct in the center of the repair area. (Note: Cup head pins may also be used.)
 - The repair section is to be centered on the opening and impaled upon the insulation pins. All overlaps should be tucked into the repair opening to provide a tight fitting joint. Insulation is held in place with a 1½" square or round galvanized or stainless steel speed clip or a minimum 1" diameter cup head pin. The excess portion of the pin shall be cut off and/or turned down to eliminate sharp edges.
 - The joint should be sealed using aluminum foil tape.

9. Limitations

- FastWrap+ shall be installed in accordance with Thermal Ceramics - Installation Instructions
- Multiple steel ducts in a single FastWrap+ enclosure system are not permitted for commercial kitchen grease ducts. Multiple steel ducts in a single enclosure are permitted for air ventilation ducts
- Grease Duct Sizes > 24"x48" (600 mm x 1200 mm) insulation is attached using steel pins
- Air Ducts: when maximum duct size dimensions are greater than 84" x 21" (2100 mm x 525 mm) in cross section, reinforce the duct with steel angles sufficient to support the total weight of the duct assembly and the FastWrap+ enclosure
- Minimum 3/8" (9 mm) diameter all thread steel rods do not have to be insulated
- Horizontal support members may be incorporated into the enclosure wrap
- The integrity of FastWrap+ system is limited to the quality of the installation

**For personal protective equipment recommendations see the MSDS.*

Thermal Ceramics is a trademark of Morgan Crucible Company plc. and FastWrap are trademarks of Thermal Ceramics Inc. FastWrap products are manufactured by Thermal Ceramics Inc. Duct Systems are distributed by authorized distributors and no longer by JM.

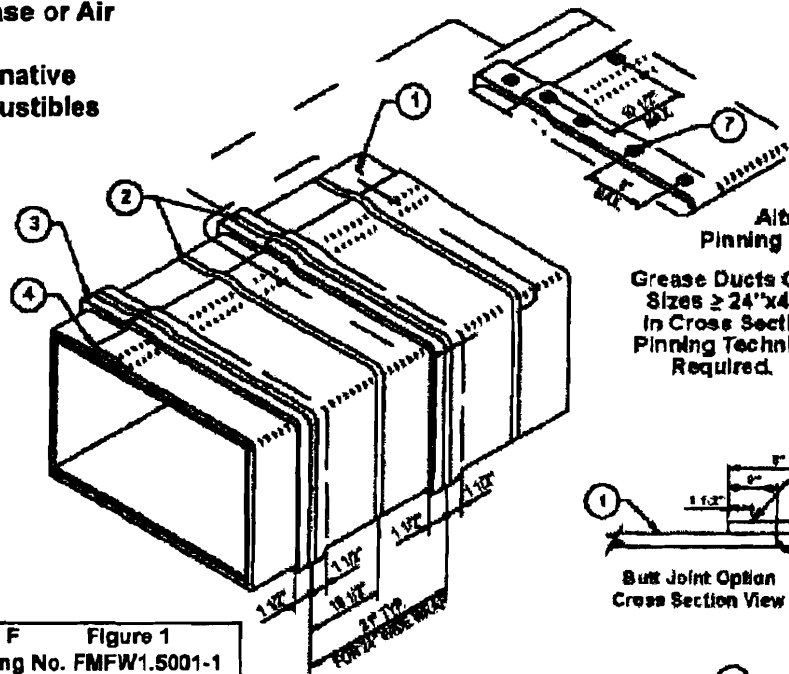
Tremco and Fyro-Sil are tradenames of Tremco Inc. Penell is a tradename of Specified Technologies Inc. 833+ is a tradename of Rectorseal. PS One is a tradename of HILTI Inc.

Special Note:

The original FastWrap+ 2" technical data and installation sheet is still available electronically at www.thermalceramics.com in the data sheets section.

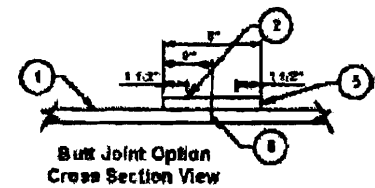


**New and Improved 1 1/2" FastWrap+ Commercial Kitchen Grease or Air Ventilation Duct
1 or 2 Hour Shaft Alternative
Zero Clearance to Combustibles**

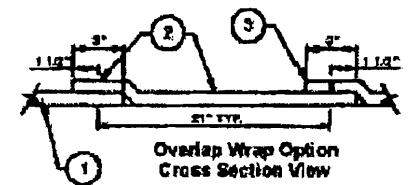


Alternate Pinning Technique

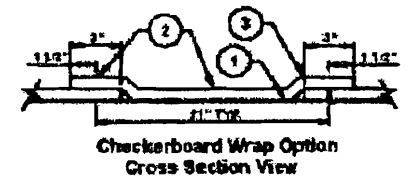
**Grease Ducts Only:
Sizes ≥ 24"x48"
In Cross Section
Pinning Technique
Required.**



**Butt Joint Option
Cross Section View**



**Overlap Wrap Option
Cross Section View**



**Checkerboard Wrap Option
Cross Section View**

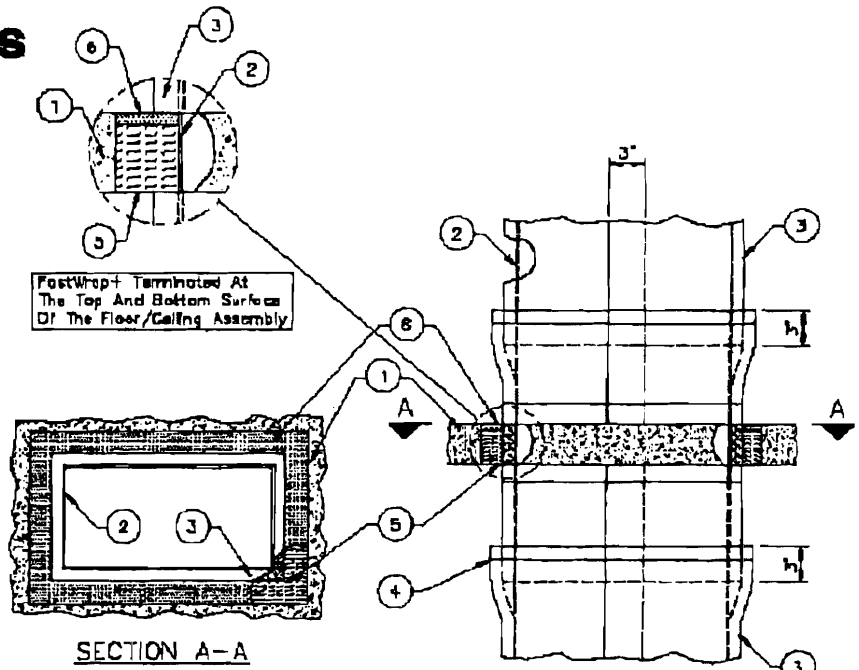
OPL Design No. GD 544 F and GD 562 F Figure 1	
UL Design No. G-14 and V-19 Drawing No. FMFW1.5001-1	
1	One layer FastWrap+ 1 1/2" thick
2	Steel banding 1/2" wide minimum
3	3" minimum longitudinal overlap
4	3" minimum perimeter overlap
5	6" wide FastWrap+ collar (for Butt Joint option)
6	Firmly butted joint (for Butt Joint option)
7	10 or 12 gauge steel insulation pin with 1 1/2" x 1 1/2" or 1 1/2" diameter galvanized speed clips (for alternate pinning)

Note: The Integrity of Duct Firemaster Product is limited to the quality of the installation.



Fire Protection Systems

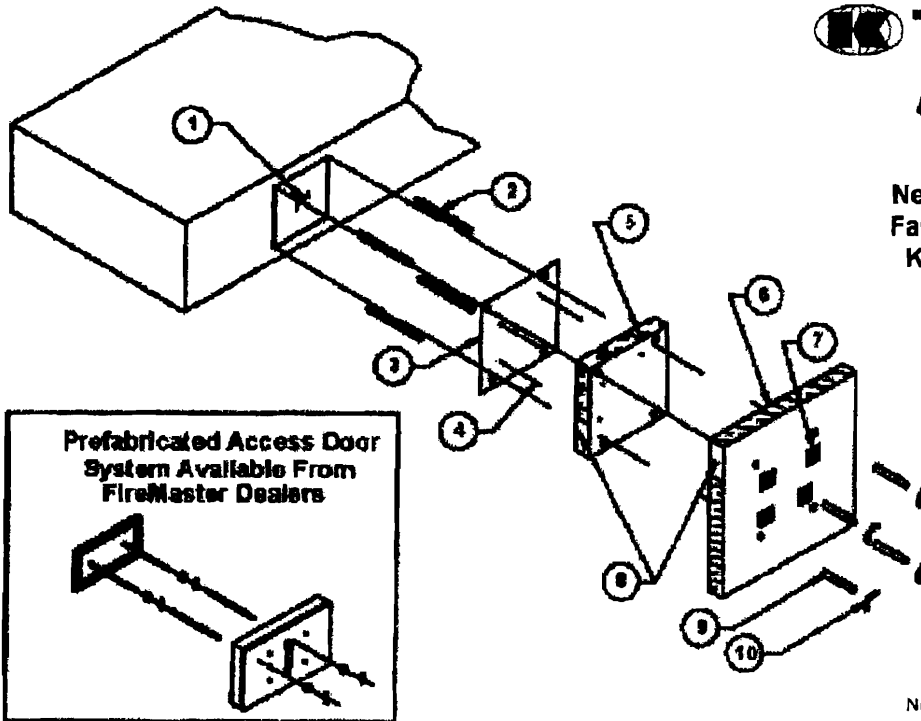
**New and Improved 1 1/2" FastWrap+ Through Penetration System
1 or 2 Hour
Grease or Air Duct**



OPL Design No. FS 587 F Figure 2
UL Design Nos. C-AJ-7095, C-AJ-7098, W-L-7121, and F-C-7036 Drawing# FMFW1.5003-1

1	Floor/ceiling or wall assembly
2	Duct
3	One layer FastWrap+ 1 1/2" thick
4	Steel banding 1/2" wide minimum or pinning
5	FastWrap+ (packing material)
6	Approved Through Penetration FireStop System

Note: The integrity of Duct Firemaster Product is limited to the quality of the installation.



Fire Protection Systems

**New and Improved 1 1/2" FastWrap+ Commercial
Kitchen Grease Duct
Access Door**

Note: The integrity of Duct Firemaster Product is limited to the quality of the installation.

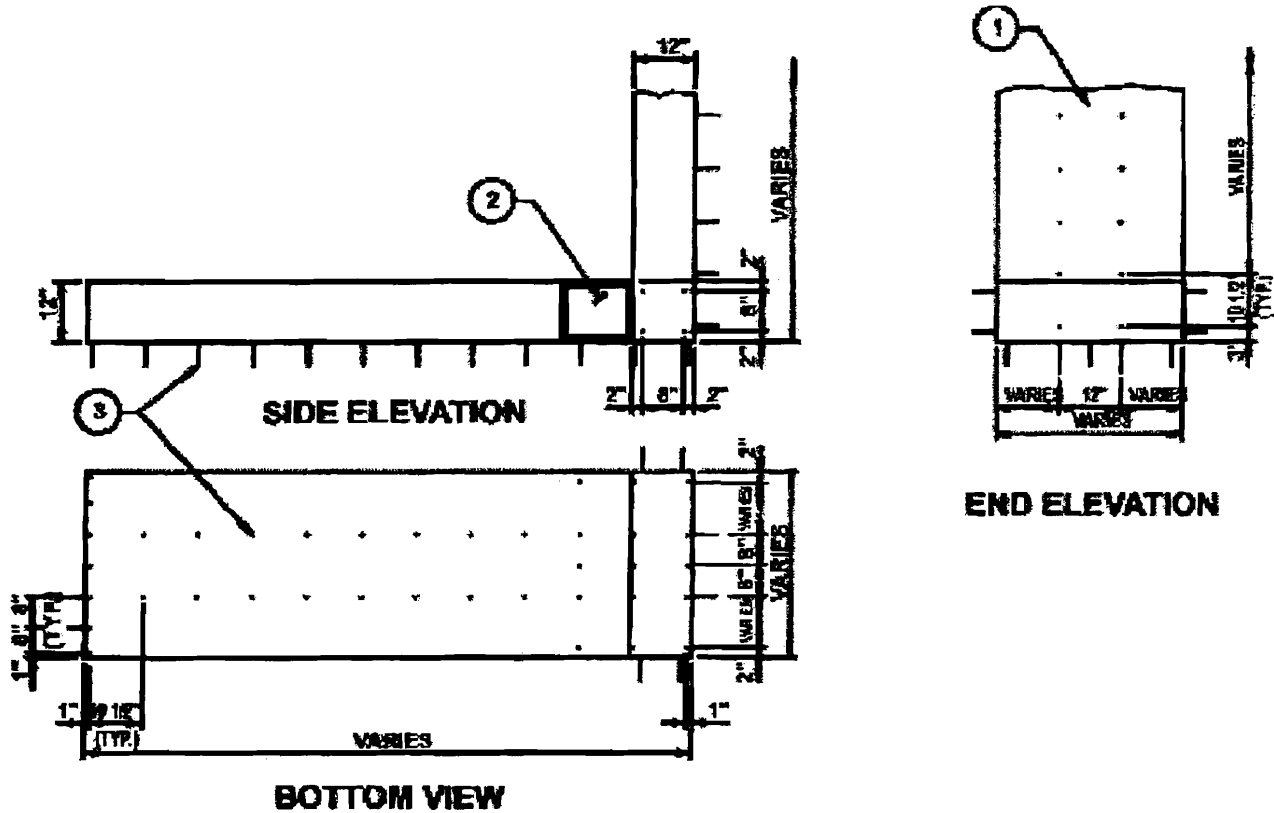
OPL Design No. GD 544 F and GD 562 F Figure 3
UL Design No. G-14 and V-19 Drawing No. FMFW1.5001-1

1	Door hole	6	One layer FastWrap+ 1" overlap
2	1/4" diameter all threaded rods	7	Speed clips
3	Access cover 16 gauge	8	Aluminum tape at edges
4	Insulation pins welded	9	Spool pieces for threaded rods
5	One layer FastWrap+ 1 1/2" thick	10	1/4" diameter wing nuts



Fire Protection Systems

**New and Improved 1 1/2" FastWrap+ Commercial Kitchen Grease Duct
Typical Insulation Pin Layout for Duct Spans \geq 24" Wide to Prevent Blanket Sag**



Installation Pin Layout		Figure 4
		Drawing No. FMFW1.5004
1	Vertical section	
2	Access door	
3	10 or 12 gauge steel insulation pin	

Note: The integrity of Duct Firemaster Product is limited to the quality of the installation.

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Thermal Ceramics Americas
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 F: (706) 796 4369
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 F: +65 6733 9408
Thermal Ceramics Europe
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 F: +44 (0) 151 334 1884

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 F: +1 (905) 335 5145
Mexico
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 F: +52 (556) 576 3080
United States of America
 Eastern T: (800) 338 9284 F: (705) 796 4324
 Western T: (866) 785 2738 F: (866) 785 2760

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 F: +54 (11) 4372 3331
Brazil
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 F: +55 (21) 2418 1205
Chile
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 F: +56 (2) 854 1852

Colombia
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 F: +57 (2) 2282935/2282903/23722065
Guatemala
 T: +50 (2) 4733 2056
 F: +50 (2) 4730 601
Venezuela
 T: +58 (241) 878 3184
 F: +58 (241) 878 6712

HOOD INFORMATION

HOOD NO.	MODEL	LENGTH	MAX. COOKING TEMP.	EXHAUST FLENUM				SUPPLY FLENUM				HOOD CONSTRUCTION	HOOD CONFIG.	
				TOTAL SUP. CFM	WIDTH	DEPTH	RISE	TOTAL SUP. CFM	WIDTH	DEPTH	RISE		END TO END	NOV
1	3424 HO-1	12' 0" (12' 0" HOOD)	500 Deg.	5100	14"	24"	3100 - 0.600"	0				304 SS Where Exposed	ALONE	N/A
2	3424 HO-2	4' 0" (4' 0" HOOD)	450 Deg.	640	8"	7"	610 - 0.100"	0				304 SS Where Exposed	ALONE	N/A

HOOD INFORMATION

HOOD NO.	FILTERED			LIGHT(S)			UTILITY CABINET(S)			FIRE SYSTEM PIPING	HOOD WEIGHT			
	TYPE	QTY	HEIGHT	LENGTH	QTY	TYPE	WIRE GUARD	LOCATION	FIRE SYSTEM TYPE			ELECTRICAL MODEL #	QUANTITY	LOCATION
1	SS Baffle with Handles	8	16"	16"	8	Incandescent Light	NO						NO	617 LBS.
2	SS Baffle with Handles	3	16"	16"	2	Incandescent Light	NO						NO	253 LBS.

HOOD OPTIONS

HOOD NO.	OPTION
1	LEFT END STANDOFF (FIN-INS- ISLAND) 1' Wide Insulated
	RIGHT END STANDOFF (FIN-INS- ISLAND) 1' Wide Insulated
	FIELD WRAPPER 84.00" High Front, Left, Right, Back
2	FIELD WRAPPER 84.00" High Front, Left, Right.

8" HIGH WRAPPERS w/ #4 FINISH

No. 4 FINISH

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with NO Exception Taken
 Review and Resubmit
 SIGNATURE _____
 Your Title _____ Date _____



JOB Hannaford	
LOCATION Forest Ave. Portland	
DATE 4/12/2007	JOB # 585577
DWG # HannafordFor	DRAWN BY BFC
REV. LOD	SCALE 8.5' x 11'

- NO EXCEPTION TAKEN
- REVISE AND RESUBMIT
- MAKE CORRECTIONS AS NOTED
- REJECTED
- ADDITIONAL DATA REQUIRED AS NOTED

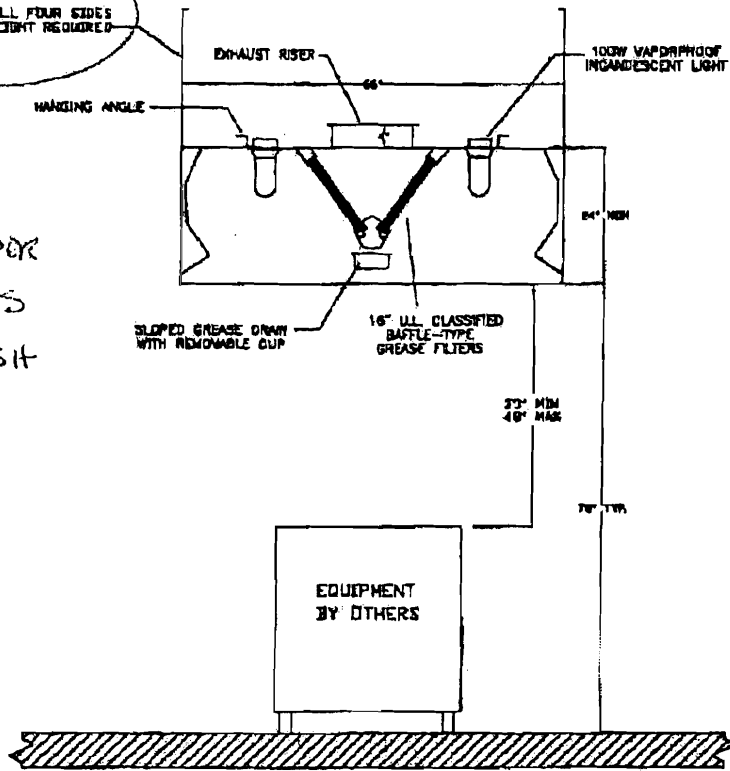
Corrections or comments made on submittals during this review do not relieve the contractor from compliance with requirements of the Contract Documents or applicable laws, code ordinances and regulations. This check is solely for review of general conformance with the design concept given in the Contract Documents. The contractor is responsible for confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

HANNAFORD BROS. CO.
DESIGN SERVICES

Date 26 Apr 07 By R. Barton

84" HIGH FIELD WRAPPERS - ALL FOUR SIDES OF HOOD - VERIFY HEIGHT REQUIRED

8" HIGH WRAPPER ALL FOUR SIDES w/ No. 4 FINISH



SECTION VIEW - MODEL RBR4NDI

H-1

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

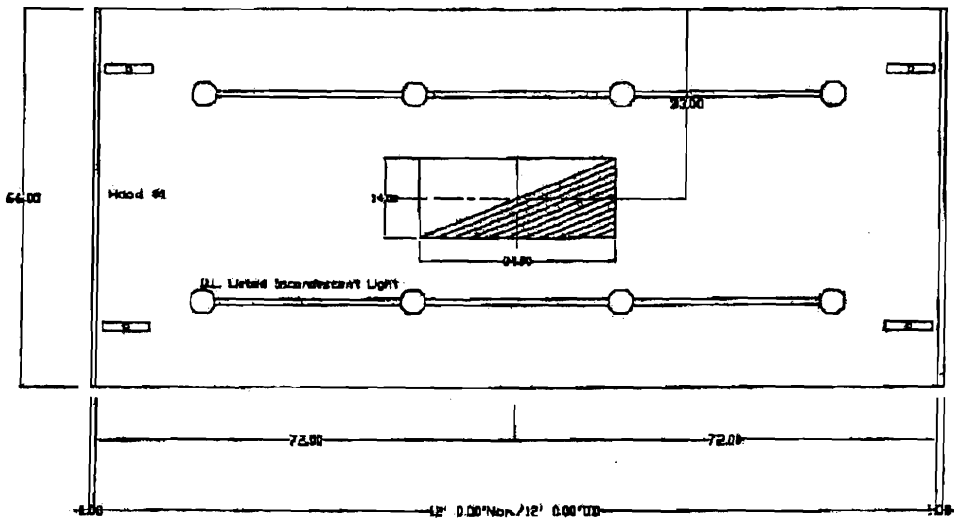
Revise and Resubmit

SIGNATURE _____

Your Title _____ Date _____

CAPTIVE AIR

JOB	HannaFord	
LOCATION	Forest Ave. Portland	
DATE	4/12/2007	JOB # 585577
DRG #	HannaFordFor	DRAWN BY BFC
REV.	L00	SCALE 8.5' x 11'



PLAN VIEW - 12' 0.00" LONG 6624ND1

H-1

CUSTOMER APPROVAL TO MANUFACTURE	
Approved all Notes	<input type="checkbox"/>
Approved with NO Exceptions Taken	<input type="checkbox"/>
Revise and Re-quote	<input type="checkbox"/>
SIGNATURE _____	
Your Title _____	Date _____

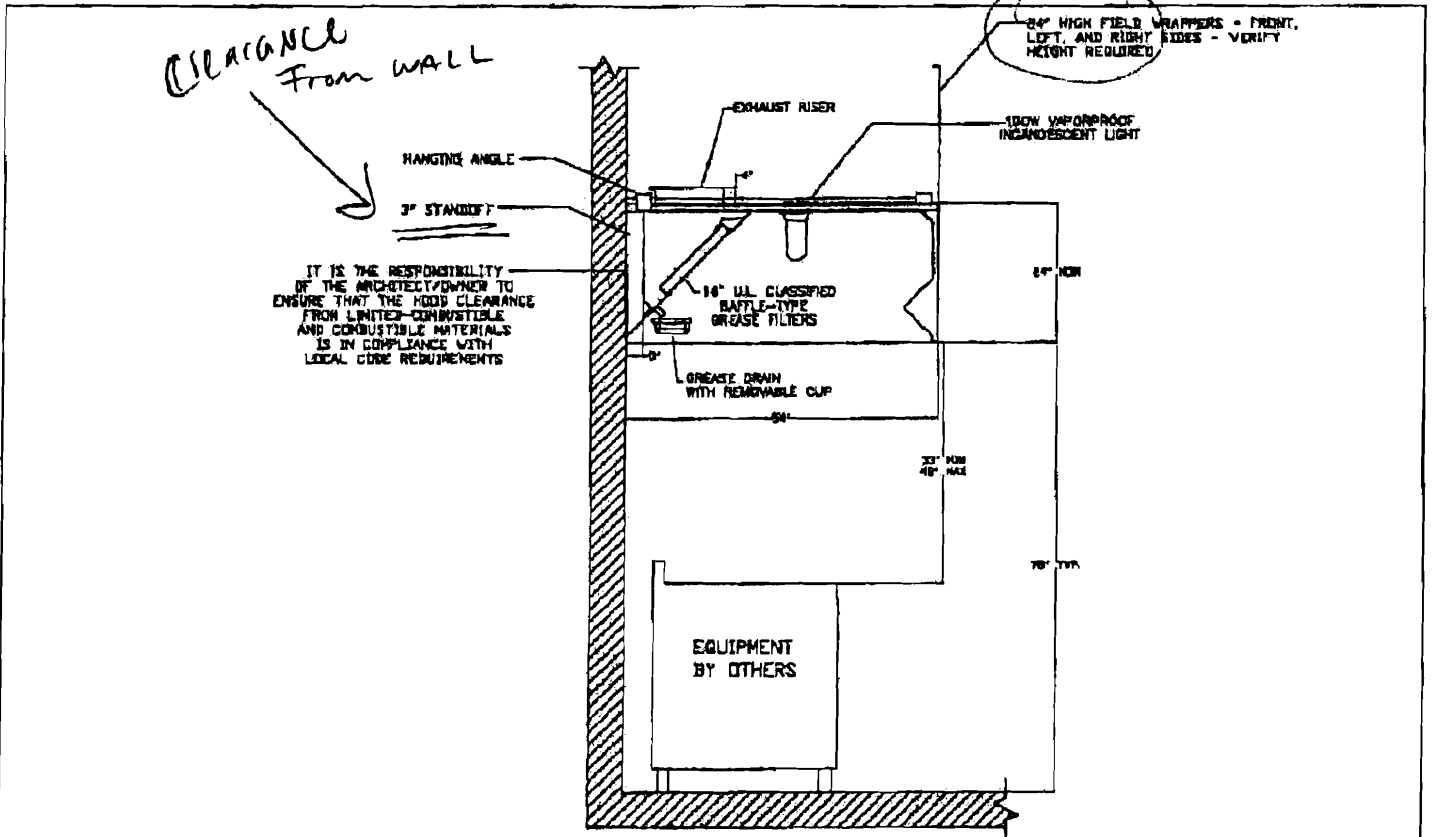


JOB HannaFord	
LOCATION Forest Ave. Portland	
DATE 4/12/2017	JOB # 585577
DWG # HannaFordFor	DRAWN BY JFC
REV. 1.00	SCALE 8.5" x 11"

ATTN. JEANNIE

Jason Bellino / GROSSO INC.

8" HIGH WRAPPER
3 SIDES
w/ No. 4 F.WISH



CLEARANCE
From wall

IT IS THE RESPONSIBILITY
OF THE ARCHITECT/OWNER TO
ENSURE THAT THE HOOD CLEARANCE
FROM LIMITED-COMBUSTIBLE
AND COMBUSTIBLE MATERIALS
IS IN COMPLIANCE WITH
LOCAL CODE REQUIREMENTS

SECTION VIEW - MODEL 5424-ND-2

H-2

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

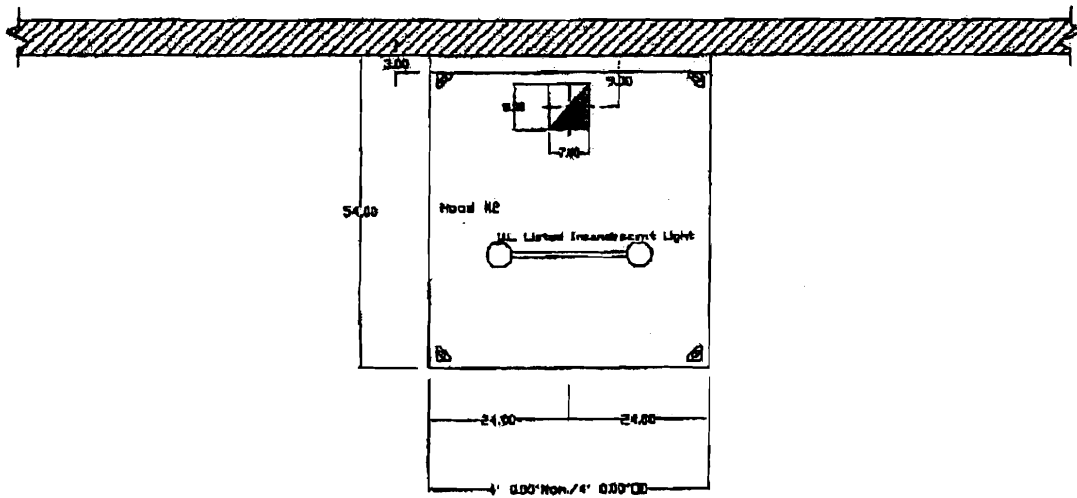
Revised and Replaced

SIGNATURE: _____

Your Title: _____ Date: _____



JOB Hannaford	
LOCATION Forest Ave. Portland	
DATE 4/12/2007	JOB # 585577
DWG # HannafordFor	DRAWN BY BFC
REV. 1.00	SCALE 8.5' x 11'



PLAN VIEW - 4' 0.00\"/>

H-2

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exceptions Taken

Revised and Replaced

SIGNATURE _____

Your Title _____ Date _____

CAPTIVE AIR

JOB Hannoverford	
LOCATION Forest Ave. Portland	
DATE 4/12/2007	JOB # 585577
DWG # Hannoverford	DRAWN BY BFC
REV. 1.00	SCALE 8.5' x 11'

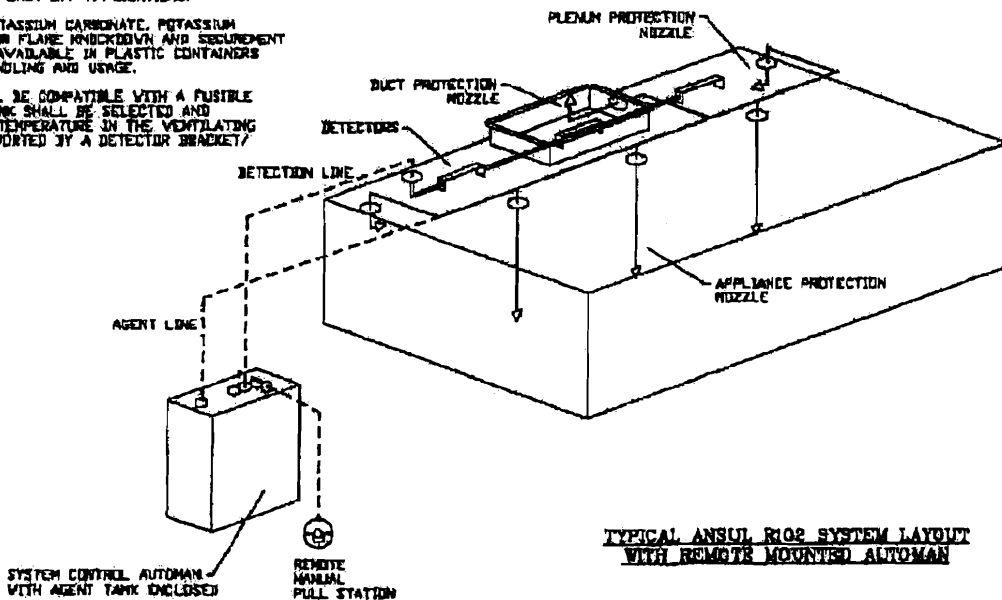
SPECIFICATIONS

THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL)

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION DESIGNED FOR FLAME INHIBITION AND SUPPLEMENT OF GREASE RELATED FIRES. IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET/LINKAGE ASSEMBLY.



TYPICAL ANSUL R102 SYSTEM LAYOUT WITH REMOTE MOUNTED AUTOMAN

H-1 & H-2 FIRE SUPPRESSION SYSTEMS

CUSTOMER APPROVAL TO MANUFACTURE:	
Approved as Noted	<input type="checkbox"/>
Approved with NO Exception Taken	<input type="checkbox"/>
Revised and Resubmit	<input type="checkbox"/>
SIGNATURE: _____	
Your Title _____	Date _____



JOB	Hannaford	
LOCATION	Forest Ave. Portland	
DATE	4/12/2007	JOB # 585577
DWG #	HannafordPer	DRAWN BY BFC
REV.	1.00	SCALE 8.5' x 11'

THE HOOD MAY BE INSTALLED WITH A 0 INCH CLEARANCE TO COMBUSTIBLE MATERIALS IF CONSTRUCTED IN ONE OF THE FOLLOWING METHODS:

- 3" INSULATED STAINLESS
- 1" INSULATED STAINLESS
- 1" INSULATED BRASS/ALUM
- BACK ROOM AIR FLOW PLUMB

TABLE 1

1. ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INFORMATION OF MASONRY, CONTRACTORS
2. ALL HOODING "FIELD" CONNECTIONS AND RELATED INFORMATION OF MASONRY CONTRACTORS
3. ALL APPROVED HANGER MATERIAL BY INSTALLING CONTRACTORS
4. IF AASHA FACTORY SUPPLY AND RELATED HANGERS SUBJECT TO AASHA TEST PLAN
5. ALL CONNECTIONS FROM CAPTIVE-AIRE HOOD FOR THE PLUMB BY MASONRY CONTRACTORS
6. ALL HOODS SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PROVIDED FOR THE PLUMB CONTRACTORS TO BE INSTALLED AND TO VERIFY OF ELECTRICAL CONTRACTOR
7. LEADS FOR JOINT FEATURES BY INSTALLING CONTRACTORS
8. HOODING CONTRACTORS ARE RESPONSIBLE FOR INSTALLING CONTRACTORS
9. INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF PERFORMANCE TESTS CONDUCTED ON THESE HOODINGS FOR ACCURACY, PERFORMANCE, AND COMPLIANCE OF ALL REQUIREMENTS & OTHER HOODS TO BE RELEASED FOR PRODUCTION OF HOODINGS THEREIN
10. HOODS ARE "OFFSHORE" HOODS OF THE COUNTRY LISTED AS REQUIRED BY THE FACTORY HOODS TO BE COMPLIANT WITH HOODING
11. HOODING HOODS CONTRACTORS AS SHOWN BY DRAWINGS

GENERAL NOTES

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH



NFPA #96
NSF
UL 710 & UL6710 STANDARDS
E.T.L. LISTED 3054804-001

DIAGRAM CAPTIVE-AIRE HOOD X CAPTIVE-AIRE HOOD

SUPPLY CAPTIVE-AIRE HOOD X FLOORING REQUIRED

TYPE HOOD 142 X (L) (W)

DUCT LENGTH: (L) (W) (H)

DUCT BEHIND (L) (W) (H)

CAPTIVE-AIRE HOODING HOODS ARE BUILT TO BE USED AS SHOWN. VERIFY HOODING HOODS TO BE USED AS SHOWN. PLEASE CONTACT FACTORY FOR HOODING HOODS.

CALCULATIONS UTILIZED

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revised and Resubmit

SIGNATURE _____

Your Title _____ Date _____



JOB	HannaFord	
LOCATION	Forest Ave. Portland	
DATE	4/12/2007	JOB # 589577
DRG #	HannaFord/or	DRAWN BY BFC
REV.	1.00	SCALE 8.5" x 11"

FAN INFORMATION

FAN UNIT NO.	FAN UNIT MODEL #	EXHAUST FAN										SUPPLY FAN								
		MODEL	TAG	CFM	S.P.	RPM	HP.	#	VOLT	FLA	BLOWER	MOUNTING	TAG	CFM	S.P.	RPM	HP.	#	VOLT	FLA
1	NCABHFA	NCABHFA		500	- 1.50"	1080	2.00	3	208	6.5										
2	BU3BHFA	BU3BHFA		610	- 2.63"	1320	4.33	1	115	4.1										
3	A3-2750-G18										G18	A3-218		4335	0.450"	616	2.00	3	208	6.0

FAN OPTIONS

FAN NO.	OPTION (Qty. - Descr)
1	1 - Grease Box
2	1 - Grease Box
3	1 - Pressure Gauge, 0-35"
	1 - Motorized Backdraft Damper For A3-D Housing

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	BTU's	TEMP. RISE	GAS TYPE
3	347294	75 deg F	Natural

CURB ASSEMBLIES

NO.	DN FAN	ITEM	SIZE
1	4 1	Curb	31.500"W x 31.500"L x 30.000"H Vented Hinged
2	6 2	Curb	19.500"W x 19.500"L x 22.000"H Vented Hinged
3	8 3	Curb	38.000"W x 34.000"L x 20.000"H Insulated

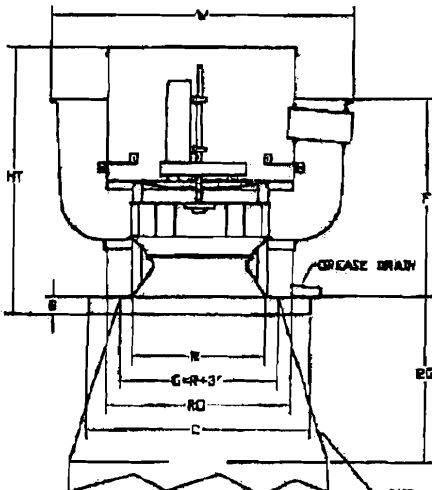
CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted
 Approved with NB Exception Taken
 Review and Resident
 SIGNATURE _____
 Your Title _____ Date _____



JOB	HannaFord
LOCATION	Forest Ave. Portland
DATE	4/12/2007
JOB #	589577
DWG #	HannaFordFor
DRAWN BY	BFC
REV.	LOO
SCALE	8.5' x 11'

NCANPFA SERIES UPBLAST EXHAUST FANS (UL762)



FEATURES:

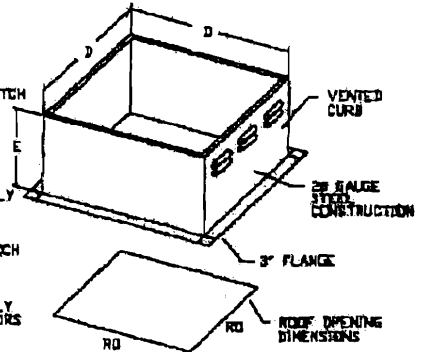
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762
- APCA SOUND AND AIR CERTIFIED
- WIRING FROM MOTOR TO DISCONNECT SWITCH
- WEATHERPROOF DISCONNECT
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETRIMENTARY EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

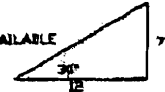
OPTIONS:

- GREASE BOX
- HONEYFAN



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.

SPECIFY PITCH
EXAMPLE: 7/12 PITCH = 30° SLOPE



NCANPFA BELT DRIVE CENTRIFUGAL UP-BLAST EXHAUST FANS DIMENSIONAL DATA

FAN MODEL	HT	V	D	C	F	R	RO	WEIGHT LB
NCANPFA	37 1/2	43 3/8	E	32	30 5/8	23 7/8	29	270

DUCTWORK BETWEEN EXHAUST RISER ON HOOD AND FAN (BY OTHERS)

CURB DIMENSIONAL DATA

FAN MODEL	D	C
NCANPFA	21 1/2	20

H-1 EXHAUST FAN

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revised and Resubmit

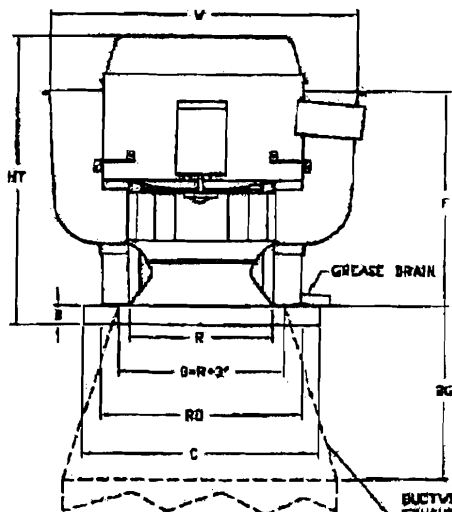
SIGNATURE _____

Your Title _____ Date _____



JOB	Hanna Ford	
LOCATION	Forest Ave. Portland	
DATE	4/12/2007	JOB # 585577
DWG #	HannaFordFan	DRAWN BY BFC
REV.	1.00	SCALE 8.5" x 11"

DUGL/NFA SERIES UPBLAST EXHAUST FANS (UL762)



DUCTWORK BETWEEN EXHAUST RISER OR HOOD AND FAN (BY OTHERS)

DUGL/N DIRECT DRIVE CENTRIFUGAL UP-BLAST EXHAUST FANS DIMENSIONAL DATA

FAN MODEL	HT	V	R	C	F	R	RD	WEIGHT LB
DUGL/NFA	28 3/4	25 1/2	1 1/2	23	18 1/2	12 1/2	17 1/2	30

FEATURES:

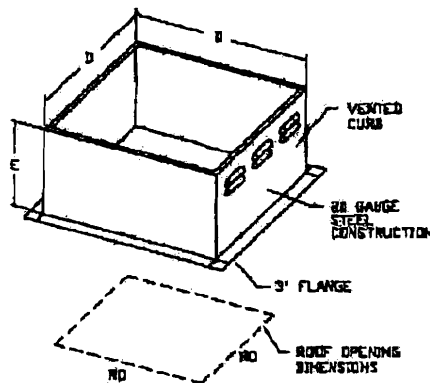
- ROOF MOUNTED FANS
- RESTAURANT MODEL
- UL762
- VARIABLE SPEED CONTROL
- INTERNAL WIRING
- WEATHERPROOF DISCONNECT
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE)
- HIGH HEAT OPERATION 300°F (149°C)
- GREASE CLASSIFICATION TESTING

NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

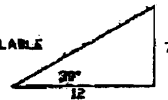
ABNORMAL FLAME-UP TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS:

- GREASE BOX
- HINGED FAN



PITCHED CURBS ARE AVAILABLE FOR PITCHED ROOFS.



SPECIFY PITCH:
EXAMPLE 7/12 PITCH = 30° SLOPE

CURB DIMENSIONAL DATA

FAN MODEL	D	E
DUGL/NFA	18 1/2	22

H-2 EXHAUST FAN

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with HQ Exception Taken

Review and Rebuild

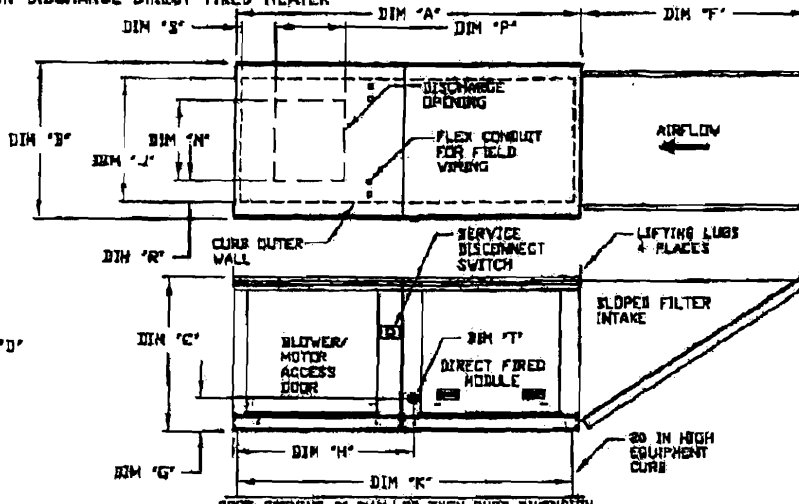
SIGNATURE: _____

Your Title: _____ Date: _____



JOB	HannaFord
LOCATION	Forest Ave, Portland
DATE	4/12/2007
DWG #	HannaFordFor
REV.	1.00
JOB #	585577
DRAWN BY	BFC
SCALE	8.5' x 11'

MODULAR OUTDOOR DOWN DISCHARGE DIRECT FIRED HEATER



Model 120789560

ALL DIMENSIONS ARE NOMINAL AND GIVEN IN INCHES.

		UNIT DIMENSIONS										CURB		DISCHARGE OPENING		
MODEL	WEIGHT	A	B	C	D	E	F	G	H	J	K	N	P	R	S	
0750-DIB	1975	45-3/8	37-3/8	41-3/8	43-3/8	36-1/16	5-1/2	8-3/8	9-1/2	47-13/16	35	84	25	19	6-1/2	10-3/16

UNIT INFORMATION		HEAT RANGE (BTU)		GAS PRESSURE		GAS CONNECTION		CFM RANGE		FILTER SIZE & QTY	MAX. FILTER VELOCITY
MODEL	BURNER LENGTH	BTU LOW	BTU HIGH	MIN	MAX	"Ø"	Ø"	MIN	MAX	16"Ø(20"Ø 26)	6000 CFM = 702 FPM
0750-DIB	18"	27.5	82.5	7"	14" WC	1/2"	1"	3300	8000		

HEATED MAKE UP AIR UNIT

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revised and Resubmit

SIGNATURE _____

Your Title _____ Date _____

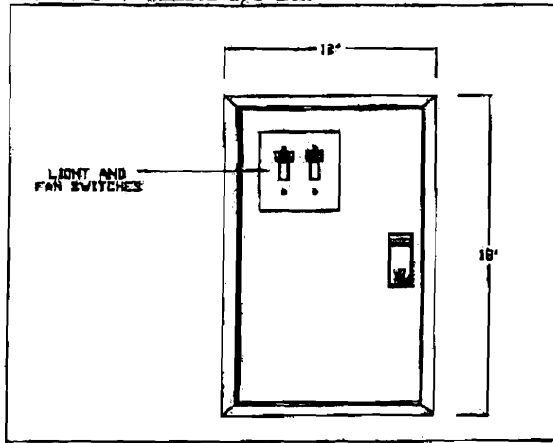


JDB	Hannaford
LOCATION	Forest Ave. Portland
DATE	4/12/2007
JOB #	505577
DWG #	HannafordFor
DRAWN BY	BFC
REV.	L00
SCALE	8.5" x 11"

ELECTRICAL PACKAGES

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		ROOFTOP STARTERS	OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY			TYPE	#	HP.	VOLT.	FLA
1	H-1	51111002	Wall Mount In SS Box	SS Wall Mount Box	1 Light 1 Fan		Exhaust In Fire	Exhaust	3	3.000	208	9.5
								Supply	3	2.000	208	6.0
2	H-2	11011002	Wall Mount In SS Box	SS Wall Mount Box	1 Light 1 Fan		Exhaust In Fire	Exhaust	1	0.330	115	4.1

DETAIL OF REMOTE S/S BOX



SPECIFICATIONS: ELECTRICAL PACKAGE (SEE TABLE FOR DETAILS)

A PRE-WIRED ELECTRICAL CONTROL PACKAGE SHALL BE PROVIDED TO OPERATE THE HOOD LIGHTS AND FANS. THE WIRING OPTION, LOCATED IN A HINGED COVERED ELECTRICAL BOX, SHALL INCLUDE A STAINLESS STEEL SWITCH PANEL CONSISTING OF LIGHT SWITCHES AND RED-LIGHTED FAN SWITCHES, A STARTER/OVERLOAD ASSEMBLY FOR EACH 3 PHASE FAN (OPTIONAL), NUMBERED INPUT/OUTPUT TERMINAL STRIPS, AND A TERMINAL STRIP FOR DOUBLE-DUAL FIRE SYSTEM MICROSWITCH CONNECTION. ONE MICROSWITCH IS WIRED TO A RELAY FOR SUPPLY FAN SHUTDOWN AND A RELAY FOR ADDITIONAL FIRE SYSTEM ACTIVATED DRY CONTACTS, AND THE OTHER MICROSWITCH REMAINS OPEN FOR CONNECTION OF BUILDING FIRE ALARM SYSTEM (DRY CONTACTS). A WIRING DIAGRAM SHOWING THE CONNECTIONS OF THESE PARTS IS LOCATED ON THE BOX.

ELECTRICAL CONDUIT (RIGPS FROM THE FANS) SHALL BE CONNECTED TO THE NUMBERED TERMINAL STRIP. CONDUIT BETWEEN THE PRE-WIRE PACKAGE AND THE FANS) SHALL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR.

CUSTOMER APPROVAL TO MANUFACTURE:

Approved as Noted

Approved with NO Exception Taken

Revised and Resubmits

SIGNATURE _____

Your Title _____ Date _____

H-1 & H-2 ELECTRICAL CONTROLS

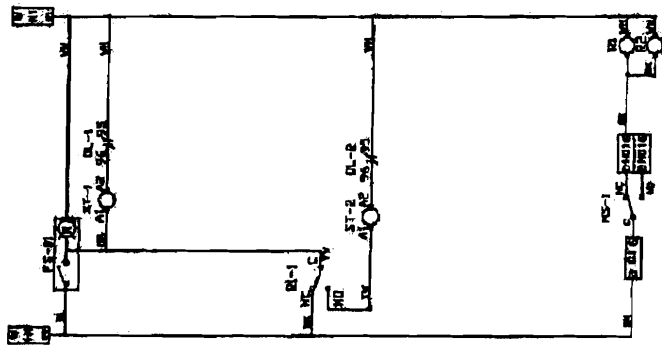


JOB	Hanna Ford
LOCATION	Forest Ave. Portland
DATE	4/12/2007
JOB #	585577
DWG #	Hanna Ford For
DRAWN BY	BFC
REV.	L80
SCALE	8.5' x 11'

ELECTRICAL PREWIRE PACKAGE

DRAWING NUMBER 215100P JOB NUMBER

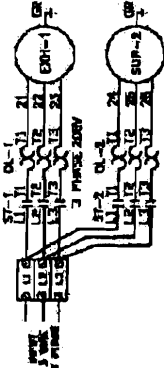
CONTROL INPUT 120VAC H1-LINE, H2-NEUTRAL, 15A 60HZ



LEFT INPUT 120VAC H1-LINE, H2-NEUTRAL, 15A 60HZ



3 PHASE 208V



DATE DRAWN BY

ELECTRICAL PACKAGES Description
3 Phase, W, 1 Reduced Volt, 1 Supply
Fns. Shown in P/W

CONDUIT IDENTIFICATION

Label	Description
ST	Switch
F1	Fan Switch (Lighted)
RS	Microswitch (Manual or Pneumatic)
LS	Light Switch
LP	Light Pilot
GR	Ground
TR	Transformer
C	Contactors
M	Motor

WIRE COLOR

Color	Code	Description
White	W	Neutral
Black	B	Line
Red	R	Line
Blue	BL	Line
Green	GR	Ground
Yellow	Y	Line
Purple	P	Line
Orange	O	Line
Grey	G	Line
White with Red Stripes	WR	Line
White with Blue Stripes	WB	Line
White with Green Stripes	WG	Line
White with Yellow Stripes	WY	Line
White with Purple Stripes	WP	Line
White with Orange Stripes	WO	Line
White with Grey Stripes	WG	Line



WIRE COLOR

Color	Code	Description
White	W	Neutral
Black	B	Line
Red	R	Line
Blue	BL	Line
Green	GR	Ground
Yellow	Y	Line
Purple	P	Line
Orange	O	Line
Grey	G	Line
White with Red Stripes	WR	Line
White with Blue Stripes	WB	Line
White with Green Stripes	WG	Line
White with Yellow Stripes	WY	Line
White with Purple Stripes	WP	Line
White with Orange Stripes	WO	Line
White with Grey Stripes	WG	Line

WIRE IDENTIFICATION

Color	Code	Description
White	W	Neutral
Black	B	Line
Red	R	Line
Blue	BL	Line
Green	GR	Ground
Yellow	Y	Line
Purple	P	Line
Orange	O	Line
Grey	G	Line
White with Red Stripes	WR	Line
White with Blue Stripes	WB	Line
White with Green Stripes	WG	Line
White with Yellow Stripes	WY	Line
White with Purple Stripes	WP	Line
White with Orange Stripes	WO	Line
White with Grey Stripes	WG	Line

MARKING SHALL BE PERFORMED WITH A WALL MOUNT PRESSURE OR FIELD MARKING TOOL. TERMINALS SHOWING FACTORY WIRING MUST BE FIELD WIRING.

12 x 18 x 6 Box Size

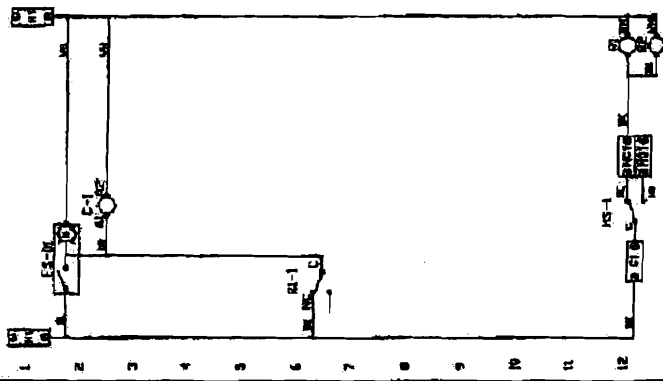
H-1 ELECTRICAL CONTROLS

ELECTRICAL PREWIRE PACKAGE

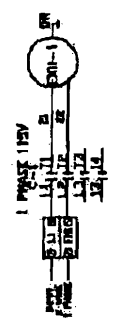
JOB NAME JOB NUMBER

DRAWING NUMBER H011002

CONTROLS DEPT (change H1-LINK, H1-REPAIR, 104 BTR)



15 LIGHT MOUNT BOARD M2-HS-WAVE, M2-HS-NEUTRAL (SA BTR)



DATE	DRAWN BY	Electrical Enclosure Description
		1. Please Contact for 1 Enclosed for Includes 2 Light switches, 1 fan switch, Estimated in Pkg.
Component	Description	
ES-1	Emergency Stop	
C-1	Control Switch	
M-1	Motor	
...

- WIRE COLOR
- TV - YELLOW
- VI - GRAY
- ...

H-2 ELECTRICAL CONTROLS

12 x 18 x 8 Box Size