

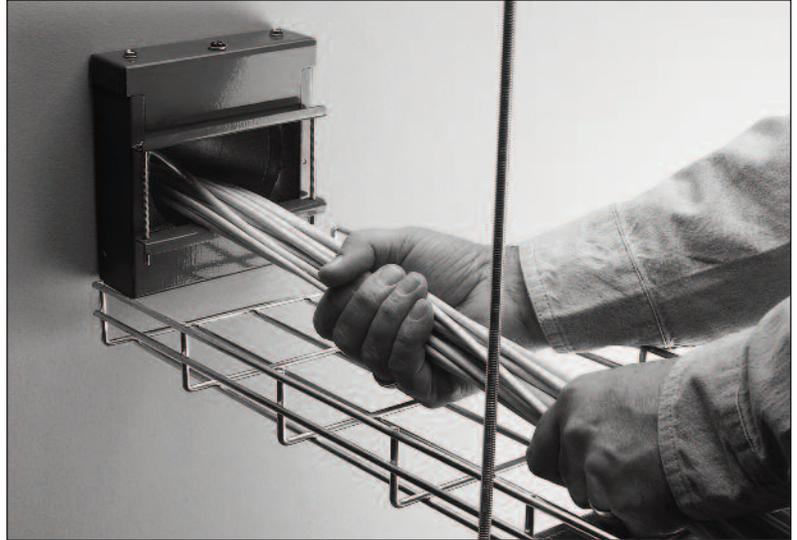


Wiremold

FlameStopper™ Thru-Wall/Floor Fittings

FS Series Thru-Wall/Floor Fittings for New & Retrofit Fire Wall/Floor Applications

Wiremold® FlameStopper Thru-Wall/Floor Fittings have been redesigned to provide firestopping solutions for both new and retrofit applications. Flamestopper Thru-Wall/Floor Fittings provide installers with a variety of UL Classified ready-to-use options for transitioning cables through firewalls and floors to ensure that the integrity of the fire rating is maintained. These fittings have been tested by Underwriters Laboratories Inc. to ASTM E814 UL1479, Fire Tests of Through-Penetration Firestops. The Flamestopper Thru-Wall/Floor Fittings offer a passive fire and life safety system with ratings up to four hours (with or without cables installed) to complement existing sprinkler systems and up to three hours for through floor applications.



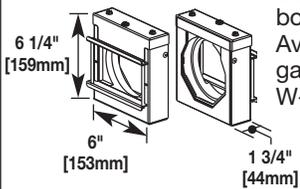
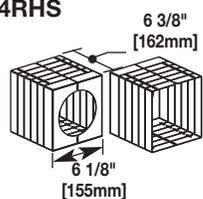
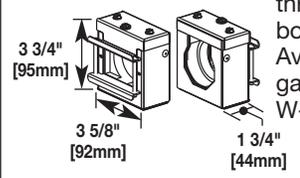
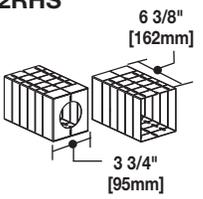
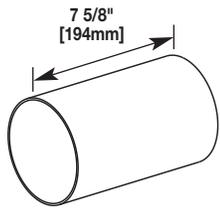
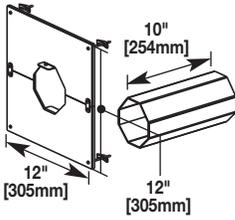
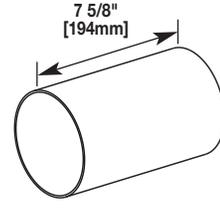
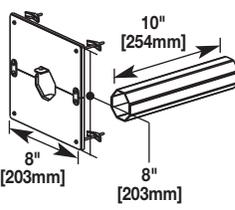
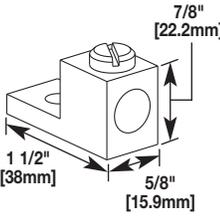
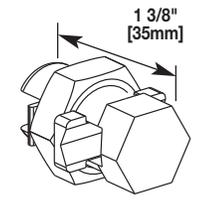
FlameStopper Thru-Wall/Floor Fittings make it easy to add cables and maintain the UL rating.

FEATURES & BENEFITS

- **Designed for use in either new or retrofit applications.** With the use of retrofit kit, Flamestopper can be used to provide firestopping to existing through-wall/floors cable penetrations or for new installations.
- **Classified to U.S. and Canadian safety standards by Underwriters Laboratories Inc. for use in through-penetration firestop systems only.** Up to four-hour F and T ratings ensures product will maintain the integrity of fire rated walls or floors whether empty, partially filled or fully loaded. See chart on back page or UL Fire Resistance Directory (link provided on Wiremold website) for ratings with specific cables.
- **Low air (smoke) leakage.** UL tested with L Ratings from 1.9 to 5.9 cfm (cubic feet per minute).
- **Plenum rated.** Tested to UL 2043 and determined to be suitable for air handling spaces (plenums).
- **Built-in Firestopping expands with exposure to heat.** Engineered for rapid expansion when exposed to fire or high temperatures to quickly seal the pathway and prevent the passage of flames and smoke.
- **Clean, professional installation.** Appeals to owners, tenants, and inspection authorities.
- **Easy to inspect.** FlameStopper Thru-Wall/Floor Fittings are offered standard in a bright, easy-to-identify powder coat red or G90 finish complete with preprinted label for the installer to fill out prior to inspection approval. From installation to full cable load, the fitting remains firestopped and compliant.
- **Easy to add or remove cables.** Simply adjust the doors to accommodate cables as desired without the need to remove, add, or adjust firestopping intumescent materials.
- **Retrofit kit for existing installations.** A split conduit for installations where no conduit is installed, large firestopped wall plate for irregular hole penetrations, and a heat shield for existing extended conduit lengths, allow for firestopping virtually any existing condition without the need for repudding with firestop material after installation.
- **Mechanical doors provide steel barrier between rooms.** Fittings may be pre-installed for anticipated future cabling requirements. Fire ratings are preserved while doors remain closed to block off the opening until cables are installed.
- **Use with any wall thickness.** Fittings are shipped in pairs and installed on both sides of a wall fitted with a 2" or 4" piece of trade size EMT conduit.
- **Use with concrete floor with minimum of 4 1/2" [114mm] depth.**

Designed for use with SpecMate™ and Cablofil® brand cable trays as well as other Wiremold pathways. See the Wiremold website at www.legrand.us/wiremold for details. For custom options, please consult the factory.

FlameStopper Thru-Wall/Floor Fitting Ordering Information

Catalog No./Item	Description/Specifications	Catalog No./Item	Description/Specifications
FS4R-RED FS4R-GA 	Firestop 4" Trade EMT Conduit Fitting – For transitioning cable through fire rated walls/floors for both new and retrofit applications. Available in red (RED), or G90 galvanized finish (GA). UL System W-L-3264 and W-J-3137.	FS4RHS 	Heat Shield 4" Trade Size Conduit – Used only when an existing installed conduit extends 1" [25mm] to 6" [152mm] beyond the wall surface.
FS2R-RED FS2R-GA 	Firestop 2" Trade EMT Conduit Fitting – For transitioning cable through fire rated walls/floors for both new and retrofit applications. Available in red (RED), or G90 galvanized finish (GA). UL System W-L-3264 and W-J-3137.	FS2RHS 	Heat Shield 2" Trade Size Conduit – Used only when an existing installed conduit extends 1" [25mm] to 6" [152mm] beyond the wall surface.
FSPCC4758 	Precut Conduit 4" Trade Size EMT – Precut to 7 5/8" [194mm] to fit standard gypsum fire walls with a two-hour fire rating (6" [152mm] wall thickness).	FS4RWP12 	Retrofit Kit for Existing Installations – Kit includes 4" trade size split conduit sleeve to enclose existing cables, and 12" x 12" [305mm x 305mm] ceramic heat protected wall plate to cover irregular hole cuts. For use with FS4R Series Firestop.
FSPCC2758 	Precut Conduit 2" Trade Size EMT – Precut to 7 5/8" [194mm] to fit standard gypsum fire walls with a two-hour fire rating (6" [152mm] wall thickness).	FS2RWP8 	Retrofit Kit for Existing Installations – Kit includes 2" trade size split conduit sleeve to enclose existing cables, and 8" x 8" [203mm x 203mm] ceramic heat protected wall plate to cover irregular hole cuts. For use with FS2R Series Firestop.
SPMGL 	Grounding Lug – For use with SpecMate™ or Cablofil® brand cable trays to provide ground continuity. Electroplated aluminum. Dual rated for copper and aluminum conductors, No. 2 to 14 gage cable.		
WBSBC 	Split Bolt Connector – For use with Cablofil® brand wire basket trays to provide ground continuity. Electroplated aluminum. Dual rated for copper and aluminum conductors, No. 2 to 8 gage cable.		

The FlameStopper Thru-Wall/Floor Fitting consists of two box assemblies with adjustable steel doors that attach to EMT conduit. Intumescent firestopping material is factory installed and no other firestopping material is required.

FlameStopper Thru-Wall Fitting Installation Outline For New Construction

Installing a FlameStopper Thru-Wall Fitting is easy and straightforward.



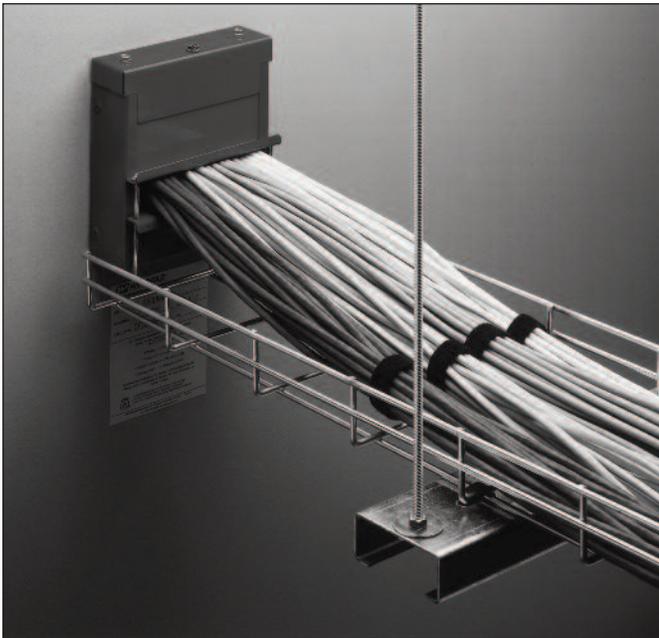
1. Determine location and cut hole in wall using a hole saw, keyhole saw or a core drill.



2. Insert the appropriate length of conduit into the opening.
NOTE: Consider using a level to ensure the box is square and hold base in place with 2 screws.



3. Place the FlameStopper Thru-wall Fitting Box over the opening and secure the two bolts.



Wall labels, provided in a bright yellow color and shown below the installed fitting, are easy for inspectors to locate and review.

FlameStopper Thru-Floor Fitting Installation

1. Cut (if after concrete pour) or form (if pre-pour) a 2" or 4" [51mm or 102mm] opening.
2. Insert the appropriate length of conduit into the opening.
CAUTION: Conduit should not extend more than 1" [25mm] above or below the floor hole opening.
3. Place the FlameStopper Thru-floor Fitting Box over the opening and secure the two bolts.

FlameStopper Thru-Wall Fitting Installation Outline For Retrofit Applications

Retrofit Example #1:



1. Existing conduit with cables. Remove firestop putty.



2. Attach FlameStopper box to existing conduit and attach heat shield.



3. Finished assembly.

NOTE: If existing conduit extends out from wall less than 7/8" [22.2mm], no heat shield is required.

Retrofit Example #2:



1. Existing hole with cables. Irregular hole cut.



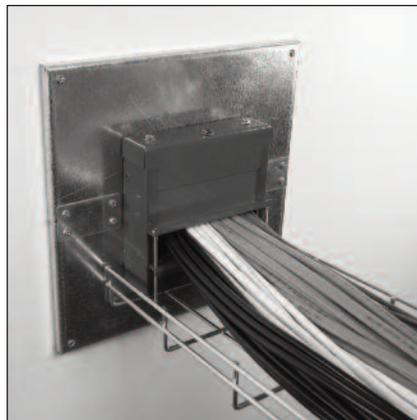
2. Attach ceramic heat protected wall plate to cover irregular hole cut. Insert split conduit around existing cables.



3. Push split conduit into wall.



4. Screw wall plate to conduit to complete assembly.



5. Attach FlameStopper box to split conduit.

FlameStopper Thru-Wall Fitting UL Ratings

- Flame:** The F Rating (F and FH in Canada) is expressed in hours. This number indicates the specific length of time that a barrier can withstand fire before being consumed or before permitting the passage of flame through the opening.
- Temperature:** The T Rating (FT and FTH in Canada) is expressed in hours. This number indicates the length of time that the temperature on the non-fire side of the penetration does not exceed 325 degrees F above the ambient temperature.
- Air Leakage:** The L Rating is expressed in CFM. This number indicates the amount of air (or cold smoke) that can leak through a penetration.

THROUGH-WALL RATINGS FOR FS2R & FS4R SERIES

(When used alone for new construction or existing construction with heat shield.)

UL RATINGS (US Ratings)	MAX. RATING
F Rating w/ & w/o cables	4 Hours
T Rating w/coax cable	4 Hours
T Rating w/fiber optic cable	4 Hours
T Rating w/Max. 1" fiber optic rcwy. w/fiber optic fill	4 Hours
T Rating w/Max. 4-pair cable (22 ga & smaller)	3 Hours
T Rating w/Max. 4 conductor (2AWG & smaller)	1 Hour
T Rating w/Max. 100-pair cable (24 ga & smaller)	1 Hour
T Rating w/Max. 400-pair cable (24 ga & smaller)	45 Minutes
T Rating w/MC cable (8 wire max. 12 ga & smaller)	15 Minutes
L Rating at ambient w/o cables (doors closed)	2.6 cfm
L Rating at 400°F w/o cables (doors closed)	1.9 cfm
L Rating at ambient with cables	2.8 cfm
L Rating at 400°F with cables	1.3 cfm
Suitable for use in air handling spaces (plenums)	Yes

UL RATINGS (Canadian Ratings)	MAX. RATING
F & FH Rating w/ & w/o cables	4 Hours
FT & FTH Rating w/coax cable	4 Hours
FT & FTH Rating w/fiber optic cable	4 Hours
FT & FTH Rating w/Max. 1" fiber optic rcwy. w/fiber optic fill	4 Hours
FT & FTH Rating w/Max. 4-pair cable (22 ga & smaller)	3 Hours
FT & FTH Rating w/Max. 4 conductor (2AWG & smaller)	1 Hour
FT & FTH Rating w/Max. 100-pair cable (24 ga & smaller)	1 Hour
FT & FTH Rating w/Max. 400-pair cable (24 ga & smaller)	45 Minutes
FT & FTH Rating w/MC cable (8 wire max. 12 ga & smaller)	15 Minutes
L Rating at ambient w/o cables (doors closed)	2.6 cfm
L Rating at 400°F w/o cables (doors closed)	1.9 cfm
L Rating at ambient with cables	2.8 cfm
L Rating at 400°F with cables	1.3 cfm
Suitable for use in air handling spaces (plenums)	Yes

THROUGH-WALL RATINGS FOR FS2R & FS4R SERIES

(When used with wall plate for retrofit applications.)

UL RATINGS (US Ratings)	MAX. RATING
F Rating w/ & w/o cables	2 Hours
T Rating w/Max. 4-pair cable (22 ga & smaller)	1.25 Hours
T Rating w/coax cable	1 Hour
T Rating w/fiber optic cable	1.25 Hours
T Rating w/Max. 1" fiber optic rcwy. w/fiber optic fill	1.25 Hours
T Rating w/MC cable (8 wire max. 12 ga & smaller)	15 Minutes
L Rating at ambient w/o cables (doors closed)	1.7 cfm
L Rating at 400°F w/o cables (doors closed)	1.8 cfm
L Rating at ambient with cables	3.3 cfm
L Rating at 400°F with cables	2.0 cfm
Suitable for use in air handling spaces (plenums)	Yes

UL RATINGS (Canadian Ratings)	MAX. RATING
F & FH Rating w/ & w/o cables	2 Hours
FT & FTH Rating w/Max. 4-pair cable (22 ga & smaller)	1.25 Hours
FT & FTH Rating w/coax cable	1 Hour
FT & FTH Rating w/fiber optic cable	1.25 Hours
FT & FTH Rating w/Max. 1" fiber optic rcwy. w/fiber optic fill	1.25 Hours
FT & FTH Rating w/MC cable (8 wire max. 12 ga & smaller)	15 Minutes
L Rating at ambient w/o cables (doors closed)	2.6 cfm
L Rating at 400°F w/o cables (doors closed)	1.9 cfm
L Rating at ambient with cables	2.8 cfm
L Rating at 400°F with cables	1.3 cfm
Suitable for use in air handling spaces (plenums)	Yes

FlameStopper Thru-Floor Fitting UL Ratings

- Flame:** The F Rating (F and FH in Canada) is expressed in hours. This number indicates the specific length of time that a barrier can withstand fire before being consumed or before permitting the passage of flame through the opening.
- Temperature:** The T Rating (FT and FTH in Canada) is expressed in hours. This number indicates the length of time that the temperature on the non-fire side of the penetration does not exceed 325 degrees F above the ambient temperature.
- Air Leakage:** The L Rating is expressed in CFM. This number indicates the amount of air (or cold smoke) that can leak through a penetration.

THROUGH-FLOOR RATINGS FOR FS2R & FS4R SERIES (When used alone.)

UL RATINGS (US Ratings)	MAX. RATING
F Rating w/ & w/o cables	3 Hours
T Rating w/o cables	3 Hours
T Rating w/coax cable	3 Hour
T Rating w/fiber optic cable	3 Hours
T Rating w/Max. 4-pair cables (22 ga. or smaller)	3 Hours
T Rating w/Max. 4-conductor (2 ga. or smaller)	45 Minutes
T Rating w/Max. 100-pair cables (24 ga. or smaller)	1 Hour
T Rating w/Max. 400-pair cables (24 ga. or smaller)	45 Minutes
T Rating w/MC cable (8 wire Max. 12 ga. or smaller)	15 Minutes
L Rating at ambient w/o cables (doors closed)	2.6 cfm
L Rating at 400°F w/o cables (doors closed)	1.9 cfm
L Rating at ambient with cables	2.8 cfm
L Rating at 400°F with cables	1.3 cfm
Suitable for use in air handling spaces (plenums)	Yes

UL RATINGS (Canadian Ratings)	MAX. RATING
F Rating w/ & w/o cables	3 Hours
T Rating w/o cables	3 Hours
T Rating w/coax cable	3 Hour
T Rating w/fiber optic cable	3 Hours
T Rating w/Max. 4-pair cables (22 ga. or smaller)	3 Hours
T Rating w/Max. 4-conductor (2 ga. or smaller)	45 Minutes
T Rating w/Max. 100-pair cables (24 ga. or smaller)	1 Hour
T Rating w/Max. 400-pair cables (24 ga. or smaller)	45 Minutes
T Rating w/MC cable (8 wire Max. 12 ga. or smaller)	15 Minutes
L Rating at ambient w/o cables (doors closed)	2.6 cfm
L Rating at 400°F w/o cables (doors closed)	1.9 cfm
L Rating at ambient with cables	2.8 cfm
L Rating at 400°F with cables	1.3 cfm
Suitable for use in air handling spaces (plenums)	Yes

NOTE: Minimum 4 1/2" [114mm] thick reinforced lightweight or normal weight (100-150 pcf) [1600-2400 kg/m³] concrete floor. Maximum diameter of opening is 4 1/2" [114mm].

FlameStopper Thru-Wall/Floor Fitting Wire Fill Capacity Charts

Flamestopper Wire Fill Capacities for Power Wiring

CABLE TYPE	O.D.		FS2 Maximum Fill	FS4 Maximum Fill
	Inches	[mm]		
Max 4 cond. No. 2 AWG (or Smaller) copper conductor cable with XLPE/PVX insulation and PVC jacket	0.375	[9.5]	18	80
	0.500	[12.7]	10	45
	0.625	[15.9]	6	28
	0.750	[19.1]	4	20
	0.875	[22.2]	3	14
	1.000	[25.4]	2	11
	1.125	[28.6]	2	8
Max 8 cond. No. 12 AWG MC (Metal Clad) cable	0.375	[9.5]	118	80
	0.500	[12.7]	10	45
	0.625	[15.9]	6	28
	0.655	[16.6]	5	26

Flamestopper Wire Fill Capacities for Data/Communications

	CABLE/WIRE SIZE	O.D.		FS2 Maximum Fill	FS4 Maximum Fill
		Inches	[mm]		
UNSHIELDED TWISTED PAIR	4-pair, 24 AWG Cat 3 UTP	0.190	[4.8]	71	312
	4-pair, 24 AWG Cat. 5e UTP	0.210	[5.3]	58	255
	4-pair, 24 AWG Cat. 6 UTP	0.250	[6.3]	41	180
TELEPHONE	2-pair, 24 AWG	0.140	[3.6]	130	574
	25-pair, 24 AWG	0.410	[10.4]	15	67
	50-pair, 24 AWG	0.580	[14.7]	7	33
	100-pair, 24 AWG	0.700	[17.8]	5	22
	400-pair, 24 AWG	1.470	[37.3]	1	5
COAXIAL	RG58/U	0.195	[5.0]	197	296
	RG59/U	0.242	[6.1]	43	192
	RG62/U	0.242	[6.1]	43	192
	RG6/U	0.270	[6.9]	32	140
FIBER OPTIC	2 Count	0.180	[4.6]	79	347
	6 Count	0.210	[5.3]	58	255
	24 Count	0.400	[10.2]	16	70
	48 Count	0.450	[11.4]	12	55
	96 Count	0.560	[14.2]	8	35



Wiremold

WIREMOLD

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