

City of Portland, Maine - Building or Use Permit Application

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

Permit No: 05-0788	Issue Date: PERMIT ISSUED JUL 13 2005	BL: 089 AC27001
-----------------------	--	--------------------

Location of Construction: 116 High St	Owner Name: Cumberland Club	Owner Address: 116 High St	Phone: 778-6402
Business Name:	Contractor Name: C Caprera Food Service Co	Contractor Address: Rt 202 E Winthrop	Phone: 207-6506894
Lessee/Buyer's Name	Phone:	Permit Type: Alterations - Commercial	Zone: B-3

commercial kitchen at private club	commercial kitchen with hood and vent system at private club	Permit Fee: , Cost of Work , CEO District: ,
FIRE DEPT: <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Denied Signature: <i>[Signature]</i>		INSPECTION: Use Group: <i>CCOC EXHAUST</i> Type: 7/11/05 3457824 Signature: <i>[Signature]</i>

Permit Taken By: jharris	Date Applied For: 06/14/2005	Zoning Approval
-----------------------------	---------------------------------	------------------------

Special Zone or Reviews	Zoning Appeal	Historic Preservation
<input type="checkbox"/> Shoreland	<input type="checkbox"/> Variance	<input type="checkbox"/> Not in District or Landmark
<input type="checkbox"/> Wetland	<input type="checkbox"/> Miscellaneous	<input type="checkbox"/> Does Not Require Review
<input type="checkbox"/> Flood Zone	<input type="checkbox"/> Conditional Use	<input type="checkbox"/> Requires Review
<input type="checkbox"/> Subdivision	<input type="checkbox"/> Interpretation	<input checked="" type="checkbox"/> Approved
<input type="checkbox"/> Site Plan	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Conditions
Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/>	<input type="checkbox"/> Denied	<input type="checkbox"/> Denied to DTA
Date: <i>6/20/05</i>	Date:	Date: <i>Dr. Andrew B. 6/27/05</i>

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 _____

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

CITY OF PORTLAND

BUILDING INSPECTION

PERMIT

PERMIT ISSUED

JUL 13 2005

Permit Number 039 A027001

CITY OF PORTLAND

Please Read Application And Notes, if Any, Attached

This is to certify that Cumberland Club/C. Caprera Food Service Co has permission to install hood and vent system in kitchen of private club

AT 116 High St

provided that the person or persons firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of the State 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 is procured before this building or part thereof is occupied or otherwise used-in part. HOUR NOT REQUIRED.

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

OTHER REQUIRED APPROVALS

Fire Dept. Jay Kelley P.F.D. 7-13-05
Health Dept.
Appeal Board
Other Department Name

Signature of Director - Building & Inspection Services dated 7/14/05

PENALTY FOR REMOVING THIS CARD

All Purpose 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>Cumberland Club 116 High St. Portland Me</u>		
Total Square Footage of Proposed Structure <u>100 sq feet (Kitchen Hood)</u>		Square Footage of Lot <u>INTERIOR WORK - Kitchen</u>
Tax Assessor's Chart, Block & Lot Chart# Block# Lot# <u>039 A-027- 001</u>	Owner: <u>Cumberland Club</u>	Telephone: <u>207-773-6402</u>
Lessee/Buyer's Name (If Applicable)	Applicant name, address & telephone: <u>John Hurley 116 High Street Portland 773-6402</u>	Cost Of Work: \$ <u>17,000</u> Fee: \$ <u>174.00</u>
Current use: <u>Private Club</u>		
If the location is currently vacant, what was prior use: _____		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p style="margin: 0;">DEPT. OF BUILDING INSPECTION CITY OF PORTLAND, ME</p> <div style="border: 1px solid black; padding: 5px; margin: 5px auto; width: 80%;"> <p style="margin: 0; text-align: center;">JUN 14 2005</p> </div> <p style="margin: 0; text-align: center; font-weight: bold; font-size: 1.2em;">RECEIVED</p> </div>
Approximately how long has it been vacant: _____		
Proposed use: <u>Install Hood & Vent System</u> Project description: _____		
Contractor's name, address & telephone: _____		
Who should we contact when the permit is ready: <u>John Hurley 773-6402</u>		
Mailing address: <u>Tom Aldrich / C. Capriera Food Service Co. Route 202 E. Winthrop, ME 04343</u>		
We will contact you by phone when the permit is ready. You must come in and pick up the permit and review the requirements before starting any work, with a Plan Reviewer. A stop work order will be issued and a \$100.00 fee if any work starts before the permit is picked up. PHONE: 207-657-6394		

IF THE REQUIRED INFORMATION IS NOT INCLUDED IN THE SUBMISSIONS THE PERMIT WILL BE AUTOMATICALLY DENIED AT THE DISCRETION OF THE BUILDING/PLANNING DEPARTMENT, WE MAY REQUIRE ADDITIONAL INFORMATION IN ORDER TO APPROVE THIS PERMIT.

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>John F. Hurley</u>	Date: <u>June 1, 2004</u>
---	---------------------------

**This is NOT a permit, you may not commence ANY work until the permit is issued.
If you are in a Historic District you may be subject to additional permitting and fees with the Planning Department on the 4th floor of City Hall**



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

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

Type of Materials:

Is the hood Stainless steel or other type of steel? Yes If Other, what Type? _____

Is the duct work Stainless steel or other type of steel? No If Other, what type? Galv.

Thickness of the steel for the hood 18 GA-OK

Thickness of the duct for the hood 16 GA-OK

Type of Hood and Duct supports Locking Exhaust + Makeup air

Type of seams and Joints welded LIQUID TIGHT.

BY FAX IS 756-8090

Mid-State Sheetmetal Fax Transmittal

Work to be done at cumberlin club:

Old system will be removed and discarded by mid-state sheetmetal.

New system provided by C. Caprara will be install by mid-atate sheetmetal by nfp96 code book. The exhaust duct will be made from 16ga. Galv. And will have the proper clearances for cumbustables. The exhaust fen will be exhausting above the roof fine by atleast 42 inches. There will be 2 exhaust fans as i understand it to be. The makup air sys inlet will be 10 ft away from the exhaust outlet.

The exhaust hood will be suspended from the ceiling from 1/2 threaded rod and will be attached to the wall also. The hood will have a 3inch stand of from the wall. *ceiling has 2x12 joists*

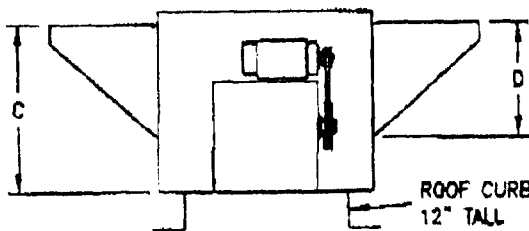
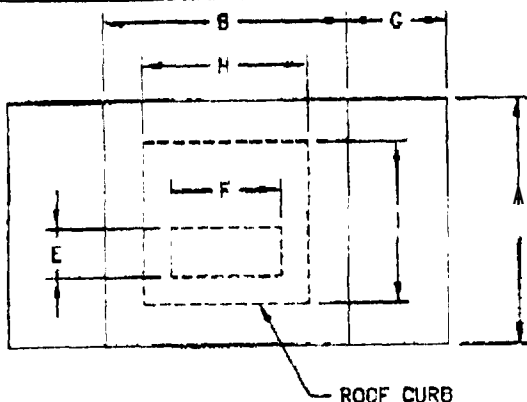
Any questions pkaae call me at 933-5603
Dick Desrosiers

Larkin Industries, Inc.
 114 David Green Road
 Birmingham, Alabama 35244
 Phone: 1-205-987-1535
 Fax: 1-205-987-0583
 Toll Free: 1-800-322-4036

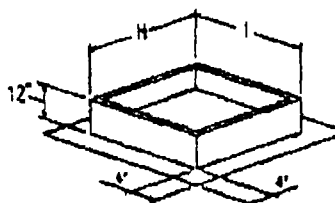
ARS
 SUPPLY FAN.



FEATURES: HEAVY GAUGE SCREWED TOGETHER HOUSING • EASILY REMOVABLE COVER • CONSTRUCTED OF GALVANIZED STEEL (PAINTING NOT REQUIRED) • DOUBLE INLET SUPPLY BLOWER, BELT DRIVEN, MOUNTED ON VIBRATION INSULATORS • CAST IRON MOTOR AND FAN DRIVES • FACTORY MOUNTED DISCONNECT SWITCH • PERMANENT LUBRICATED BEARINGS • CLEANABLE ALUMINUM MESH FILTERS • ETL LISTED
 OPTIONAL ACCESSORIES: A) AUTO BACK DRAFT DAMPERS B) MOTORIZED BACK DRAFT DAMPER C) SIDE DISCHARGE D) WALL MOUNT BRACKETS E) STARTERS F) ROOF CURBS G) EXTENDED INTAKE



NOTE: SINGLE INLETS ON ARS 9 & ARS 12



MODEL	FAN DIMENSIONAL DATA							CURB SIZE		FILTER SIZES
	A	B	C	D	E	F	G	H	I	
ARS 9	24"	24"	30"	25"	10 1/2"	11 1/2"	18"	23"	23"	(1) 20x20x1
ARS 10	24"	24"	30"	25"	11 1/2"	13 1/2"	18"	23"	23"	(2) 20x20x1
ARS 12	34"	34"	35"	30"	13 1/2"	15 1/2"	18"	33"	33"	(2) 18x25x1
ARS 15	34"	34"	35"	30"	15 1/2"	18 1/2"	18"	33"	33"	(4) 18x25x1
ARS 18	42"	42"	43"	30"	18 1/2"	21 1/2"	18"	41"	41"	(4) 20x25x1
ARS 20	52"	45 1/2"	54"	46"	24 1/2"	24 1/2"	30"	51"	44"	(8) 18x25

MARK	MODEL	FAN					MOTOR					OPTIONAL ACCESSORIES		
		QTY.	TYPE	CFM	SP	RPM	HP	PH	CYCLE	VOLTS	TYPE			
SF	ARS-12	1	12	2884	.250		3/4	1	60	230	ODP	F		

DATE:

JOB:

LOCATION:

NOTE:

Larkin Industries, Inc.
 114 David Green Road
 Birmingham, Alabama 35244
 Phone: 1-205-987-1535
 Fax: 1-205-987-0583
 Toll Free: 1-800-322-4036

**FLAT ROOF CURB
 FOR FANS**

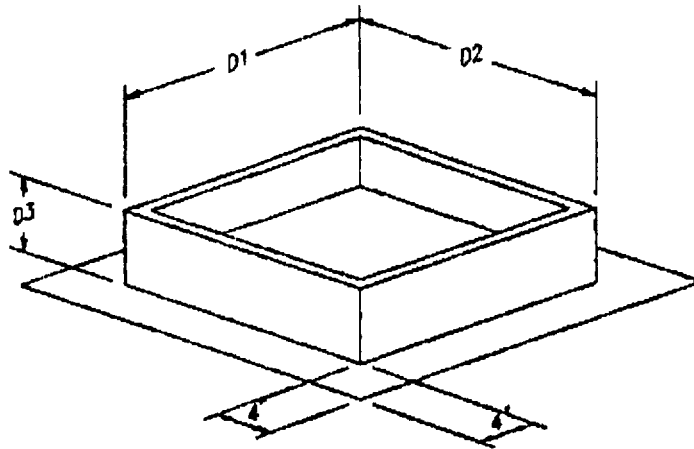


QUANTITY: 1
 FAN MODEL: ARS-12
 DIMENSIONS:
 D1 = 33"
 D2 = 33"
 D3 = 12"

QUANTITY:
 FAN MODEL:
 DIMENSIONS:
 D1 =
 D2 =
 D3 =

QUANTITY:
 FAN MODEL:
 DIMENSIONS:
 D1 =
 D2 =
 D3 =

QUANTITY:
 FAN MODEL:
 DIMENSIONS:
 D1 =
 D2 =
 D3 =



DATE:

JOB:

LOCATION:

NOTE:

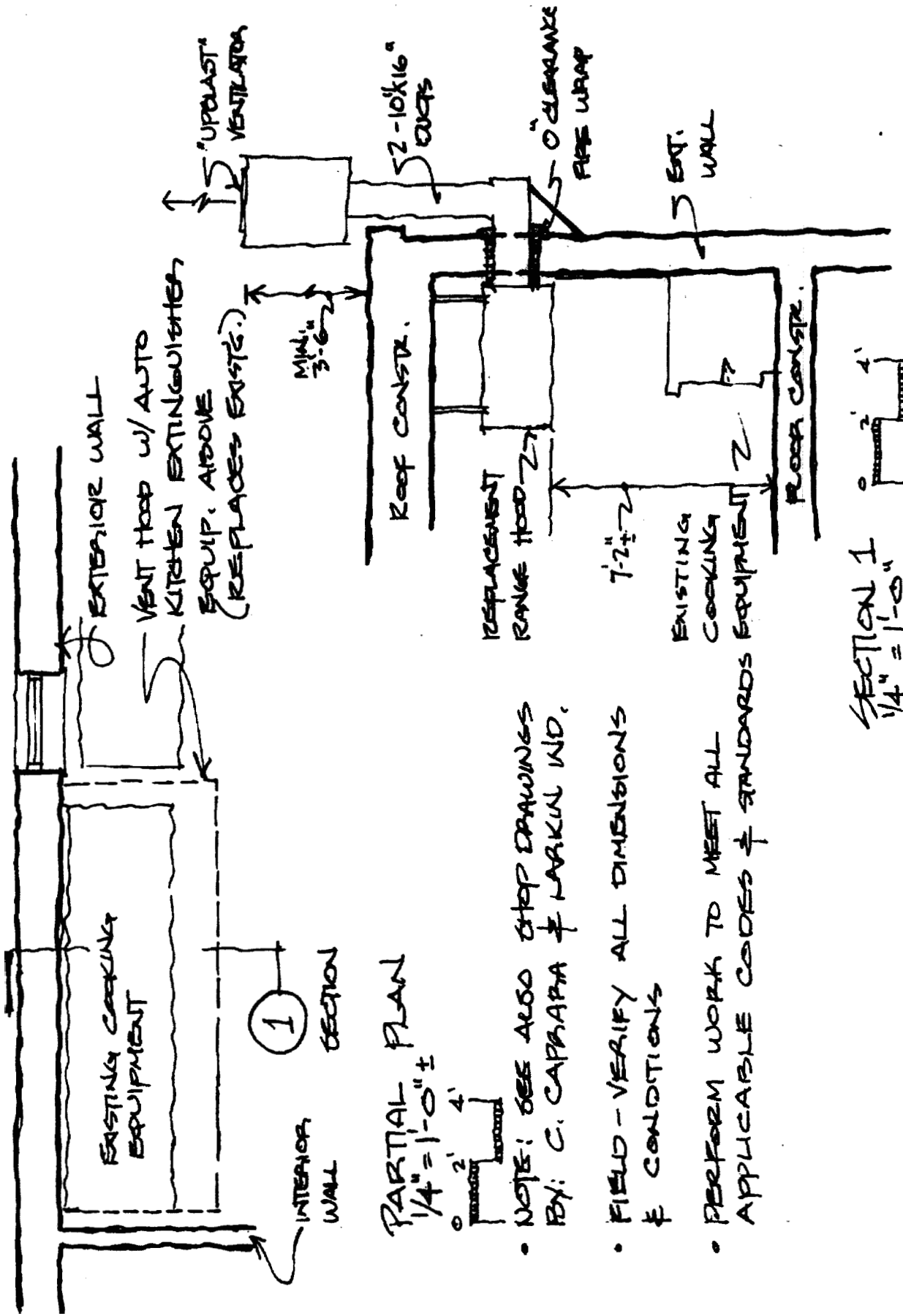
To: City of Portland
Planning Department
From: John Hurley
Cumberland Club
Date: June 1, 2004
RE: Building Permit

The Cumberland Club is requesting a building permit to replace its kitchen hood system. The hood will be put in the same location. The main purpose of this replacement is to meet current codes and to improve the fire safety of the kitchen. The work will begin July 15, 2005 and be completed by July 18, 2005. The trade's people being used are the following.

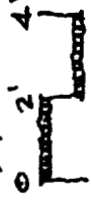
Contractor's Involved:

1. C. Caprara Food Service: Supplying the Kitchen Hood.
Route 202, E. Winthrop, ME 207-395-2405
2. S & P Plumbing: Doing plumbing work.
721 Main Street, South Portland, ME 207-775-7277
3. Steve's Electric; Electrical work.
379 South Street, Biddeford, ME 04005 207-282-6525
4. Fire-Safe: Installing fire system.
159 First Flight DR., Auburn, ME 207-775-2118

Submitted By:
John F' Hurley
General Manager
Cumberland Club
116 High Street
Portland, ME 04101
Phone: 207-773-6402



PARTIAL PLAN
 1/4" = 1'-0" ±



- NOTE: SEE ALSO SHOP DRAWINGS
- BY: C. CAPPARA & LARKIN INC.
- FIELD - VERIFY ALL DIMENSIONS & CONDITIONS
- PERFORM WORK TO MEET ALL APPLICABLE CODES & STANDARDS EQUIPMENT

SECTION 1
 1/4" = 1'-0"

CUMBERLAND CLUB - 116 HIGH ST. PORTLAND ME.
 KITCHEN VENT HOOD REPLACEMENT - SCHEMATIC LAYOUTS
 10 JULY 2005

Larkin Industries, Inc.
 114 David Green Road
 Birmingham, Alabama 35245
 Phone: 1-205-987-1535
 Fax: 1-205-987-0583
 Toll Free: 1-800-322-4036

**WALL CURBS
 FOR FANS**

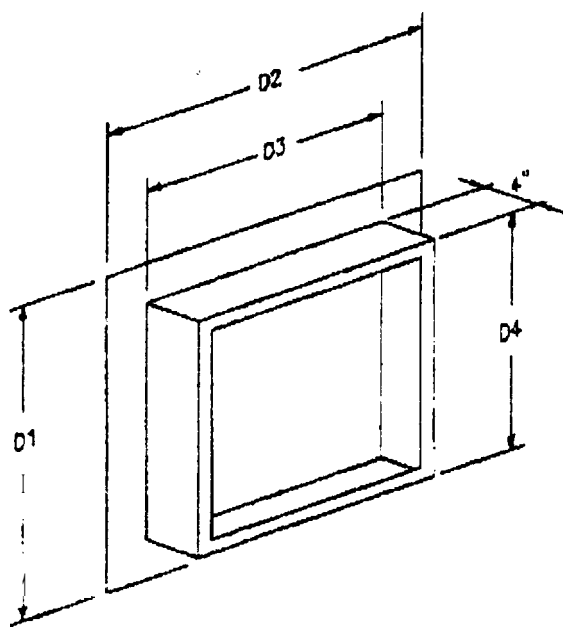


QUANTITY: 2
 FAN MODEL: 135
 DIMENSIONS:
 D1 = 23.5"
 D2 = 23.5"
 D3 = 19.5"
 D4 = 19.5"

QUANTITY:
 FAN MODEL:
 DIMENSIONS:
 D1 =
 D2 =
 D3 =
 D4 =

QUANTITY:
 FAN MODEL:
 DIMENSIONS:
 D1 =
 D2 =
 D3 =
 D4 =

QUANTITY:
 FAN MODEL:
 DIMENSIONS:
 D1 =
 D2 =
 D3 =
 D4 =



DATE:

JOB:

LOCATION:

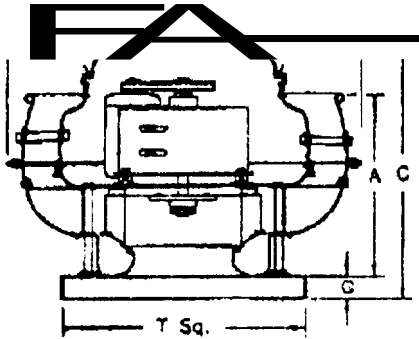
NOTE:

Larkin Industries, Inc.
 114 David Green Road
 Birmingham, Alabama 35244
 Phone: 1-205-987-1535
 Fax: 1-205-987-0563
 Toll free: 1-800-322-4036

**LOREN COOK
 FAN VCR/VCR-HP**



UPBLAST AND HIGH PRESSURE UPBLAST
 CENTRIFUGAL ROOF & WALL VENTILATOR



Loren Cook Company certifies that the VCR-HP shown herein are tested to bear the AMCA Seal. The ratings shown are based on test and procedure performed in accordance with AMCA Publication 311 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

The Type VCR-HP is furnished standard with UL 782 listing (Power Ventilator for Restaurant Exhaust Appliances/VZHW) when furnished with factory supplied motor.

The Type VCR-HP is furnished standard with cUL listing (Power Ventilator for Restaurant Exhaust Appliances) when furnished with factory supplied motor.

T SQ. SIZES	A	B	C		G	T-SG	SHIP. WT. LESS MTR.
			VCR	VCR-HP			
120	17 13/16	30 1/8	24 3/16	—	2	20	61
135			24 15/16	—		20	66
150	19 3/8	35 1/8	28 13/16	25 5/16	2	24	77
165			29 5/8	26 3/8		24	83
180	22 7/8	40 1/8	31 5/8	28 1/8	2	30	100
195			32 1/2	28 5/8			30
210	25 1/2	45 1/8	33 5/8	30 5/8	2	30	220
225			34 5/8	31 5/8			30
245	27 11/16	49 1/8	35 1/8	31 3/8	3	36	264
270	28 1/16		37 3/16	33 7/16			36
300	33 7/16	54 1/8	43 1/4	39 1/2	3	41 5/8	336
330	33 11/16		45 7/16	41 7/16			41 5/8
365	35 15/16	64 1/8	48 5/8	44 5/8	3	47 5/8	420
402	37 7/16		50 15/16	—			47 5/8
445	42 7/16	76 1/8	53 7/16	—	3	53 5/8	556
490	44 3/16		56 1/18	—			53 5/8

- LEGEND**
ACCESSORIES
1. GALVANIZED CURB
 2. DISCONNECT SWITCH
 3. EXTENDED VENTED BASE
 4. EXTENSION CUM
 5. HINGED BASE
 6. GREASE TERMINATOR
 7. GREASE TROUGH

MOTOR TYPE
 STD - STANDARD
 2SP - 2 SPEED

REF. MARK	CAT. NO.	FAN				MOTOR					ACCESSORIES			
		# REQD.	CFM	SP	RPM	HP	VOLTS	HZ	PH	TYPE	1	2		
EF-162	135V59	2	1806	625		1/2	115	60	1	ODP	1	2		

om:

JOB:

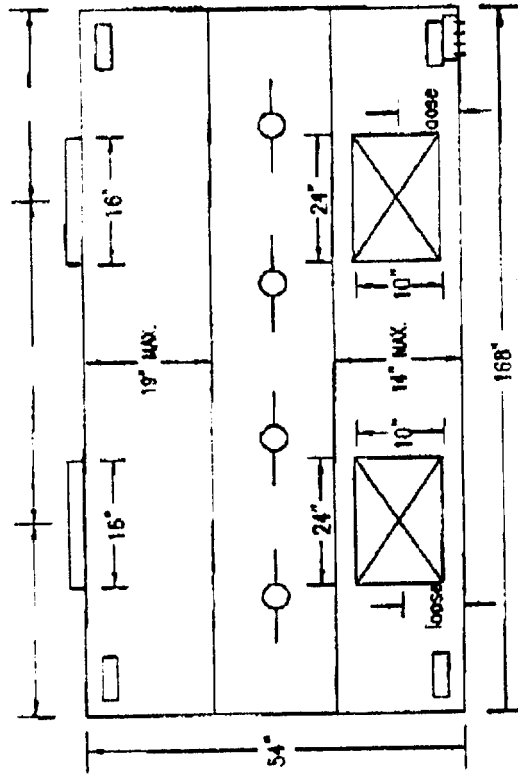
LOCATION:

NOTE:



Plan 3

Larkin Industries, Inc.
 114 David Green Road
 Birmingham, Alabama 35244
 Phone: 1-205-987-1535
 Fax: 1-205-987-0583
 Toll free: 1-800-372-4036



HOOD CONFIGURATION

- WALL
- HOODS BACK TO BACK
- ISLAND
- HOODS BACK TO BACK END TO END
- HOODS END TO END
- OTHER

LEGEND

- LIGHTS
- SWITCH PANEL
- EXHAUST COLLAR
- SUPPLY COLLAR
- HANGER

DATE: 6/10/06

4

NOTE: L 14867

LOCATION

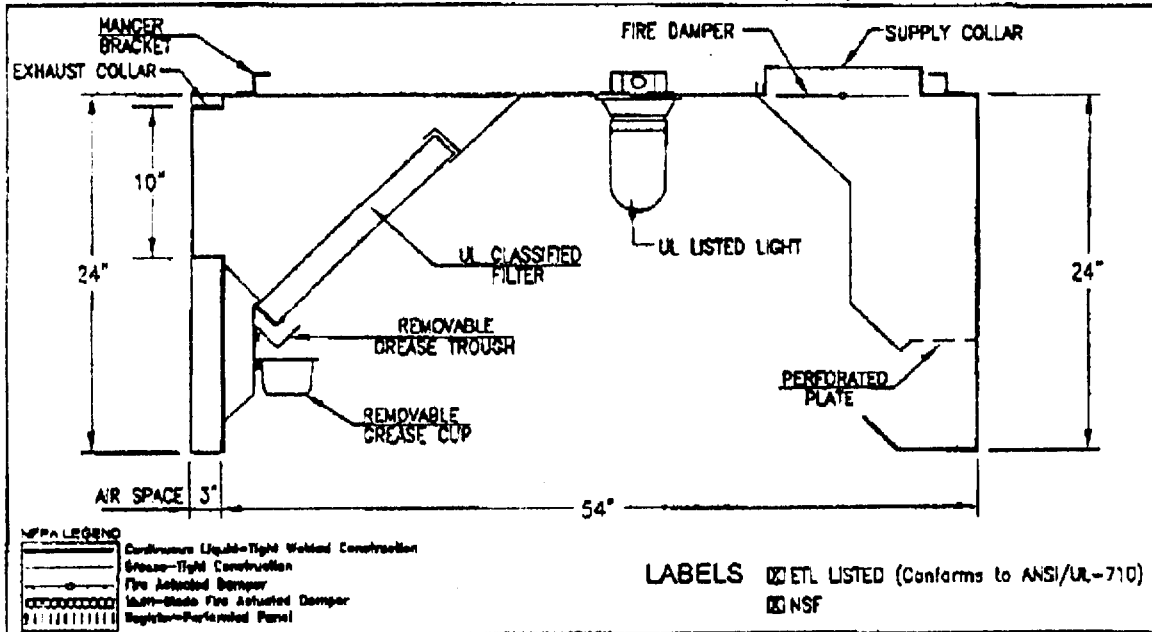
Larkin Industries, Inc.

114 David Green Road
 Birmingham, Alabama 35244
 Phone: 1-205-987-4535
 Fax: 1-205-987-0583
 Toll Free: 1-800-322-4036

Model: SC
 (Short Circuit)



All Hoods Built In Accordance With NFPA-96, SBCCI, NSF, ICBO, ETL Listed.



HOOD SIZE	CFM REQUIREMENTS	HOOD REQUIREMENTS
QTY: 1	EXHAUST: 3612 CFM @ .025 S.P.	<input checked="" type="checkbox"/> WALL <input type="checkbox"/> END TO END
Size: L= 168" x W= 54" x H= 24"	SUPPLY: 2884 CFM @ .250 S.P.	OTHER:
Size: L= x W= x H=	OTHER:	

MATERIAL REQUIREMENTS			
<input type="checkbox"/> ALL S/S	<input checked="" type="checkbox"/> S/S WHERE EXPOSED	<input checked="" type="checkbox"/> ALUMINIZED	<input type="checkbox"/> TRI BLEND
TYPE:	TYPE: 430	GAUGE:	GAUGE:
GAUGE:	GAUGE: 18	OTHER:	OTHER:
POLISH:	POLISH: #4		

IN UNEXPOSED AREAS.

FILTERS	LIGHTS	COLLARS	CONTROLS
<input checked="" type="checkbox"/> ALUMINUM	<input type="checkbox"/> NONE QUANTITY: 4	<input type="checkbox"/> NONE	<input type="checkbox"/> 1 SW VOLTS: 115 PH: 1
<input type="checkbox"/> S/S	<input checked="" type="checkbox"/> INCANDESCENT	<input checked="" type="checkbox"/> EXHAUST: 10x16(2)	<input type="checkbox"/> 2 SW CONTACTORS:
OTHER:	<input type="checkbox"/> RECESSED	<input checked="" type="checkbox"/> SUPPLY: 24x10(2)	<input type="checkbox"/> 3 SW STARTERS:
	<input type="checkbox"/> FLUORESCENT	OTHER:	<input checked="" type="checkbox"/> 4 SW OTHER:

ACCESSORIES		
<input type="checkbox"/> VOLUME DAMPER	<input checked="" type="checkbox"/> BACK STAND OFF <input checked="" type="checkbox"/> 3" <input type="checkbox"/> 4" <input type="checkbox"/> 6"	<input type="checkbox"/> FIRE CABINET: <input type="checkbox"/> RIGHT SIDE <input type="checkbox"/> LEFT SIDE
<input type="checkbox"/> FINISH BACK	<input type="checkbox"/> RH, END STAND OFF <input type="checkbox"/> 3" <input type="checkbox"/> 4" <input type="checkbox"/> 6"	<input type="checkbox"/> WALL SPLASH PANEL:
<input checked="" type="checkbox"/> INSULATED FULL	<input type="checkbox"/> LH, END STAND OFF <input type="checkbox"/> 3" <input type="checkbox"/> 4" <input type="checkbox"/> 6"	<input type="checkbox"/> CLO TRIM PANEL
<input type="checkbox"/> INSULATED FRONT	<input checked="" type="checkbox"/> DOUBLE WALL CONSTRUCTION	OTHER:

DATE: 6/10/05 JOB: LOCATION: NOTE: L-148487

Grease Gutters provided? yes

Hood Clearance from Combustibles materials 19" from ceiling ^{26" on left side} 3" Back side

Duct Clearance from Combustibles materials Going through Brick wall

Vibration Isolation System:

No

Air Velocity within the duct system 1500 FT Per Minute

Grease accumulation prevention system

Cleanouts yes at 90° only about 7' B Duct each Line

Grease Duct enclosure,

Exhaust Termination at least 40" above Roof Line

Fire Suppression system

yes

Exhaust fan mounting and clearance from the roof or wall 40"

Exhaust fan distance from other vents or openings 10'

Exhaust fan height above adjoining grade 40 ABOVE ROOF - OK

Hood Specs

Style of hood Box Type CANOPY

Type of Filter: Baffle

Height of filter above nearest cooking surface: 3 1/2 ft

Capacity of hood in CFM

Make up Air system description and capacity Not sure should Be in the Paperwork from Larkin

~~any~~ Please call for More info
The Best # for Me Today will Be
215-9479 Thankyou



FastWrap+
Commercial Kitchen Grease Duct
Air Ventilation Duct

Atten: Mike

Product Data and Installation Guide

NFPA 96 IMC



1. Product Description

Thermal Ceramics FireMaster FastWrap+ is a one-layer, totally foil-encapsulated non-combustible high temperature, low biopersistence, 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. Thermal Ceramics FireMaster FastWrap+ is classified by Omega Point 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. Thermal Ceramics FireMaster 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 at the overlap or collar and a reduced clearance of 1/2" between overlaps or collars for commercial kitchen grease ducts in tight congested areas. When the duct penetrates fire rated walls and floors, Tremco Fyre-Sil silicone firestop sealant used in combination with Thermal Ceramics FireMaster 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.

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
- Zero clearance to combustibles protection at the overlap or collar and reduced clearance of 1/2" between overlaps or collars
- Lightweight, compact design saves space
- Lightweight Flexible system requires minimum labor and resists cracking
- Problem solver for tight, congested areas
- Passive fire proof material does not lose fire fighting capabilities with age
- Totally foil encapsulated system protects against material degradation, potential fire hazards and allows easy installation
- Product markings on foil ensure proper material identification for easy inspections
- Wide variety through-penetration systems

2. Applications

- 1 or 2 Hour Commercial Kitchen Grease Duct Enclosure

3. Physical Characteristics

FireMaster 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	37.6 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	40 lbs. (18 kg)
Cobr	White blanket with silver foil encapsulation		

4. Specifications

This specification guide covers the application of Thermal Ceramics FireMaster FastWrap+ and Tremco Fyre-Sil silicone firestop sealant.

Application	Fire Resistive Rating	Enclosure System	Through-Penetration System
Grease Ducts	1 or 2 hours	1 layer FastWrap+, 3" (75 mm) perimeter and longitudinal overlap	QPL FS 587F

5. Performance

A. Thermal Ceramics FireMaster FastWrap+

Flammability (ASTM # 84/JL 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 Sealant

Tremco Fyre-Sil silicone firestop sealant

Calor	Gun grade limestone	Self-leveling rust red
Working Time (min.)	6 - 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

C. Listings

Agency	Reference Standard/File No.
Omega Point Laboratories, Inc.	Listing # 11680-3, FS 587F, GD 544F
NFPA	Complies with NFPA 96, 2001 Edition
International Mechanical Code	Section 506 Commercial Kitchen Grease Ducts and Exhaust Equipment, Section 507 Commercial Kitchen Hoods

II. Alternative Product

Original FireMaster FastWrap+ System



Physical Characteristics

FireMaster Product	Unit	Size	Units/Ctn.	Wt./Ctn.
FastWrap+	Roll	2" x 24" x 20' (50 mm x 610 mm x 6 m)	1	52 lbs. (24 kg)
FastWrap+	Roll	2" x 48" x 20' (50 mm x 1.2 m x 6 m)	1	103 lbs. (47 kg)
FastWrap+ Collar	Roll	1 1/2" x 6" x 20' (38.1 mm x 152 mm x 6 m)	4	47 lbs. (21 kg)
Color		White blanket with silver foil encapsulation		

Specifications

This specification guide covers the application of Thermal Ceramics FireMaster FastWrap+ and Tremco Fyre-Sil silicone firestop sealant.

Application	Fire Resistive Rating	Enclosure System	Through-Penetration System
Grease Ducts	1 or 2 hours	1 layer FastWrap+, 3" (75 mm) perimeter and longitudinal overlap, GD545F, GC 546F	OPL FS 582F OPL FS 583F
Air Duds	1 or 2 hours	1 layer FastWrap+, 3" (75 mm) perimeter and longitudinal overlap, VAD541F	FS 583F

Listings

Agency	Reference Standard/File No.
Omega Point Laboratories, Inc.	Listing # 11680-3, GD545F, GD546F, VAD541F, FS582F, FS583F
NFPA	Complies with NFPA 96, 2001 Edition
International Mechanical Code	Section 506 Commercial Kitchen Grease Ducts and Exhaust Equipment, Section 507 Commercial Kitchen Hoods
BOCA	Research Report 21.51
SBCCI	Research Report 9424D
MEA	421-00-M, 422-00-M
California State Fire Marshal	2440-1361:103

6. Installation

A qualified contractor in accordance with manufacturer's instructions and referenced standards shall install the new or original

FireMaster FastWrap+ system. See figures 1 - 5 for complete drawing details.

Materials and Equipment:

New FireMaster FastWrap+ blanket, 1 1/2" (38.1 mm) thick, 8 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 8 m) or the alternative original FireMaster FastWrap+ blanket, 2" (51 mm) thick, 8 pcf (128 kg/m³), 24" (600mm), or 48" (1.2m) wide, 20 (6 m) long rolls are installed using the same installation methods as described below, with exception of optional: new 1 1/2" x 6" wide x 25' long (150 mm x 6 m) FireMaster FastWrap+ collars or original 2" x 6" wide x 20' long FireMaster FastWrap+ collars, when using the butt joint and collar installation method.

- New FireMaster FastWrap+: 25' (7.6 m) standard length, 48" (1220mm) wide blanket helps to minimize waste
- Original FireMaster FastWrap+: 20' (6 m) standard length, 48" (1220 mm) wide blanket helps to minimize waste
- Aluminum foil tape
- Minimum 3/4" (19.0 mm) wide filament tape (optional)
- Carbon steel or stainless steel banding material, minimum 1/2" (12.5 mm) wide, minimum 0.015" (0.38mm) thick, with steel banding clips
- Hand banding tensioner and crimping tool
- Minimum 12 gage steel insulation pins, galvanized steel wedge clips, minimum 1 1/2" (38 mm) x 1 1/2" (38 mm) square or 1 1/2" dia. (38 mm), or equivalent sized cup-head pins; capacitor discharge stud gun
- Access door hardware: four galvanized steel threaded rods, 1/4" diameter (6.35 mm) by 4 1/2" to 5" long (114 to 127 mm) with 1/4" (6.35 mm) wing nuts and 1/4" (6.35 mm) washers; 4" (102 mm) long steel tubing to fit threaded rods
- Tremco Fyre-Sil silicone firestop sealant

Storage:

The FireMaster FastWrap+ and Tremco Fyre-Sil silicone firestop sealant must be stored in a dry warehouse environment on pallets. Pallets should not be stacked.

Preparatory Work:

FireMaster 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 FireMaster FastWrap+ (figure 1):

- **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 Figure 1. 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 figure 1. 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 FireMaster FastWrap+ is centered over the joint, overlapping each blanket by 3" (76 mm) as shown in figure 1.
- **2 & 3 Sided Enclosure System** - When space does not allow for full wrap enclosure on all four sides of the duct, the FireMaster 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, FireMaster 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 FireMaster 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 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" (752 and 305 mm) from each edge and 10 1/2" (267 mm) on center along the bottom horizontal and outside vertical duct run as shown in figure 2. Insulation pins that extend beyond the blanket wrap shall be turned 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 1/4" (9.5 mm) diameter and the steel angle is a minimum of 1 1/2" x 1 1/2" x 1/4" (38 mm x 38 mm x 3.2 mm), or SMACNA equivalent support system. Horizontal trapeze support systems may be incorporated into the wrap enclosure.

A. Overlap Wrap Telescope Installation

FireMaster 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 (figure 1). The FireMaster FastWrap+ blanket is wrapped one layer 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 paced to overlap the previous blanket not less than 3" (75 mm). The overlap made by adjacent blankets form 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 1 1/2" (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

FireMaster FastWrap+ is cut to completely wrap around the perimeter of the duct with enough excess to provide an overlap of not less than 3" (76 mm) (figure 1). The blankets with both edges exposed alternate with blankets with covered edges as shown in figure 1. 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 1 1/2" (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

FireMaster FastWrap+ is installed in a single layer directly to the duct with a tight butt joint construction [figure 1]. The FireMaster FastWrap+ material may be held in place with filament glass tape 1 1/2" (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 FireMaster 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 FireMaster 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 FireMaster 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 will; 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 3/4" (4.7 mm) diameter, 4" (100 mm) long concrete anchors, footed to a minimum 1 1/2" (38 mm) wide x 3/4" (4.7 mm) thick steel strip/strap with pre-drilled holes spaced a maximum 10" (254 mm) on center. The FireMaster FastWrap+ insulation wrap is secured to the duct with banding (see Mechanical Attachment Methods for Insulation Wrap section below or figure 1). 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** - 1/2" (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 10 1/2" (267 mm) spacing centers and 1 1/2" (38 mm) from each blanket edge or 1" (26 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 FireMaster FastWrap+ in place against the duct, but not cause any cutting or damage to the blanket.

2. **Pinning** - Min. 12 gage, 6" long (125 mm) steel insulation pins are welded to the duct at all blanket overlap locations (see fig 1) spaced in rows max. 10 1/2" (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 looked into place with 1 1/2" (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: Support hanger system do not need to be wrapped and can be incorporated into the wrap enclosure.

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. (figure 4 and 5). FireMaster FastWrap+ approved through penetration fire stop systems are listed in Section 4, Specifications.

To fire stop the through penetration void area, cut strips of FireMaster FastWrap+ 4 1/2" (106 mm) wide and as long as the opening and install at a minimum 50% compression. Install the strips so that they are recessed 1/4" (6.35 mm) from the top surface at the wall or floor. Install a minimum 1/4" (6.35 mm) depth of Tremco Fyre-Sil 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 (see figure 3)

Four galvanized steel threaded rods, 1/2" diameter (8.35 mm) by 4 1/2" to 9" long (114 to 725 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 FireMaster FastWrap+ are installed on the door. The first layer is cut and placed on the pins and over the access opening with a 1/2" (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 FireMaster 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 nut. The details are shown in figure 3. 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 FireMaster dealers (figure 3)

7. 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 FireMaster FastWrap+, either 24" (610 mm) or 48" (1220mm) 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 FireMaster FastWrap+ in place without cutting the blanket
- If the blanket has not been damaged & 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 FireMaster 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: Cop 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 1-1/2" square or round galvanized or stainless steel speed clip or a minimum 7/8" 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.

8. Limitations

- FireMaster FastWrap+ shall be installed in accordance with Thermal Ceramics - installation instructions
- Multiple steel ducts in a single FireMaster 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 FireMaster FastWrap+ enclosure
- Minimum 1/8" (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 FireMaster 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. FireMaster and FastWrap are trademarks of and manufactured by Thermal Ceramics Inc. FireMaster Duct Systems are distributed by authorized distributors and no longer by 3M. Trecco and Pyro-Sil are trademarks of Trecco Inc.

ard/File No.
FS 587F,
A 96,
ercial
ducts and
ent, Section
Kitchen

Units	Wt./
tn.	Ctn.
	52 lbs.
	(24 kg)
	103 lbs.
	(47 kg)
	47 lbs.
	(21 kg)

Thermal Ceramics
one firestop;
Through-
Penetration
System
OPL
FS 582F

OPL
FS 583F

ard/File No.
f, VAD541F
PA 96,

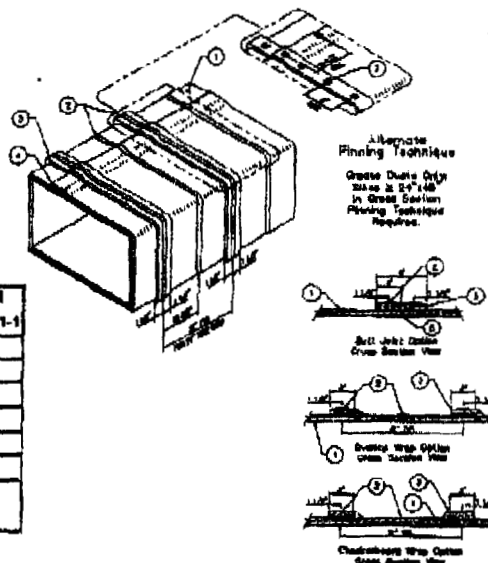
mercial
Ducts and
ent, Section
Kitchen

121.51
1842AD
O-M

Manufacturer's Instru-
ction or origin:

**Thermal Ceramics
FireMaster FastWrap+**

**Commercial Kitchen Grease Duct or Air Ventilation Duct System
1 or 2 Hour Shaft Alternative Zero Clearance to Combustibles**

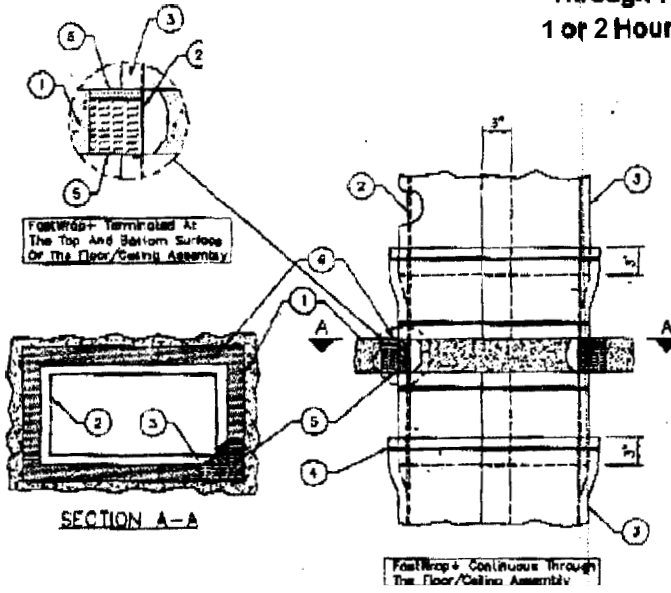


OPL Design No. VAD 541F, GD 544F, GD 546F, GD 548 F Figure 1
Drawings FMPW001-1

1	One layer FireMaster FastWrap+
2	Steel banding 1/2" wide minimum
3	3" minimum longitudinal overlap
4	3" minimum perimeter overlap
5	8" 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 FireMaster Duct Systems is limited to the quality of the installation.

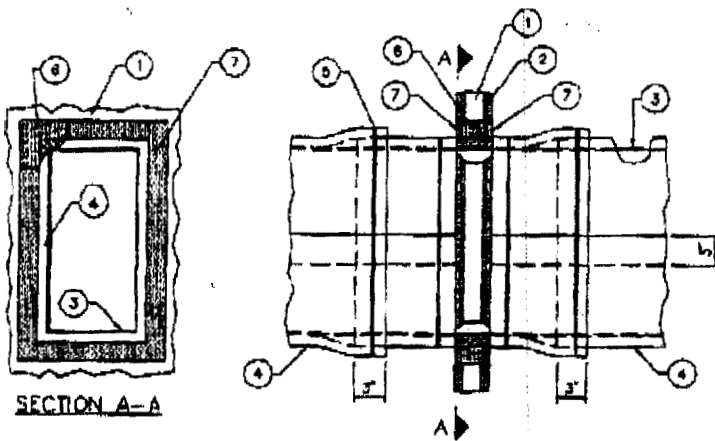
**Thermal Ceramics
FireMaster FastWrap+
Through Penetration System
1 or 2 Hour Grease or Air Duct**



OPL Design Nos. FS 587 F, FS 582 F, FS 583 F		Figure 4
Drawing# FMPW003-2		
1	Floor/ceiling	
2	Duct	
3	One layer FireMaster FastWrap+	
4	Banding or pinning	
5	FireMaster FastWrap+ (packing material)	
6	Approved Through Penetration Firestop System	

Note: The integrity of FireMaster Duct Systems is limited to the quality of the installation.

**Thermal Ceramics
FireMaster FastWrap+
Through Penetration System
Gypsum Wall 1 or 2 Hour Air Ventilation Duct**



OPL Design No. FS 583 F		Figure 5	Drawing # FMPW 005-4
1	Wall		
2	Gypsum wallboard		
3	Duct		
4	One layer FireMaster FastWrap+		
5	Steel banding 1/2" wide minimum or pinning		
6	FireMaster FastWrap+ (packing material)		
7	Approved Through - Penetration Firestop System		

Note: The integrity of FireMaster Duct Systems is limited to the quality of the installation.

Thermal Ceramics Marketing Offices
Thermal Ceramics Americas
(708) 793 4200 F: (708) 798 4398
Thermal Ceramics Asia Pacific
+65 (627) 1826 F: +65 (627) 30165
Thermal Ceramics Europe
+44 (0) 151 534 4030
+44 (0) 101 334 1064

North America Sales Offices
Canada
T: (905) 336 9414 F: (905) 336 6146
United States Southeastern Region
T: (800) 338 9264 F: (703) 706 4324
United States Midwest Region
T: (866) 786 2768 F: (866) 786 2760

United States Eastern Region
T: (866) 786 2763 F: (866) 786 2764
United States Western Region
T: (866) 786 2765 F: (866) 786 2762
Mexico
T: +52 (6) 576 6622
F: +52 (6) 576 1706

South America Sales Offices
Argentina
T: +54 (3) 14373 4438
F: +54 (1) 14372 9301
Brazil
T: +55 (21) 2418 1366
F: +55 (21) 2418 1206

Chile
T: +56 (2) 864 1064 F: +56 (2) 864 1982
Colombia
T: +56 (222) 92935 F: +56 (222) 82803
Guatemala
T: +50 (2) 4738 285 F: +50 (2) 4730 801
Venezuela
T & F: +58 241 968 2182/868 9682