

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0300542

Insp Area: 2

Thos Bros: 337 A3

Site Address: 7600 GREENHAVEN DR SAC

Parcel No: 031-1030-017

SUITE 23

Sub-Type: REM

Housing (Y/N): N

CONTRACTOR

J P CONSTRUCTION CO
2714 STINGLE AVE
ROSEMEAD CA 91770

OWNER

RYAN LAN
5935 13TH ST
SACRAMENTO 95822

ARCHITECT

Nature of Work: REMODEL EXISTING RETAIL TO A RESTAURANT

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class _____ License Number 642751 _____ Date _____ Contractor Signature _____

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

_____, I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

FX I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

_____, I am exempt under Sec. _____ B & PC for this reason: _____

Date 1/30/03 _____ Owner Signature *Ryan Lan*

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 1/30/03 _____ Applicant/Agent Signature *Ryan Lan*

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

FX I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

_____, I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier STATE COMPENSATION INS FUND Policy Number 0796743 Exp Date 03/01/2003

_____, (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 1/30/03 _____ Applicant Signature *Ryan Lan*

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

APPLICATION FOR COMMERCIAL BUILDING PERMIT

CITY OF SACRAMENTO
 DEVELOPMENT SERVICES DIVISION
 PERMIT SERVICES SECTION

231 I Street, Rm. 200
 Sacramento, CA 95814 (916) 264-7619 FAX 264-7046

ACTIVITY #

Insp. Area

0300542

Applicant **MUST** complete ALL Unshaded areas

ADDRESS 7600 Greenhaven Dr. Suite 23

<p style="text-align: center;">CONTACT</p> <p>Name <u>Ryan Lan</u> Street Address <u>5935 13th St.</u> City/State/Zip <u>Sacramento CA 95822</u> Phone <u>(916) 259-0328</u> FAX _____ E-mail: <u>RYAN_LAN@HOTMAIL.COM</u></p>	<p style="text-align: center;">LICENSED CONTRACTOR Lic No. # <u>642751</u></p> <p>Name <u>Jacob Poon</u> Address <u>2714 Stingle Ave</u> City/State/Zip <u>Rosemead, CA 91770</u> Phone <u>(626) 572-9181</u> FAX <u>(626) 572-9921</u> E-mail: _____</p>
<p style="text-align: center;">ARCHITECT/ENGINEER</p> <p>Name <u>Jimmy Zhang</u> Address <u>119 South Atlantic Blvd. Suite 228</u> City/State/Zip <u>Monterey Park CA 91754</u> Phone <u>(626) 570-9978</u> FAX <u>(626) 289-7923</u> E-mail: _____</p>	<p style="text-align: center;">OWNER</p> <p>Name <u>Ryan Lan</u> Address <u>5935 13th St.</u> City/State/Zip <u>Sacramento, CA 95822</u> Phone <u>(916) 259-0328</u> FAX _____ E-mail: <u>RYAN_LAN@HOTMAIL.COM</u></p>

Will permittee have any employees on the jobsite? No Yes → INSURANCE CO: _____
 WORKER'S COMPENSATION POLICY # _____ EXPIRATION DATE: _____

NATURE OF WORK IN DETAIL: Sell tapioca-based drinks with foods such as deep-fried chicken nuggets of various spice levels

Remodel Restaurant

OCCUPANT/TENANT: Tapioca Express VALUATION: \$ 81,260

FLOOD STATUS:		S.C.A.T.									
JOB DESCRIPTION	BLDG	SHELL	APT	TI ()	REM (✓)	SW	FIRE	ADD	OTH		
INSPECTION DISCIPLINES	BLDG	MECH	PLUMB	ELEC	SITE	FIRE					
# Stories	1st flr Area	Total Area	Use Zone	Occp Group	Const type	Fire Req. Y N	Fed Code	Vio. File [H] [Quad]			
<u>13</u>	<u>17</u>	<u>13,000</u>	<u>13,000</u>	<u>M</u>	<u>U.D.</u>	<u>Y</u>	<u>18</u>	<u>D</u>	<u>PW</u>	<u>UTIL</u>	
						SPR	ALARM				

COMMENTS: _____

REGIONAL SANITATION FEES? Yes No HEALTH DEPARTMENT? Yes No
 WATER FLOW TEST FOR NEW BUILDINGS OR ADDITIONS? Provided Faxed

CITY OF SACRAMENTO

CERTIFICATE OF OCCUPANCY

For Information Contact (916) 264-5716

Building Address: 7600 GREENHAVEN DR #23 Permit No.: 0300542
Building Use: RESTAURANT DBA: TAPIOCA EXPRESS Occupancy: M
Building Owner: RYAN LAN Construction Type: V
Owner Address: SACRAMENTO, CA Sprinkled? Yes No
Portion of Building Occupied: SUITE 23 Area: 854 Sq. Ft.
4/2/03
Date By: (Print) [Signature] Sign **DENNIS RICHARDSON**
CHIEF BUILDING OFFICIAL

[Finaled By: MW, MJB, BCK, CP]

This Certificate, issued pursuant to the requirements of Section 109 of the Uniform Building Code, certifies that at time of issuance the described portion of the building has been inspected for compliance with the Uniform Building Code, as adopted per Title 15 of the Sacramento City Code for the group and division of occupancy and use for which the proposed occupancy is classified. Issuance of this certificate shall not be construed as an approval of a violation of any Codes, or Federal, State and City Laws or Ordinances. Certificates presuming to give authority to such violation shall not be valid. This certificate shall be posted in a conspicuous place on the premises and shall not be removed except by the Chief Building Official. No changes shall be made in the character of occupancy or use without approval of the Chief Building Official.

POST IN A CONSPICUOUS PLACE

COUNTY OF SACRAMENTO
 ENVIRONMENTAL MANAGEMENT DEPARTMENT
 ENVIRONMENTAL HEALTH
 8475 JACKSON RD, STE 240, SACRAMENTO, CA 95826-3904 - (916) 875-8440

APPLICATION FOR PERMIT TO OPERATE

SELL FUEL FROM AN UNDERGROUND TANK? YES NO IF YES, COMPLETE HAZ MAT APPLICATION.

OFFICIAL USE ONLY

FACILITY ID# _____

CT# _____

BILL BY ASU

EMD RECEIPT # _____

TOTAL FEE _____

DATE PAID _____

SOFT SERVE _____

FACILITY

Business Name (DBA) Indica Express

Site/Commissionary Address 2400 Sacramento St

Mobile Unit Commissionary Name (if applicable) Indica Express

Mailing Address 2400 Sacramento St

DOES THIS FACILITY HAVE A SEMI-FROZEN (SOFT SERVE) PROCESSING MACHINE? YES NO If yes, complete Soft Serve Application.

BILL

Billing Name Ryan Lee

Billing Address 2400 Sacramento St

NAME OF FESTIVAL/EVENT, LOCATION, AND DATES: _____

OWNER

Owner Name Ryan Lee

Address (home or office) 2400 Sacramento St

Soc. Sec. No./Fed. Tax I.D.# 509-1-1116

City Sacramento State CA Zip 95822

CDL# 05331421

TYPE OF PERMIT	FEE	PE	TYPE OF PERMIT	FEE	PE
RESTAURANT	\$379.00	1622	SWAP MEET PRE-PKG FOOD STAND	\$165.00 ea.	1648
RESTAURANT W/BAR	255.00	1620	COMMISSARY	285.00	1680
BAR	551.00	1621	COMMUNITY EVENT (COORDINATOR)	N/A	1670
RESTAURANT W/O HOOD <2000 SQ. FT.	335.00	1623	5 OR LESS TFF (ALL NONPROFIT)	167.00	1668
FOOD PREP ESTAB W/O HOOD <2000 SQ. FT.	195.00	1625	5 OR LESS TFF	327.00	1669
SCHOOL/NONPROFIT SR. MEAL PROGRAM	375.00	1651	6 OR MORE TFF	34.00 ea.	1671
BAKERY	225.00	1652	TFF (PRE PKG/LOW RISK)	70.00 ea.	1672
BAKERY - NO PREPARATION*	188.00	1607	TFF (PRE PKG/HIGH RISK)	188.00 ea.	1662
PRODUCE STAND	195.00	1693	MULTI-EVENT VENDOR	375.00 ea.	1663
SATELLITE FOOD DISTRIBUTION FACILITY	240.00	1681	TFF (PRE PKG/LOW RISK)	150.00	3612
RESTRICTED FOOD SERVICE ESTABLISH.	330.00	1619	TFF (FOOD PREP/HIGH RISK)	285.00	3611
CERTIFIED FARMERS' MARKET	496.00	1614	SWIM POOL	150.00	3615
RETAIL MARKET (OVER 15,000 SQ. FT.)	375.00	1613	SPA POOL	150.00	3617
RETAIL MARKET (6,000 - 14,999 SQ. FT.)	255.00	1612	MISCELLANEOUS		
RETAIL MARKET (LESS THAN 6,000 SQ. FT.)	150.00 ea.	1631			
MOBILE FOOD FACILITY CATEGORY A	188.00 ea.	1632			
MOBILE FOOD FACILITY CATEGORY B	225.00 ea.	1633			
MOBILE FOOD FACILITY CATEGORY C	225.00 ea.	1635			

I hereby certify that I am the owner, or authorized representative of the owner, and this business will comply with all State and local laws now in force or which may hereafter be enacted pertaining to this business.

Signed _____ Title/Position _____ Date 3/25/03

*Multiple Food or Swim/Spa Facility: 100% of highest prescribed fee, plus 70% of each remaining fee. Additions to a facility between annual billings will be prorated on a monthly basis. Temporary Food Facility, Swap Meet Prepackaged Food Stand, Satellite Distribution Facility, Mobile Food Facility, Mobile Food Prep Unit are not included as multiples and shall pay the Standard fees.

*Bakery wherein no products are prepared or processed from the beginning state.

OFFICIAL USE ONLY

NEW FACILITY CHANGE OF OWNERSHIP (previous owner's name)

PREVIOUS NAME OF FACILITY/BUSINESS _____

ANNIVERSARY DATE _____

RESTRICTIONS _____

COMMENTS _____

VEHICLE LIC. # _____

PROGRAM RECORD # _____

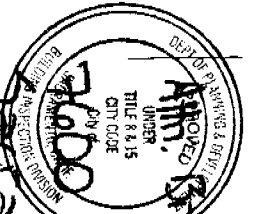
APPROVED DISAPPROVED

BY _____ DATE _____

W:\DATA\FORMS\ARCHIVE\HDP\APPLICATION FOR PERMIT TO OPERATE 006.DOC WHITE - FILE YELLOW - ASU PINK - OWNER

6/6/02 CP 006

2-27-03
 The approval of all
 Plumbing and Mechanical work
 is subject to field inspection
Field approval



HOOD, DUCT & SHAFT CONSTRUCTION DETAILS

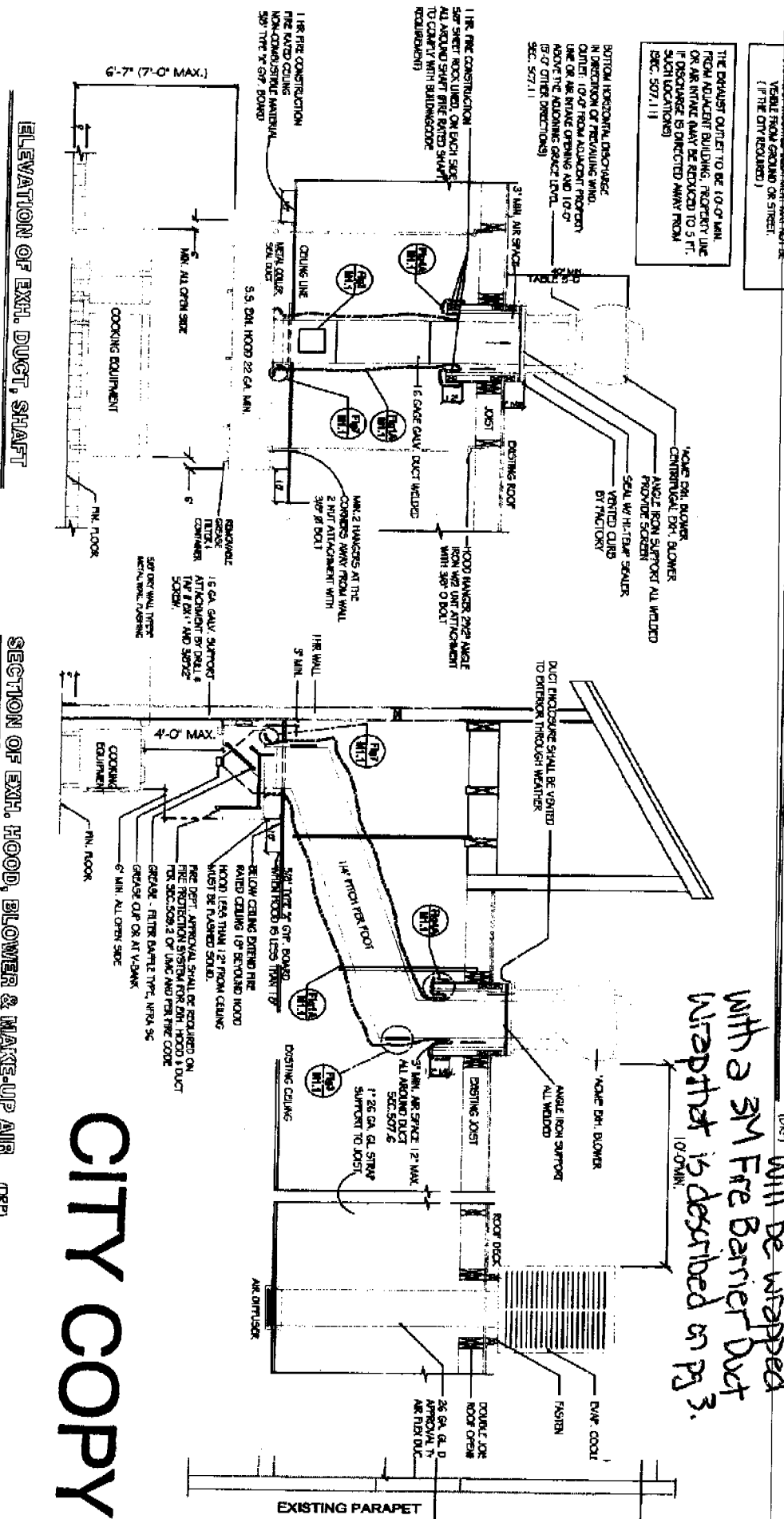
Parcel # 031-1030-07

Permit # 0300542

See amendment of City Ordinance or State Law

This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.

This is a resubmission for a tenant improvement for Tapas Express. The previous hood design was not able to penetrate the roof. It has been changed to angle to prevent penetration point and will be wrapped with a 3M Fire Barrier Duct wrap that is described on pg. 3.



CITY COPY

PRODUCT DESCRIPTION

1. Product Description

3M™ Fire Barrier Duct Wrap 15A is a fire resistant wrap consisting of a patented inorganic blanket encapsulated with a scrim-reinforced foil. It is used to fire rate commercial kitchen grease ducts and is a proven alternative to 1 or 2 hour fire resistant rated shaft enclosures. This non-asbestos wrap contains a safer fiber construction* and installs easily because of its high flexibility and strength. 3M Fire Barrier Duct Wrap 15A is the thinnest standard, single layer fire resistant wrap that has passed the UL1978 test which simulates a grease duct fire. With its excellent insulating capabilities, it is an ideal choice for tight spaces because it protects combustible constructions at zero clearance to the overlap or collar. 3M Fire Barrier 1000 N/S, 1003 S/L and 2000+ Silicone Sealants used in combination 3M Fire Barrier Duct Wrap 15A provide an effective firestop when the duct penetrates fire rated walls and floors.

Features

- Thinnest, standard one layer wrap for grease ducts rated as a shaft alternative per UL 1978
- Zero clearance to the overlap or collar for congested spaces
- High flexibility for installation ease
- Foil encapsulated with unique center overlap seam for blanket protection, less dust, and high wrap strength
- Safer fiber construction*

*Has been demonstrated to be soluble in the lungs according to EU guidelines 67/548/EWG, Note Q for bio persistence.

2. Applications

3M Fire Barrier Duct Wrap 15A is an ideal fire resistive enclosure for commercial kitchen grease ducts. It is a proven performance alternative to a 1 or 2 hour fire resistant rated shaft enclosures and provides zero clearance to combustible construction at overlap or collar. 3M Fire Barrier 1000 N/S, 1003 S/L or 2000+ Silicone Sealant is used in combination with 3M Fire Barrier Duct Wrap 15A to firestop the duct when the duct penetrates fire rated floors and walls.

3. Availability

Product	Unit	Size	Units/Min.	Wt./ctn.
3M Fire Barrier Duct Wrap 15A	Roll	1.5 in. x 24 in. x 20 ft. (38mm x 60.9cm x 609 cm)	1	53 lbs. 24 kg
3M Fire Barrier Duct Wrap 15A	Roll	1.5 in. x 48 in. x 20 ft. (38mm x 121 cm x 609 cm)	1	106 lbs. 48 kg

4. Typical Physical Properties

Blanket Color: gray/green
Weight: 1.38 lbs./sq. ft. (6.73 kg/sq. m)

5. Performance

3M Fire Barrier Duct Wrap 15A has been tested in accordance with the following:

- ASTM C 411
- ASTM C 51
- ASTM E 84
- ASTM E 119
- ASTM E 136
- ASTM E 814
- UL 1978 (Sections 12 & 13)

Surface Burning Characteristics (ASTM E 84) Foil Encapsulated Blanket:

Flame Spread: 0
Smoke Developed: 0

Blanket:

Flame Spread: 0
Smoke Developed: 0

Thermal Conductivity

Temperature °F (°C)	btu-in./hr.-ft. ² -F
500 (260)	0.417
1000 (537)	0.922
1500 (815)	1.89
1800 (982)	2.27

For technical data and properties of 3M Fire Barrier 1000 N/S, 1003 S/L and 2000+ Silicone Sealants see separate product data sheets available from your 3M representative

Grease Duct Listings

Fire Resistive Rating	Enclosure System	Omega Point Lab. Design Nos.	
		Duct System	Through-Penetration System
1 or 2 hours	1 layer of 3M Fire Barrier Duct Wrap 15A, 3 in. (76 mm) perimeter and longitudinal overlaps	6D 532 F	FS 557 W FS 658 F FS 559 W FS 560 F FS 561 F FS 562 W FS 563 W

Code Compliance

3M Fire Barrier Duct Wrap 15A complies with requirements of the following codes:

- NFPA 96, 1998 Edition
- Standard Mechanical Code
- International Mechanical Code
- Standard Building Code
- SBCCI Compliance Report 2132

This is only a partial list of code compliance. For the latest code and approval information go to www.3m.com/firestop or speak to your authorized 3M distributor or sales representative at (800) 328-1687.

6. Installation Techniques

3M Fire Barrier Duct Wrap 15A system should be installed in accordance with the following installation instructions.

Material and Equipment

- 3M Fire Barrier Duct Wrap (38 mm) thick, 24 in. (609 cm) standard, 20 ft. (609 cm) wide blanket
- Aluminum foil tape.
- Minimum 3/4 in. (19 mm) Carbon steel or stainless steel minimum 1/2 in. (12.7 mm) thick, with steel
- Hand banding tensioner, cutter.
- Minimum 12 gauge copper pins; galvanized steel spacers 1-1/2 in. (38 mm) square round, or equivalent size capacitor discharge stud
- Access door hardware: fire rated rods, 1/4 in. (6 mm) diameter long (114 mm to 127 mm) nuts and 1/4 in. (6 mm) long steel hollow tubing
- Minimum 4.0 lb. (1.8 kg) scrap pieces of 3M Fire Barrier blanket
- 3M Fire Barrier 1000 N/S Silicone Sealant.

Storage

The 3M Fire Barrier Duct Wrap 15A must be stored in a dry environment. Pallets should be stored in a dry, frost-free environment.

Preparatory Work:

3M Fire Barrier Duct Wrap 15A installed with common tools and capacitor discharge pins. In order to install the wrap, the surfaces of all the openings need to be clean, dry, frost-free.

Method: To minimize waste, 3M Fire Barrier Duct Wrap 15A material should be measured and cut before measuring. General instructions for 3M Fire Barrier Duct Wrap 15A construction applied directly to the duct. 3M Fire Barrier Duct Wrap 15A blanket perimeter of the duct and is itself not less than 3 in. (76 mm) by adjacent blankets forms a tight seal. Aluminum foil tape is used to seal any tears in the blanket.

There are three (3) approved techniques for installing 3M Fire Barrier Duct Wrap 15A (See Figures 1A, 1B, and 1C).

1 in

Material and Equipment

- 3M Fire Barrier Duct Wrap 15A blanket, 1-1/2 in. (38 mm) thick, 24 in. (60 cm) or 48 in. (121 cm) wide, 20 ft. (609 cm) standard length. The 48 in. (121 cm) wide blanket helps to minimize waste.
- Aluminum foil tape.
- Minimum 3/4 in. (19 mm) wide filament tape.
- Carbon steel or stainless steel banding material, minimum 1/2 in. (12,7 mm) wide, minimum 0.015 in. (0,38 mm) thick, with steel banding clips.
- Hand banding tensioner, crimping tool, and banding cutter.
- Minimum 12 gauge copper-coated steel insulation pins; galvanized steel speed clips, minimum 1-1/2 in. (38 mm) square or 1-1/2 in. (38 mm) dia. round, or equivalent sized insulated cup-head pins; capacitor discharge stud gun.
- Access door hardware: four galvanized steel thread rods, 1/4 in. (6 mm) diameter by 4-1/2 in. to 5 in. long (114 mm to 127 mm) with 1/4 in. (6 mm) wing nuts and 1/4 in. (6 mm) washers; 4 in. (102 mm) long steel hollow tubing to fit threaded rods.
- Minimum 4.0 lb. (1,8 kg) density mineral wool or scrap pieces of 3M Fire Barrier Duct Wrap 15A blanket
- 3M Fire Barrier 1000 N/S, 1003 S/L or 2000+ Silicone Sealant.

Storage

The 3M Fire Barrier Duct Wrap 15A and 3M Fire Barrier 1000 N/S, 1003 S/L and 2000+ Silicone Sealants must be stored in a dry warehouse environment. Pallets should not be stacked.

Preparatory Work: 3M Fire Barrier Duct Wrap 15A is installed with common tools, such as knives, banders and capacitor discharge guns for applying insulation pins. In order to install the duct firestop system, the surfaces of all the openings and penetrating items need to be clean, dry, frost free and free of dust.

Method: To minimize waste, 3M Fire Barrier Duct Wrap 15A material should be rolled out tautly before measuring. General instructions for installing the 3M Fire Barrier Duct Wrap 15A include a one-layer wrap construction applied directly to the duct. The 3M Fire Barrier Duct Wrap 15A blanket is wrapped around the perimeter of the duct and is cut to a length to overlap itself not less than 3 in. (76 mm). The overlap made by adjacent blankets forms the "longitudinal" overlap. Aluminum foil tape is used to seal all cut edges of the blanket and any tears in the foil scrim.

There are three (3) approved installation techniques for installing the 3M Fire Barrier Duct Wrap 15A (See Figures 1A-1D and Figures 2A-2D):

1. Telescoping 3 in. (76 mm) Overlap Wrap

With the telescoping overlap wrap method, 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 1A and 1B. The visible edges of the perimeter overlaps all point in the same direction.

2. Checkerboard 3 in. (76 mm) Overlap Wrap

With the 3 in. (76 mm) checkerboard overlap wrap method, blankets with both edges exposed alternate with blankets with covered edges, as shown in Figure 1C. The visible edges of the perimeter overlaps alternate their directions and appear on every other blanket.

3. Butt Joint With Collar

With the butt joint and collar method, adjacent blankets are butted tightly together and 6 in. (152 mm) wide collar of 3M Fire Barrier Duct Wrap is centered over the joint, overlapping each blanket by 3 in. (76 mm) minimum as shown in Figure 1D.

In all three overlap techniques the perimeter overlap can occur at any location on the duct.

The blanket is mechanically attached to the duct by steel banding or by welded insulation pins and clips for all three installation methods listed above.

For Banding Only (See Figures 1A to 1D)

Filament tape can be used to temporarily hold the blanket in place until the banding is applied. The steel banding is applied around the duct 1-1/2 in. (38 mm) from each edge of the blanket, and maximum 10-1/2 in. (26,7 cm) centers. The banding is placed around the material and lightened so as to sufficiently hold the 3M Fire Barrier Duct Wrap 15A in place against the duct, compressing the foil but not cutting the foil.

Additional Pinning to Prevent Sagging of the Wrap:

For Ducts 24 in. (60 cm) and larger in width, additional pins are needed to support the blanket on the bottom horizontal surface and on the outside face of a vertical duct run. Space pins a maximum of 10-1/2 in. (26,7 cm) apart in the direction of the blanket width, and a maximum of 12 in. (30 cm) apart in the direction of the blanket length. Refer to paragraph below for more information on Mechanical Fastening with Pins.

For Mechanical Fastening with Pins Only (See Figure 2A to 2D)

Insulation pins are welded to the duct in the centers of the overlaps a minimum of 1-1/2 in. (38 mm) from each edge of the blanket, and spaced a maximum of 10-1/2 in. (26,7 cm) on center along perimeter overlap, and a maximum of 10-1/2 in. (26,7 mm) on center along longitudinal overlaps. The blanket is

impaled speed of blanket points. In same sp

NOTE: 3 wrapped minimum maximum length of 1/4 in. (5 support system.

Access

Four gal (6,35 mm 127 mm) door ope long, are the 3M F the door. panel for Fire Barr same siz insulator layer fit t access a second li so as to (25,4 mm and both speed cli of 3M Fir down to :

The insul rods and The deta

Penetrat When the floor, an : Figures 4

FIGURE 4A

FIG

impaled over the pins and held in place by galvanized speed clips. Insulation pins that extend beyond the blanket wrap shall be turned down to eliminate sharp points. Insulated cup-head pins can be used at the same spacing requirements of the insulation pins.

NOTE: Support hanger systems do not need to be wrapped provided the hanger rods are at least a minimum of 3/8 in. (9,53 mm) diameter and spaced a maximum of 60 in. (152 cm) on center along the length of the duct. Use a minimum 2 in. x 2 in. x 1/4 in. (50 mm x 50 mm x 6,35 mm) steel angle steel support channel or SMACNA equivalent support system.

Access Door Installation (See Figure 3)

Four galvanized steel threaded rods, 1/4 in. diameter (6,35 mm) by 4-1/2 in. to 5 in. long (114 mm to 127 mm) are welded to the duct at the corners of the door opening. Four steel tubes, each 3 in. (76 mm) long, are placed over the rods to act as protection for the 3M Fire Barrier Duct Wrap 15A when fastening the door. Four insulation pins are welded to the door panel for installation of the blanket. One layer of 3M Fire Barrier Duct Wrap 15A is cut approximately the same size as the access panel and impaled over the insulation pins on the panel. *It is essential that this layer fit tightly against the wrap surrounding the access door opening with no through openings.* A second layer of 3M Fire Barrier Duct Wrap 15A is cut so as to overlap the first layer by a minimum of 1 in. (25,4 mm). The second layer is impaled over the pins and both layers are locked in place with galvanized speed clips. Pins that extend beyond the outer layer of 3M Fire Barrier Duct Wrap 15A shall be turned down to avoid sharp points on the door.

The insulated door panel is placed over the threaded rods and held in place with washers and wing nuts. The details are shown in Figure 3.

Penetrations (See Figures 4A to 4D)

When the duct penetrates a fire rated wall, ceiling or floor, an approved firestop system must be employed. Figures 4A to 4D illustrate typical conditions.

To firestop the wrapped duct, follow the installation parameters detailed in the following Omega Point Laboratories, Inc. systems:
FS 557 W, FS 558 F, FS 559 W, FS 560 F, FS 561 F, FS 562 W, FS 563 W.

Other Applications

Refer to Figures 5, 6, 7, 8 and 9 for additional typical conditions.

7. Maintenance

No maintenance is required when installed in accordance with the 3M Installation Instructions. Once installed, if any section of the 3M Fire Barrier Duct Wrap 15A is damaged so that the blanket is damaged, the following procedures will apply:

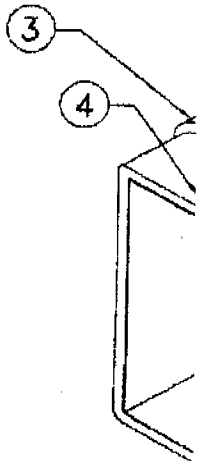
- The damaged section should be removed by cutting the steel banding or removing the clips holding it in place.
- A new section of the same dimension should be cut from a roll of 3M Fire Barrier Duct Wrap 15A, either 24 in. (60,9 cm) or 48 in. (121 cm) wide.
- The new section should be placed and fitted ensuring the same overlap that existed previously.
- The steel banding should be placed around the material and tensioned so as to sufficiently hold the 3M Fire Barrier Duct Wrap 15A in place.
- If the blanket has not been damaged but the foil has ripped, seal the rips with aluminum foil tape.

8. Purchase Information

3M Fire Barrier products are available through a network of nationwide distributors. For information on where to buy, go to www.3m.com/firestop.

9. Safe Handling Information

Consult Material Safety Data Sheet prior to handling and disposing of 3M Fire Barrier Duct Wrap 15A.



1.	One Layer 3M
2.	Steel Banding
3.	3 in. (76 mm) I
4.	3 in. (76 mm) I

System integrity is limited.

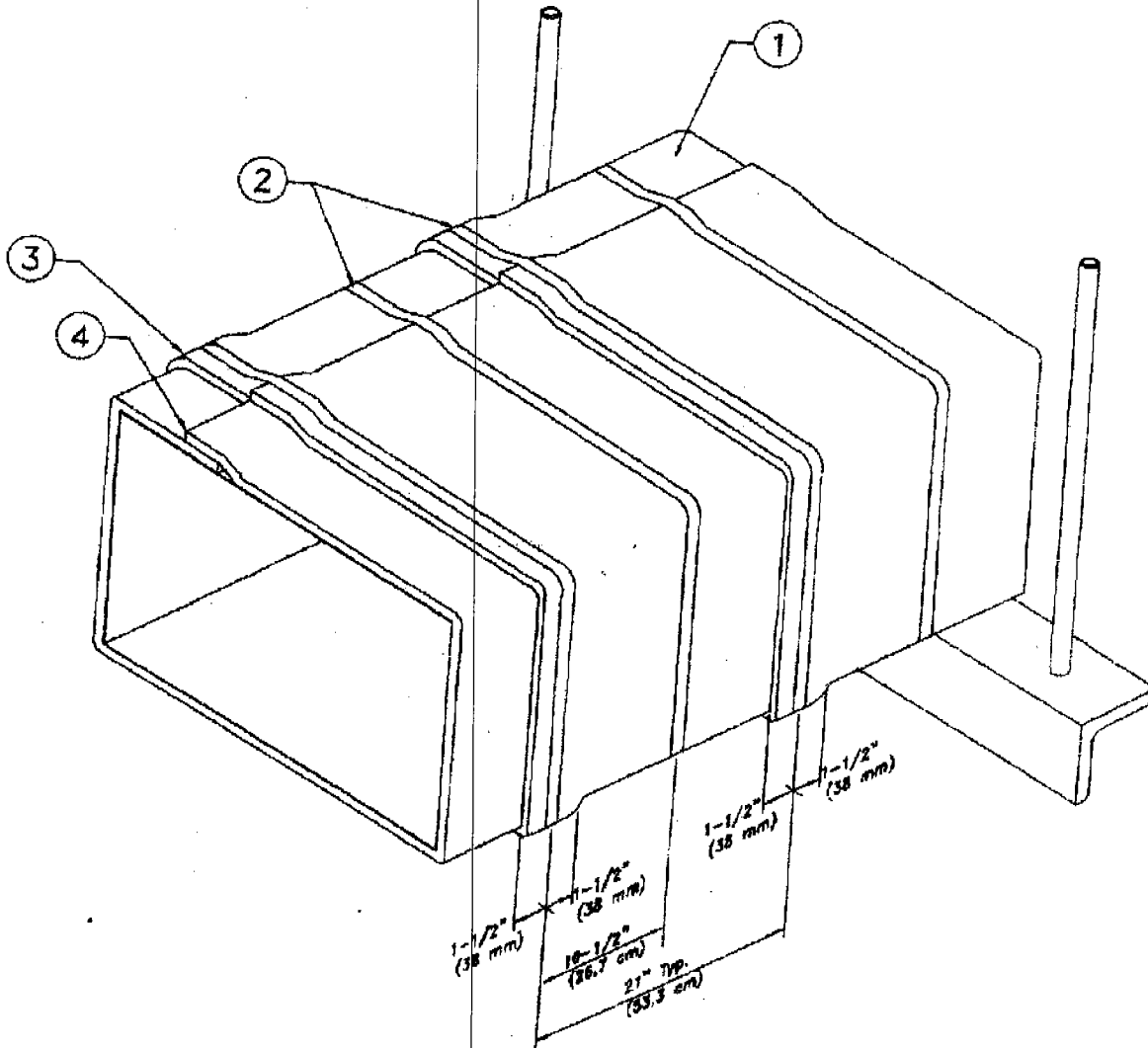
FIGURE 4B

FIGURE 1

FIGURE 1A

FIGURE

Figure 1A
3M Fire Barrier Duct Wrap 15A
Commercial Kitchen Grease Duct Systems
1 or 2 Hour Shaft Alternative Zero Clearance to Combustibles
Telescoping Wrap Technique With Banding For Ducts 24 Inches (60,9 cm) or Less



3" (76 mm)
 1-1/2" (38 mm)

3" (76 mm)
 1-1/2" (38 mm)

1-1

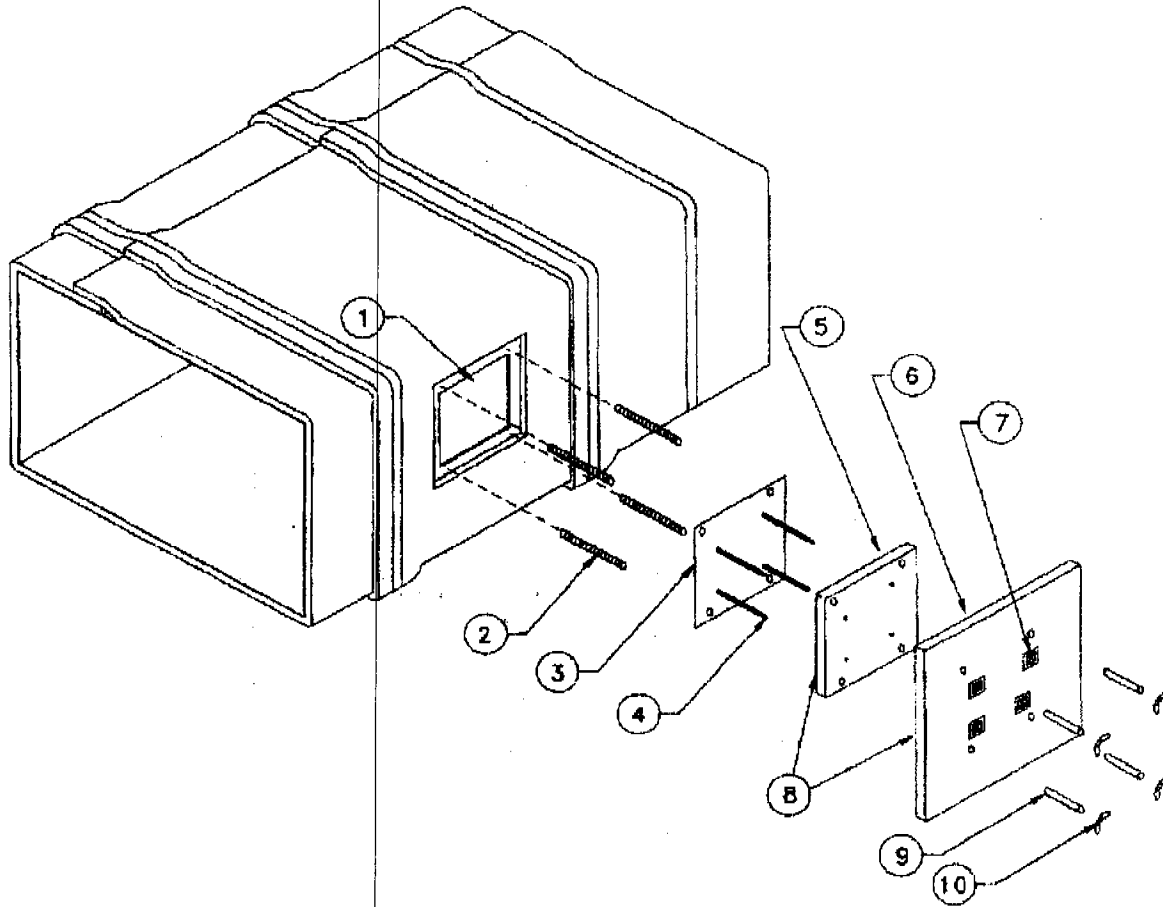
1. One Layer 3M Fire Barrier Duct Wrap 15A
 2. Steel Banding 1/2 in. (13 mm) Wide Min. Typical
 3. 3 in. (76 mm) Min. Longitudinal Overlap
 4. 3 in. (76 mm) Min. Perimeter Overlap
- System integrity is limited by quality of installation.

1. One Layer 3M Fire Barrier Duct Wrap 15A
 2. Steel Banding 1/2 in. (13 mm) Wide Min. Typical
 3. 3 in. (76 mm) Min. Longitudinal Overlap
 4. 3 in. (76 mm) Min. Perimeter Overlap
 5. 6 in. (152 mm) Wide Collar
Alternate Collar: Prefabricated
 6. Firmly Butted Joint
- System integrity is limited by quality of installation.

FIGURE 3

FIGURE 3

Figure 3
3M Fire Barrier Duct Wrap 15A
Commercial Kitchen Grease Duct Systems
1 or 2 Hour Access Door System



3D
 1
 3C
 3B

1.	Access Hole
2.	1/4 in. (6 mm) Dia. All Threaded Rods
3.	Access Cover - 18 Gauge
4.	Insulation Pins - Welded
5.	First Layer 3M Fire Barrier Duct Wrap 15A Cut Same Size As Cover
6.	Second Layer 3M Fire Barrier Duct Wrap 15A with 1 in. (25mm) Overlap On All Sides
7.	Speed Clips
8.	Aluminum Tape Covering All Exposed Edges
9.	Spool Pieces For Threaded Rods
10.	1/4 in. (6mm) Diameter Wing Nuts

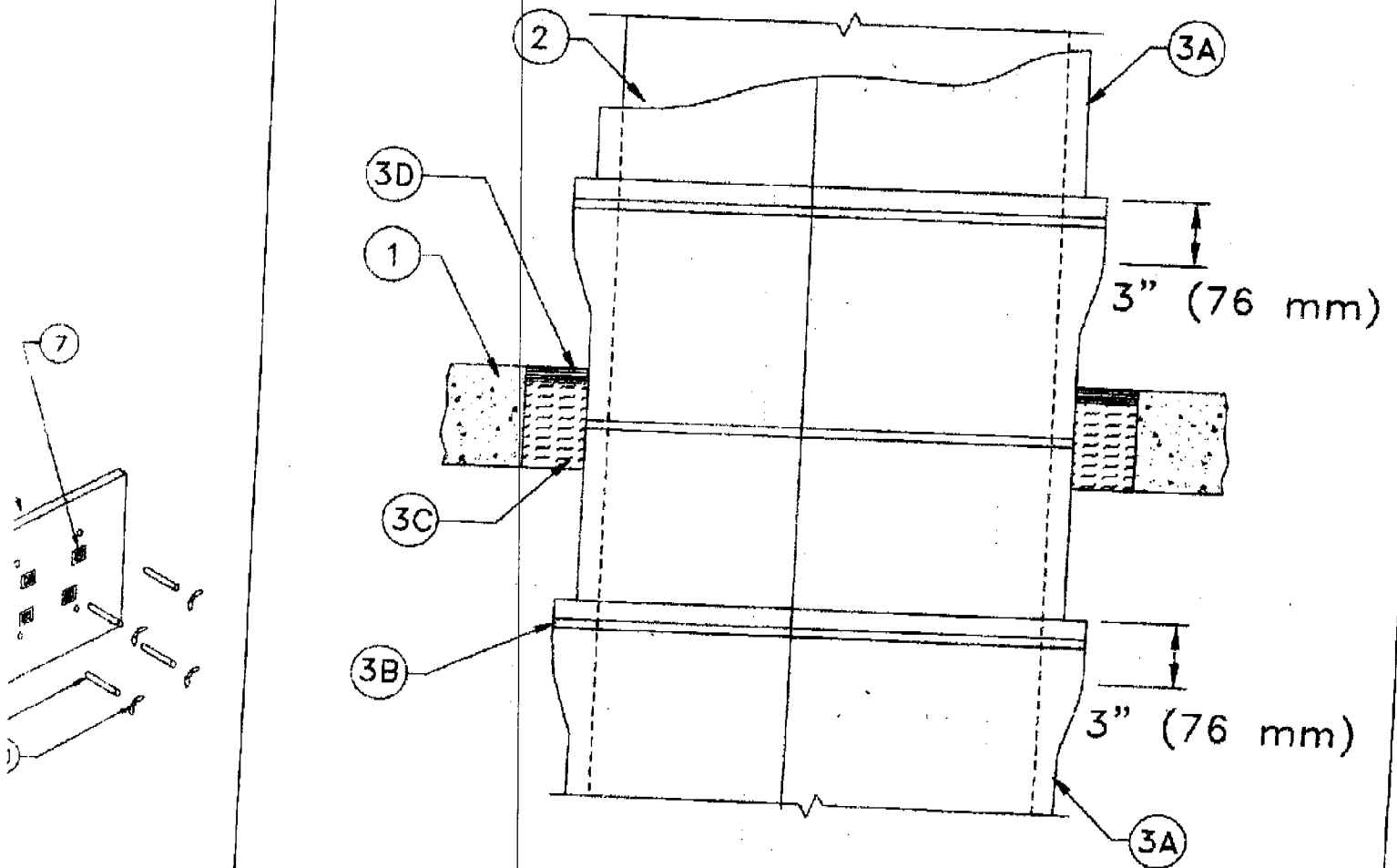
System integrity is limited by quality of installation.

1.	Floor/Ce
2.	Duct
3A.	One Lay
3B.	Banding
3C.	Packing
3D.	3M Fire For Wall

System integrity is

FIGURE 4A

Figure 4A
 3M Fire Barrier Duct Wrap 15A
 Commercial Kitchen Grease Duct Systems
 1 or 2 Hour Through Penetration Systems
 4-1/2 inch (11,4 cm) Concrete Floor or Wall



1.	Floor/Ceiling or Wall Assembly
2.	Duct
3A.	One Layer 3M Fire Barrier Duct Wrap 15A
3B.	Banding or Pinning
3C.	Packing Material
3D.	3M Fire Barrier 1000 N/S, 1003 S/L or 2000+ Silicone Sealant For Wall Assembly Apply Sealant To Both Sides of Wall

System integrity is limited by quality of installation.

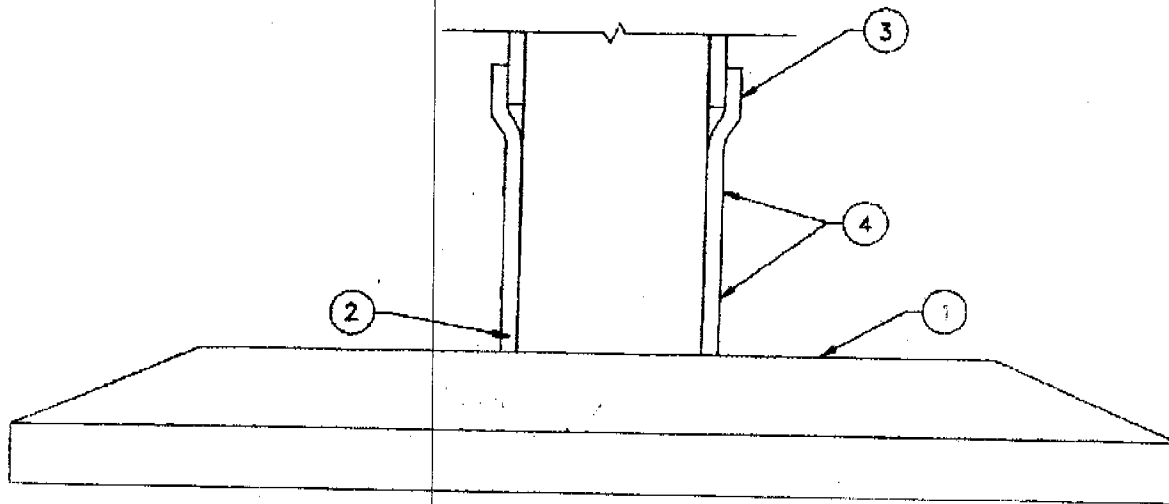
Omega Point Laboratories, Inc.
 Through Penetration Systems

FS 580 F
 FS 562 W

FIGURE 7

FIGURE 8

Figure 7
3M Fire Barrier Duct Wrap 15A
Commercial Kitchen Grease Duct Systems
1 or 2 Hour Shaft Alternative Zero Clearance to Combustibles
Suggested Exhaust Hood



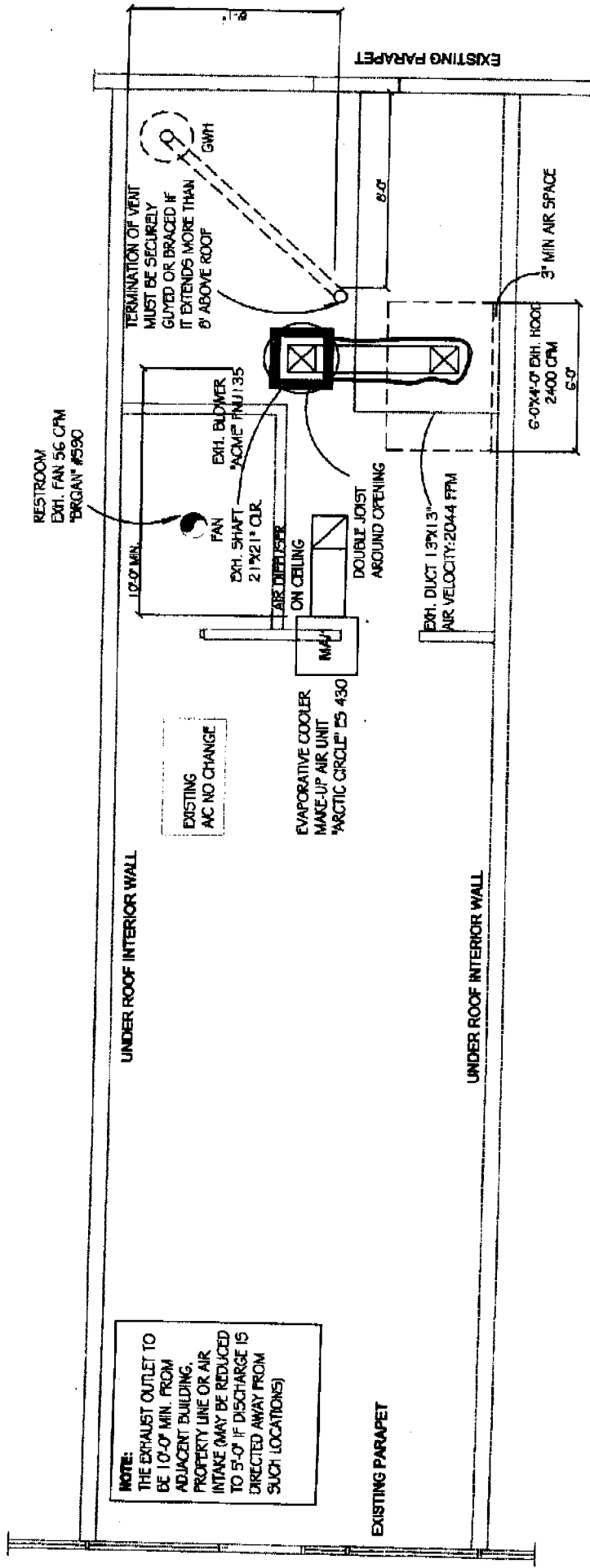
6" (152 mm) Min.

1.	Hood
2.	One Layer 3M Fire Barrier Duct Wrap 15A
3.	6 in. (152 mm) Minimum Overlap
4.	Banding

System integrity is limited by quality of installation.

1.	Duct
2.	Roof Assembly
3.	Roof Flashing
4.	Vent Flashing
5.	One Layer 3M F
6.	Firestopping Sy.

System integrity is limited by quality of installation.



NOTE:
THE EXHAUST OUTLET TO
BE 10'-0" MIN. FROM
ADJACENT BUILDING,
PROPERTY LINE OR AIR
INTAKE (MAY BE REDUCED
TO 5'-0" IF DISCHARGE IS
DIRECTED AWAY FROM
SUCH LOCATIONS)

ROOF PLAN

SCALE: 1/4" = 1'-0"

