

Super Firetemp™
Grease Duct Enclosure

Introduction

Super Firetemp is a noncombustible fireproofing board made from a unique, structural-grade calcium silicate. Super Firetemp board has a very low water content that makes the product very stable up to 2000°F (1093°C). It resists both shrinking and cracking, two major causes of failure in fireproofing products. Super Firetemp board is inorganic and is not affected by exposure to sunlight and does not lose its fire resistance properties from aging.

The main purpose of the Johns Manville Grease Duct Enclosure System is to prevent a fire that starts within the duct from spreading to other parts of the building. The effectiveness has been proven many times in numerous fire tests at independent testing laboratories such as Underwriters Laboratories, VTEC Laboratory, Southwest Research Institute and Omega Point Laboratories.

Advantages

Zero Clearance to Combustibles. Super Firetemp board can be in direct contact with combustibles.

Durable. Super Firetemp board is a hard, solid and abrasive-resistant material with excellent physical properties. The material will neither chip nor flake.

Clean. Because Super Firetemp board is nailed or screwed into place and not blown on, there are no requirements for protective curtains.

Easy to Install. Super Firetemp board is easily handled and requires no special tools. The product will cut with a circular or saber saw. It can be installed easily in the field using drywall screws and a power screwdriver, nails, and a hammer or power nailer.

Attractive. The product's sanded surface readily accepts paints, wallcoverings and cured veneers.

System Testing and Approvals

When installed according to the directions stated herein, the enclosure meets the following requirements:

Agency	Listing
UL Inc.	UL Classification YYET
CABO	Report NER 332
UL Canada	ULC Category 440 E9
NFPA 96	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operation
SBCCI	Standard Mechanical Code
BOCA	National Mechanical Code
ICBO	Uniform Mechanical Code

Guide Specification and Installation Instructions

Part 1 – General

1.01 Description of System

- A. This fireproofing system shall be a complete system of fireproofing materials supplied as specified by Johns Manville.

- B. This system is designed for application on grease ducts as shown on the drawings.

1.02 Quality Assurance

- A. Supplier Qualifications: The Super Firetemp system as supplied by Johns Manville is approved for use on this project.
- B. Applicator Qualifications: Applicators bidding on this work represent that they are fully apprised of Super Firetemp products and application procedures.

1.03 Submittals

- A. Product Data: Submit copies of Super Firetemp data and these application instructions and drawings.
- B. Samples: Submit samples of Super Firetemp board, Super Calstik and other materials as requested.

1.04 Product Delivery, Storage and Handling

- A. Materials shall be delivered in packaged lots, clearly marked with Johns Manville's name, brand and type of material with UL or other labels as required.
- B. Materials shall be stored in a clean, dry warehouse with careful handling to avoid damage.

1.05 Job Conditions

- A. Environmental Conditions: While a warm environment is desirable, Super Firetemp board may be applied in subfreezing or wet weather, if necessary. The only restriction in subfreezing conditions is to provide enough heat to prevent the Super Calstik from freezing before it cures.
- B. Ventilation: When Johns Manville Super Firetemp is saw-cut in the field, workers must follow personal protection as indicated in the product warning label or Material Safety Data Sheet (MSDS).
- C. Coordination: Fireproofing must be coordinated with other construction to avoid retrofits that would interfere with the integrity of the finished fireproofing job. At the same time, the fireproofing should be applied last to minimize the possibility of incidental damage to the finished system.

1.06 Codes

- A. Install all Super Firetemp board in strict accordance with all published, applicable regulations by local, state or federal agencies that may have jurisdiction.
- B. The Grease Duct Enclosure is listed under UL Classification YYET in the UL Fire Protection Equipment Directory and Category 440 E9 in the ULC List of Equipment and Materials.
- C. The Grease Duct Insulation and Fireproofing System is accepted by ICBO, BOCA and SBCCI as described in National Evaluation Service Report NER-332, which is subject to reexamination, revision and possible cancellation.
- D. For 1-hour rated assemblies, use 2½" (64 mm) thick Super Firetemp L.
For 2-hour rated assemblies, use 3" (76 mm) thick Super Firetemp M.

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Part 2 – Product Information

2.01 Super Firetemp

A. Description: Super Firetemp is press-molded xonotlite calcium silicate board possessing such strength and resiliency that it can be installed without damage.

B. Typical Average Properties:

Super Firetemp	L	M
Density, pcf (kg/m ³)	18 (288)	28 (449)
Flexural Strength, psi (kPa)	260 (1793)	550 (3792)
Compressive Strength @ 10% deformation, psi (kPa)	450 (3103)	900 (6206)

C. Easy Application

C.1 May be field-installed using ordinary tools such as drywall screws and a power screwdriver.

C.2 May be field-cut using a circular saw equipped with a carbide-tipped blade or a reciprocating saw equipped with a metal cutting blade. Precut in a shop for minimum on-site effort. Field cuts with a circular saw should be made by using a straightedge for the saw to follow.

C.3 Miscellaneous materials such as drywall screws and Super Calstik Glue as approved by Johns Manville.

D. Hazardous Warning

D.1 For the latest health and safety information for this product, please refer to the Johns Manville Material Safety Data Sheet (MSDS) No. 2034-1.0, or contact the Johns Manville Product Information Center at 1-800-654-3103.

D.2 Contains no asbestos.

Part 3 – Installation

3.01 Inspection

A. Verify that the ducts to be fireproofed are as represented in the design criteria.

3.02 Job Preparation

A. The metal duct must comply with the code and not exceed cross-sectional dimensions of 48" (1219 mm) by 48" (1219 mm). The enclosure is constructed of minimum 2½" (64 mm) thick Super Firetemp L for a 1-hour enclosure or 3" (76 mm) thick Super Firetemp M for a 2-hour enclosure. The exterior of the enclosure is permitted to be in direct contact with combustibles.

B. The installation of Super Firetemp board must be coordinated with other construction work to avoid retrofits or damage to the enclosure. Plan the work such that the enclosure will not have to be opened or taken apart after it has been installed.

C. The enclosure must be located so that the installer does not have to cut into the Super Firetemp to make room for adjacent equipment, pipe fittings, electrical fittings, etc. Verify there is sufficient room for the access doors to be removed so the duct can be inspected and cleaned.

D. The Super Firetemp enclosure is designed to be free of penetrations from the point of entry until the duct exits the enclosure. If water sprays or fire detectors are to be planned in the duct, run the piping or conduit alongside the duct toward the entrance of the enclosure.

E. Super Firetemp board can be installed in any weather condition. In subfreezing temperatures, provide enough heat to allow the adhesive to set before it freezes. The Super Calstik adhesive must be kept above the freezing point to prevent separation.

F. It is important to have the proper tools. Super Firetemp board can be cut with ordinary handsaws or power tools, however the blades will dull quickly. Use carbide-tipped blades for maximum life.

3.03 Installation

A. Support the duct enclosure using a conventional trapeze arrangement, or simply rest it on the ceiling support structures. The structures must be capable of supporting the weight of the Super Firetemp boards and the weight of the duct assembly. Supports must be no further apart than 4' (1.22 m) o.c. When stiffeners are used on the metal duct, place the supports under the assembly so that the metal stiffener members are within 6" (152 mm) of the supports. A piece of sheet metal the width of the metal duct and wide enough to prevent damage due to expansion of the duct must be placed under each weld flange or reinforcement.

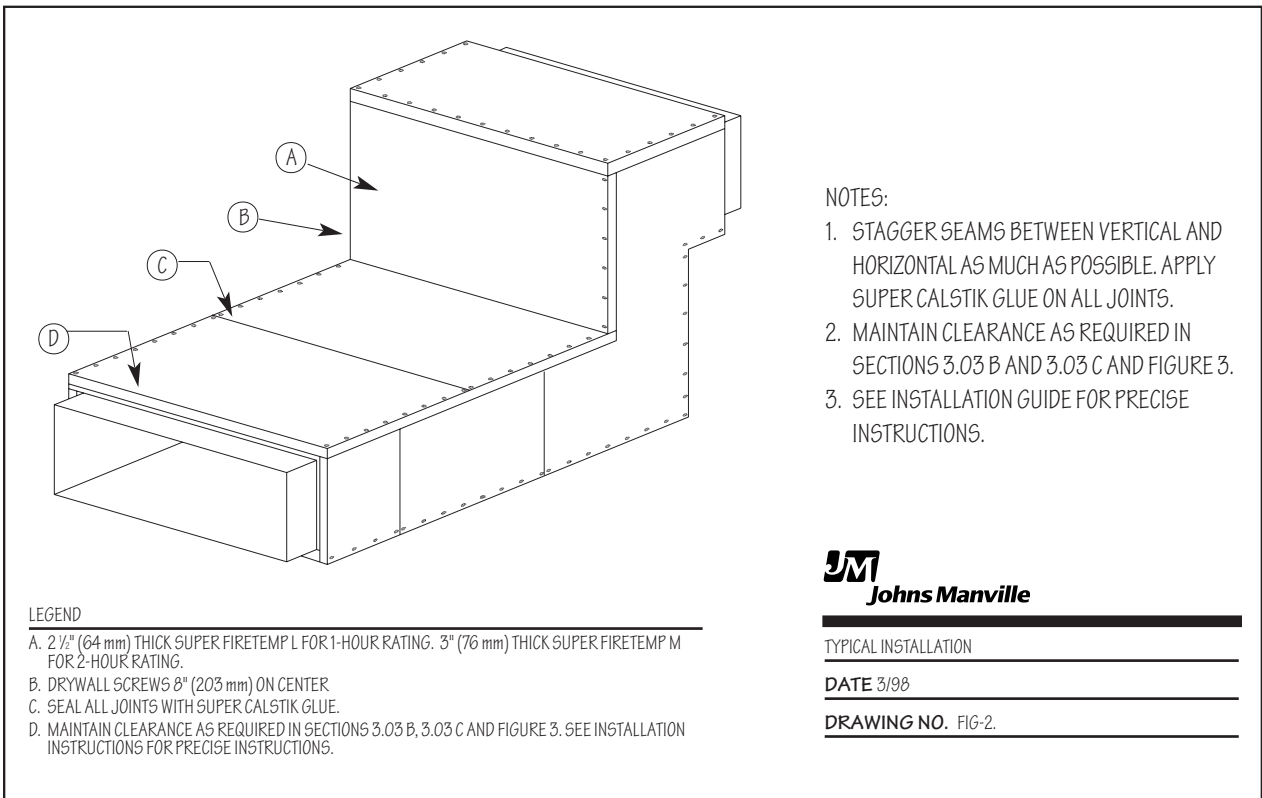
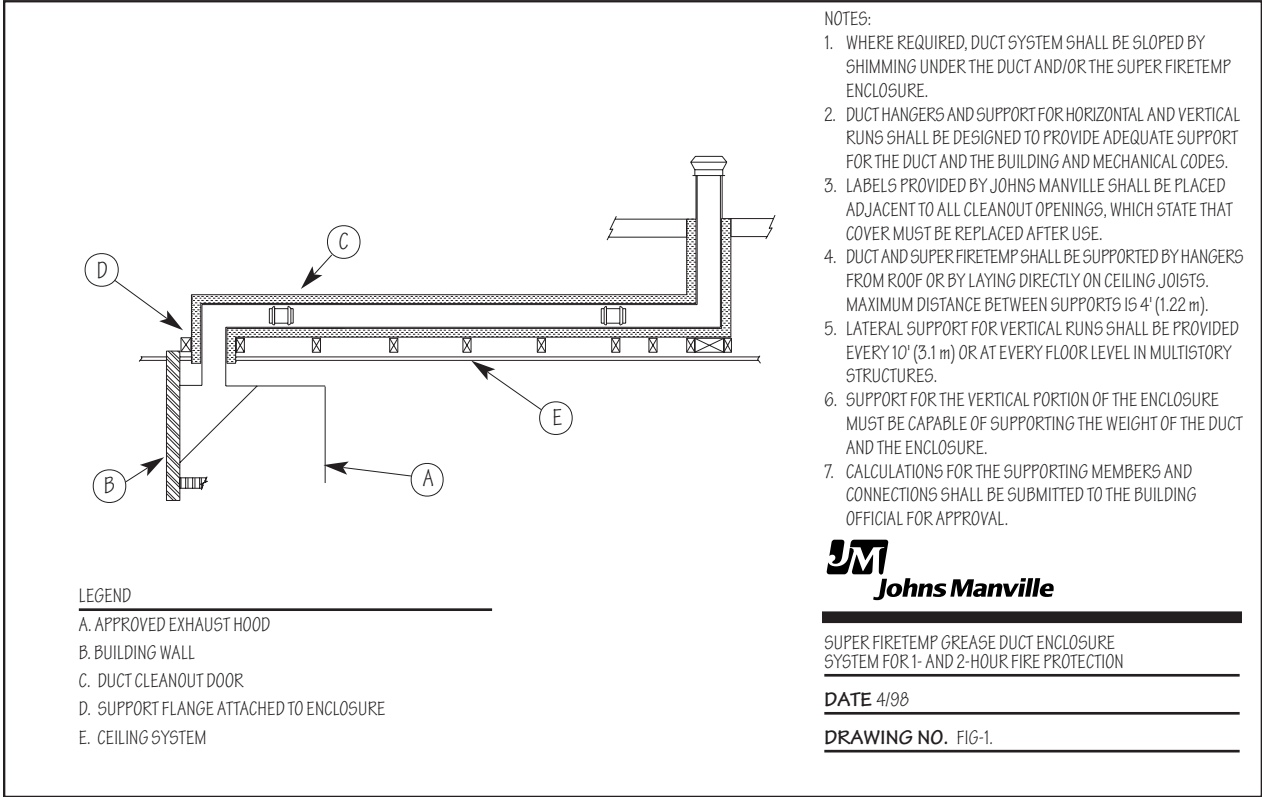
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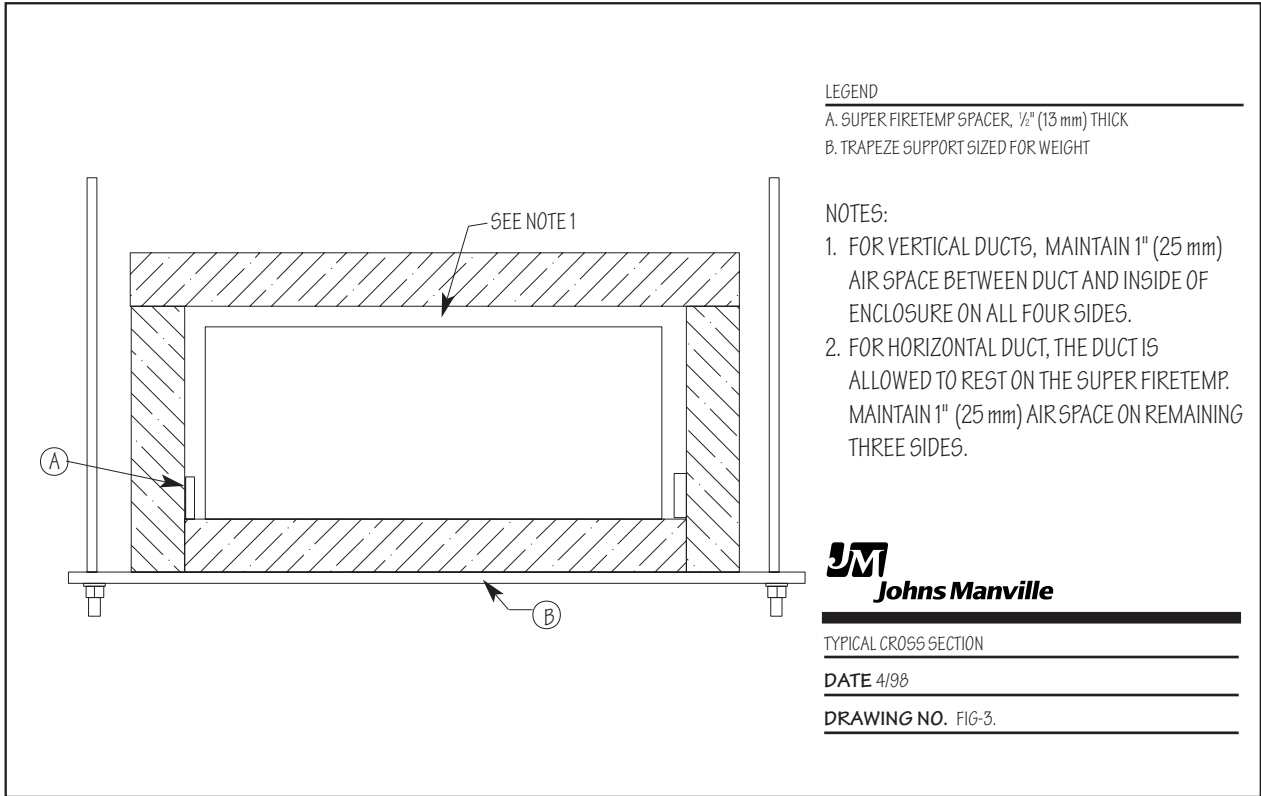
- B. For horizontal ducts up to and including 48" (1219 mm) maximum cross-sectional dimension, the minimum clearance between the duct and the enclosure shall be zero inches on the bottom, 1" (25 mm) on each side and 1" (25 mm) on the top (see Figure 3). If reinforcements are used for the particular duct, the spacing must be maintained between the reinforcement and the Super Firetemp board.
- C. For vertical ducts up to and including 48" (1219 mm), provide 1" (25 mm) clearance between the duct and enclosure on all four sides for expansion clearance. Observe these clearances at all locations along the length of the duct. If reinforcements are used for the particular duct, the spacing must be maintained between the reinforcement and the Super Firetemp board.
- D. Provide adequate clearance at the end of all straight runs to allow for expansion of the metal duct inside the enclosure. Allow 2" (51 mm) of expansion for every 100' (30.5 m) of straight run length.
- E. Completely cover the duct with Super Firetemp board. Use 2½" (64 mm) Super Firetemp L for 1-hour rated assemblies or 3" (76 mm) Super Firetemp M for 2-hour rated assemblies.
- F. Cement all joints together with Super Calstik by buttering both mating surfaces with cement before joining. Use enough Super Calstik so that it squeezes out where the boards are mated together. Usage should be about 50' (15.3 m) of joint (⅛" [3 mm] thick) per gallon (3.8 liters) of Super Calstik.
- G. Fasten Super Firetemp sections together with drywall screws (8" [203 mm] o.c.) at joints where sections meet at right angles. Screws should be at least twice as long as the thickness of the Super Firetemp boards.
- H. Provide adequate support at the bottom of long vertical runs. On multiple-story vertical runs, the Super Firetemp enclosure shall be supported at every floor level.
- I. In multistory buildings, run the metal duct up through the penetrations in a concrete floor system with metal supports for the metal duct resting on the floor at each level. The Super Firetemp enclosure then would be built from deck to deck at each level to achieve the equivalent of a continuous enclosure (see Figure 6).
- J. Whenever cleanout covers are required, use a rated access door or fabricate an access cleanout cover as shown in Figure 5. Use a ⅛" (3 mm) thick gasket made from glass, mineral wool or ceramic fiber paper around the outer 3" (76 mm) of the access opening to seal the door cover. Hold the fabricated access door in place with two metal or wooden bars, using wing nuts as shown in Figure 5.
- K. Spackle all joints with Super Calstik.

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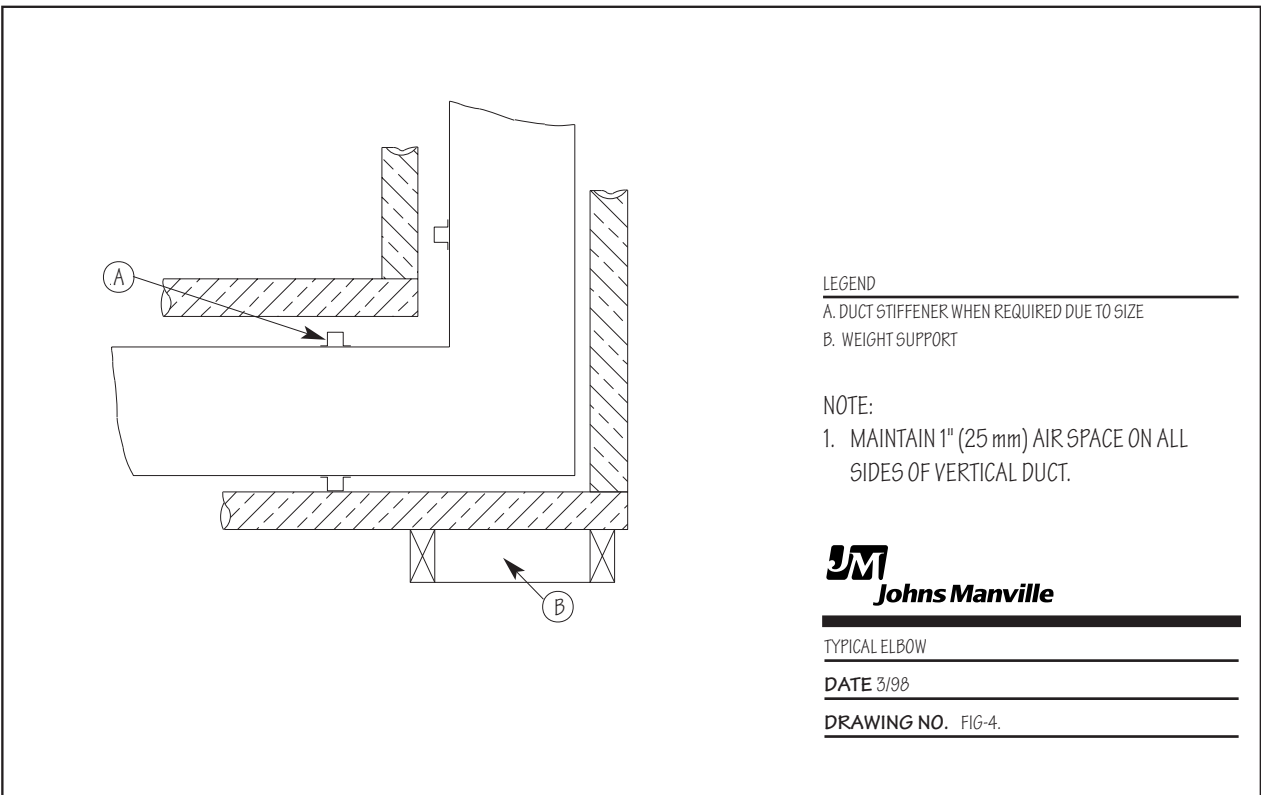


LEGEND

- A. SUPER FIRETEMP SPACER, 1/2" (13 mm) THICK
- B. TRAPEZE SUPPORT SIZED FOR WEIGHT

NOTES:

1. FOR VERTICAL DUCTS, MAINTAIN 1" (25 mm) AIR SPACE BETWEEN DUCT AND INSIDE OF ENCLOSURE ON ALL FOUR SIDES.
2. FOR HORIZONTAL DUCT, THE DUCT IS ALLOWED TO REST ON THE SUPER FIRETEMP. MAINTAIN 1" (25 mm) AIR SPACE ON REMAINING THREE SIDES.



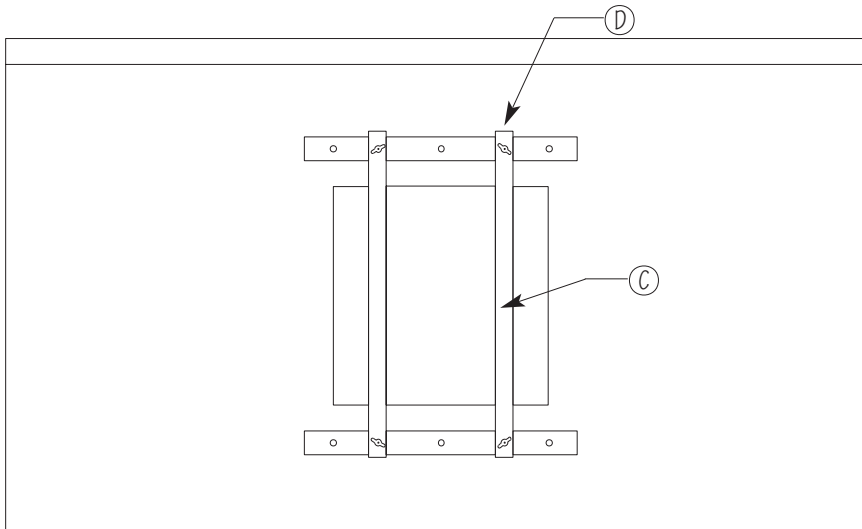
LEGEND

- A. DUCT STIFFENER WHEN REQUIRED DUE TO SIZE
- B. WEIGHT SUPPORT

NOTE:

1. MAINTAIN 1" (25 mm) AIR SPACE ON ALL SIDES OF VERTICAL DUCT.

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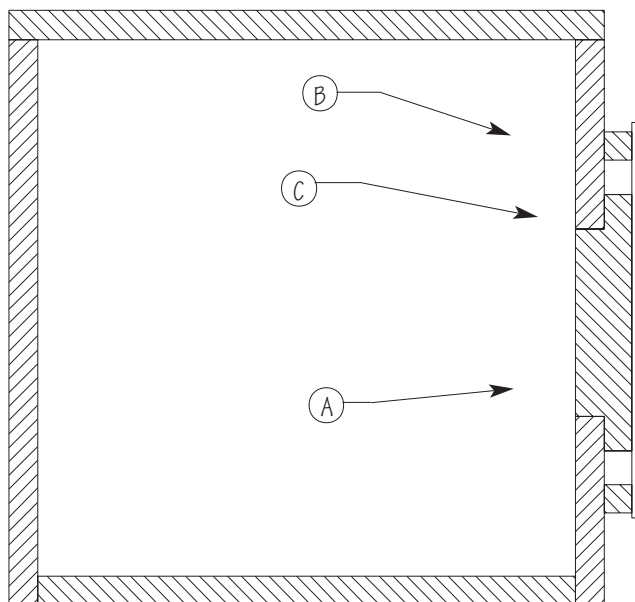


LEGEND

- A. TWO LAYERS OF SUPER FIRETEMP SECURED TOGETHER
- B. SUPER FIRETEMP SUPPORT BLOCK
- C. METAL BARS
- D. WING NUTS
- E. GASKET

NOTES:

1. MAINTAIN 3" (76 mm) OVERLAP AROUND ALL SIDES OF OPENING.
2. SUPPORT BLOCKS MAY BE ON SIDES.
3. USE 1/8" (3 mm) THICK FIBER GLASS (9 pcf [144 kg/m³]), CERAMIC FIBER (6 pcf [96 kg/m³]) OR MINERAL FIBER (12 pcf [192 kg/m³]) GASKET BETWEEN DOOR AND ENCLOSURE.
4. SPACER BAR TO BE 2 1/2" x 2 1/2" (64 mm x 64 mm) BAR ATTACHED TO ENCLOSURE WITH ADHESIVE AND SCREWS.



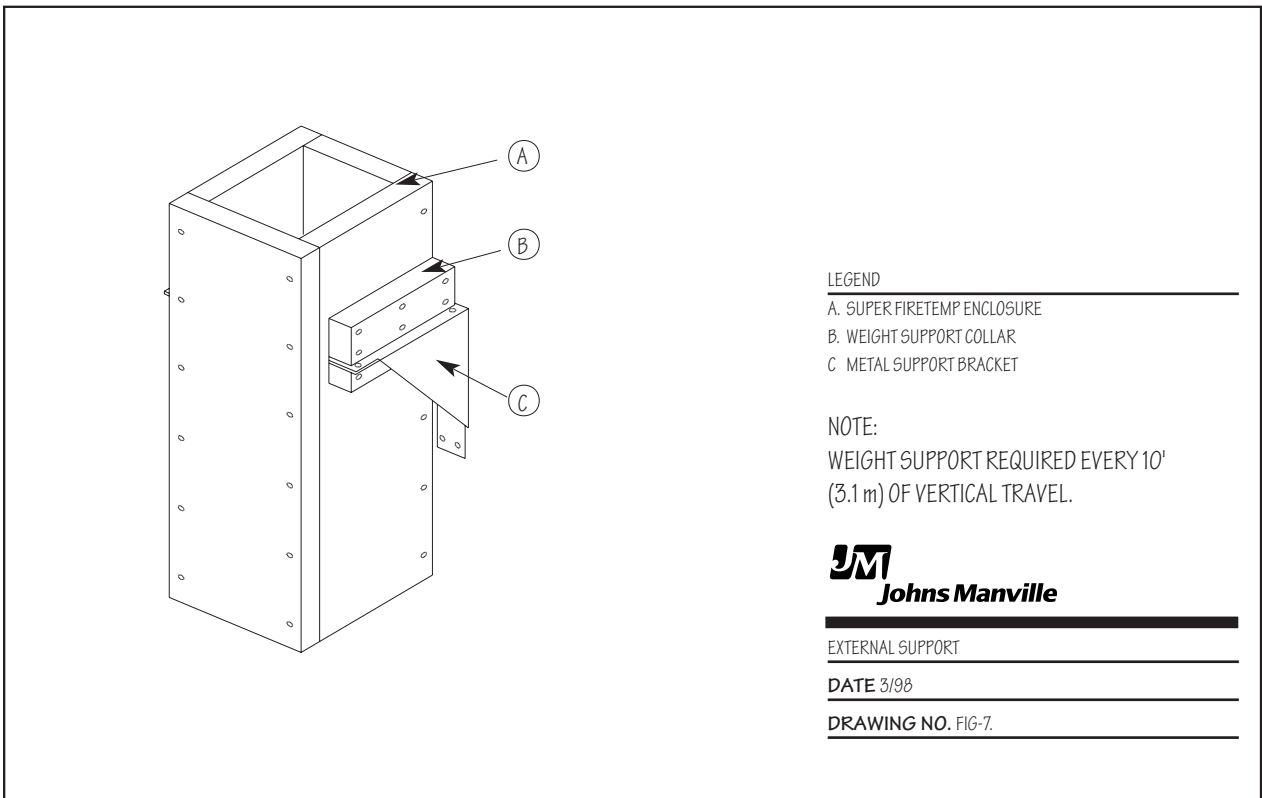
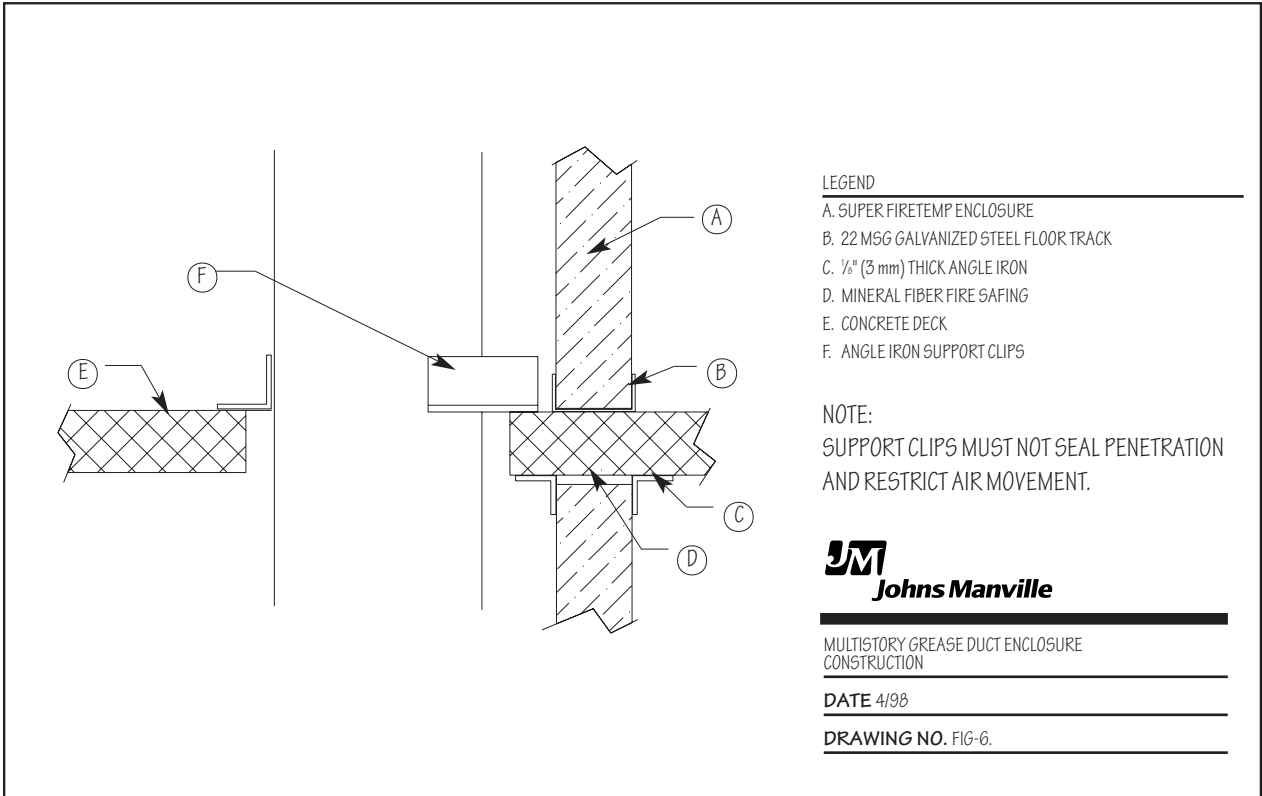
CLEANOUT DOOR FOR KITCHEN
GREASE DUCT ENCLOSURE SYSTEM

DATE 4/98

DRAWING NO. FIG-5.

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Note: For technical information and assistance regarding application information, code approvals and performance specifications, call **1-800-872-0338**. If this piece is more than one year old, please contact Johns Manville for the current information.

For Order Placement

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The physical and chemical properties of Super Firetemp™ represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions. Check with the Sales Office nearest you for current information. **All Johns Manville products are sold subject to Johns Manville's Limited Warranty and Limitation of Remedy. For a copy of the Johns Manville Limited Warranty and Limitation of Remedy, call the 800 number below.** For information on other Johns Manville thermal insulations and systems, call **1-800-654-3103**. To access automated fax-on-demand service in the United States and Canada, simply call **1-888-INSULFX** (1-888-467-8539) from a fax or phone.