

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

The new FlameStopper Thru-Wall/Floor Fittings\* from Wiremold / Legrand 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.

\* Patent pending



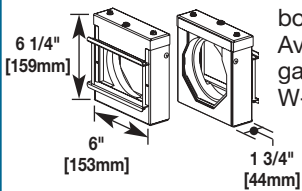
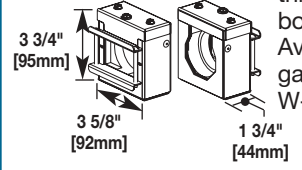
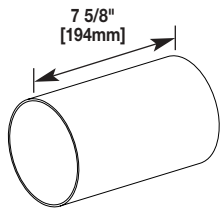
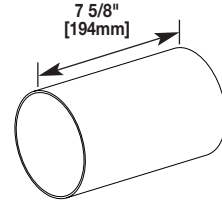
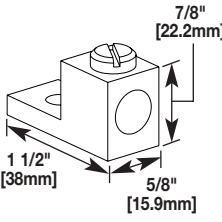
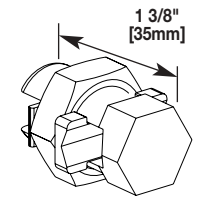
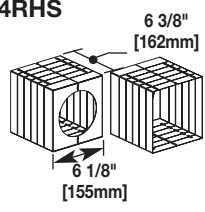
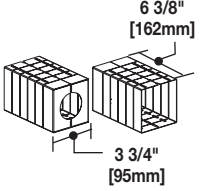
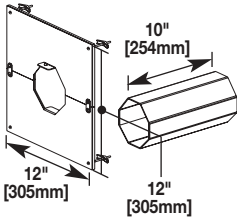
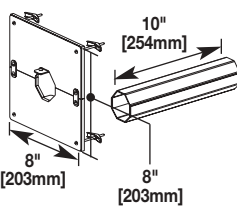
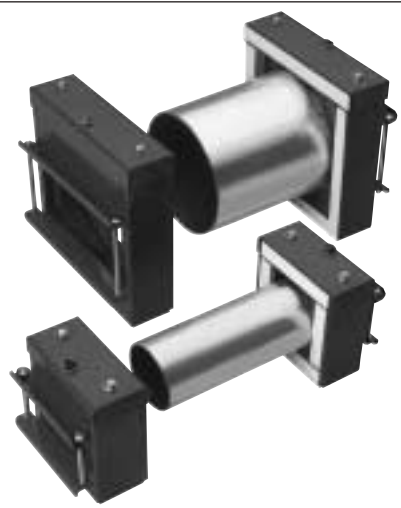
FlameStopper Thru-Wall / Floor Fittings make it easy to add cables and maintain the UL rating.

### 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.wiremold.com](http://www.wiremold.com) for details. For custom options, please consult the factory.

## FlameStopper Thru-Wall/Floor Fitting Ordering Information

Catalog No./Item	Description/Specifications
<b>FS4R-RED</b> <b>FS4R-GA</b>	<b>Firestop 4" Trade EMT Conduit Fitting</b> – 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.
	
<b>FS2R-RED</b> <b>FS2R-GA</b>	<b>Firestop 2" Trade EMT Conduit Fitting</b> – 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.
	
<b>FSPCC4758</b>	<b>Precut Conduit 4" Trade Size EMT</b> – Precut to 7 5/8" [194mm] to fit standard gypsum fire walls with a two-hour fire rating (6" [152mm] wall thickness).
	
<b>FSPCC2758</b>	<b>Precut Conduit 2" Trade Size EMT</b> – Precut to 7 5/8" [194mm] to fit standard gypsum fire walls with a two-hour fire rating (6" [152mm] wall thickness).
	
<b>SPMGL</b>	<b>Grounding Lug</b> – 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.
	
<b>WBSBC</b>	<b>Split Bolt Connector</b> – 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.
	
<b>FS4RHS</b>	<b>Heat Shield 4" Trade Size Conduit</b> – Used only when an existing installed conduit extends 1" [25mm] to 6" [152mm] beyond the wall surface.
	
<b>FS2RHS</b>	<b>Heat Shield 2" Trade Size Conduit</b> – Used only when an existing installed conduit extends 1" [25mm] to 6" [152mm] beyond the wall surface.
	
<b>FS4RWP12</b>	<b>Retrofit Kit for Existing Installations</b> – 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.
	
<b>FS2RWP8</b>	<b>Retrofit Kit for Existing Installations</b> – 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.
	
	
<p><i>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.</i></p>	

## 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. Core drill (if after concrete pour) or form (if pre-pour) a 2" or 4" [51mm or 102mm] opening.

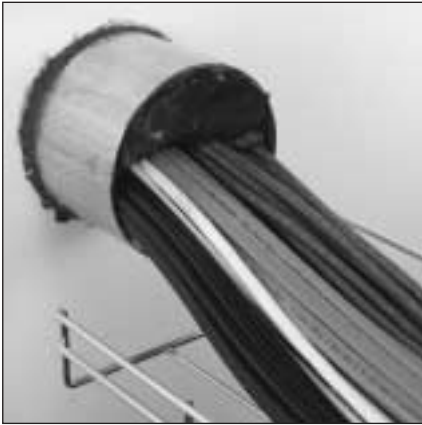
2. Insert the appropriate length of conduit into the opening.

**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/m<sup>3</sup>] 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 Data/Communications

	CABLE/WIRE SIZE	O.D.		FS2 (Fill)		FS4 (Fill)	
		Inches	[mm]	40%	60%	40%	60%
UNSHIELDED TWISTED PAIR	4-pair, 24 AWG Cat 3 UTP	0.190	[4.8]	47	71	208	312
	4-pair, 24 AWG Cat. 5e UTP	0.210	[5.3]	38	58	170	255
	4-pair, 24 AWG Cat. 6 UTP	0.250	[6.3]	20	30	68	100
TELEPHONE	2-pair, 24 AWG	0.140	[3.6]	87	130	383	574
	25-pair, 24 AWG	0.410	[10.4]	10	15	44	67
	50-pair, 24 AWG	0.580	[14.7]	5	7	22	33
	100-pair, 24 AWG	0.700	[17.8]	3	5	15	22
COAXIAL	400-pair, 24 AWG	1.470	[37.3]	0	1	3	5
	RG58/U	0.195	[5.0]	45	67	197	296
	RG59/U	0.242	[6.1]	29	43	128	192
	RG62/U	0.242	[6.1]	29	43	128	192
FIBER OPTIC	RG6/U	0.270	[6.9]	21	32	95	140
	2 Count	0.180	[4.6]	52	79	231	347
	6 Count	0.210	[5.3]	38	58	170	255
	24 Count	0.400	[10.2]	10	16	46	70
	48 Count	0.450	[11.4]	8	12	37	55
	96 Count	0.560	[14.2]	5	8	23	35

### Flamestopper Wire Fill Capacities for Power Wiring

CABLE TYPE	O.D.		FS2 (Fill)		FS4 (Fill)	
	Inches	[mm]	40%	60%	40%	60%
Max 4 cond. No. 2 AWG (or Smaller) copper conductor cable with XLPE/PVX insulation and PVC jacket	0.375	[9.5]	12	18	53	80
	0.500	[12.7]	6	10	30	45
	0.625	[15.9]	4	6	19	28
	0.750	[19.1]	3	4	13	20
	0.875	[22.2]	2	3	9	14
	1.000	[25.4]	1	2	7	11
	1.125	[28.6]	1	2	5	8
Max 8 cond. No. 12 AWG MC (Metal Clad) cable	0.375	[9.5]	12	18	53	80
	0.500	[12.7]	6	10	30	45
	0.625	[15.9]	4	6	19	28
	0.655	[16.6]	3	5	17	26

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**WIREMOLD**



**Wiremold / Legrand**

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