

Classified System
UL
WL 1158

1 and 2 Hour Fire Rated Through Penetration Firestop for Single Metal Pipe through Gypsum Wall Assemblies using TREMstop IA.

TREMCO
3735 Green Rd.
Beachwood, OH, 44122

F-Rating = 1 and 2 Hr.
T-Rating = 1/4 Hr.

Drawing not to scale

① Pre-Rated Gypsum Wallboard/Stud Wall Assembly.
② Metallic Pipe: A) Steel Pipe - 12" diam. (or smaller) Sch. 10 (or heavier) steel pipe.
B) Iron Pipe - 12" diam. (or smaller) cast or ductile iron pipe.
C) Cooper Tubing - 4" diam. (or smaller) Type L (or heavier) cooper tubing.
D) Copper Pipe - 4" diam. (or smaller) Regular (or heavier) copper pipe.
E) Conduit - 4" diam. (or smaller) EMT or 6" diam. (or smaller) steel conduit. The annular space shall be min. 0" to max. 1" within the firestop system.
③ TREMstop IA - Min. 1/2" thickness of sealant applied within opening. Min. 3/8" cant bead of sealant to be applied at areas of point contact.

DETAIL NO. 1	FIRE SAFE PENETRATION DETAIL (1 AND 2 HR.)	NOT TO SCALE
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1/4"x4"x24" LENGTH COPPER GROUND BAR
2 HOLE NEMA LUG (TYPICAL)
#4/0 AWG STRANDED COPPER CABLE TO GROUND LOOP 1" PVC CONDUIT FOR PROTECTION.
MOUNTING BRACKET
INSULATOR
TO EQUIPMENT SEE PLANS

NOTE:
IF LOCATION NOT SHOWN ON PLAN, MOUNT GROUND BAR ON WALL BELOW MAIN.

DETAIL NO. 2	GROUND BAR	NOT TO SCALE
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12"
EQUIPMENT GROUND
2-1/2"
MOUNTED AT BASE OF PLYWOOD BACKBOARD 3'-0" A.F.F. OR ADJACENT TO TBB
1/4" COPPER BAR
PLASTIC INSULATOR
PLYWOOD BACKBOARD
SIDE VIEW

DETAIL NO. 3	TELEPHONE GROUNDING BAR (TGB)	NOT TO SCALE
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SPD
NEUTRAL BUS
N Ø1
Ø2 G
INCOMING FEEDER
SAFETY GROUND
TRANSIENT GROUND
NEUTRAL
PHASE '1'
PHASE '2'
NIPPLE
GROUND BAR (NOTE 3)
PANEL
MAIN BREAKER
CIRCUIT BREAKER SIZED PER SPD MANUFACTURER'S REQUIREMENTS. IF A CIRCUIT BREAKER IS NOT AVAILABLE, PROVIDE THE SPD WITH AN INTERNAL FUSED DISCONNECT.

NOTES:
1. ALL WIRING AND PHYSICAL SPACE SHALL BE PER SPD MANUFACTURER'S REQUIREMENTS.
2. ALLOW ADEQUATE SPACE NEXT TO PANEL TO MOUNT THE SPD UNIT.
3. PROVIDE CONNECTION TO EQUIPMENT GROUND BAR AND CHASSIS.
4. WIRE LENGTH SHOULD BE AS SHORT AND STRAIGHT AS POSSIBLE WITH SPD UNIT ADJACENT TO THE CIRCUIT BREAKER TO WHICH IT IS CONNECTED; THE SOURCE BREAKER FEEDS END OF PANEL IN FIRST AVAILABLE POSITION AS CLOSE AS POSSIBLE TO NEUTRAL BAR.

SPD REQUIREMENTS AND SPECIFICATIONS

SPD BASIS OF DESIGN MANUFACTURER IS: POWER SYSTEM INNOVATION CORPORATION (PSI).
APPROVED MANUFACTURERS ARE: JOSLYN, PSI, CURRENT TECHNOLOGY, SO-D, AND ACT COMMUNICATIONS. MUST COMPLY WITH U.L. 1449, 3RD OR CURRENT ADDITION AND MUST BE RATED PER MODE.
ALL MAINS - 200 kA, DISTRIBUTION 100kA, BRANCH 50kA, (ALL MODE PROTECTION).
CONTRACTOR MUST CONTACT SPD MANUFACTURER PRIOR TO START OF THE PROJECT AND OBTAIN ALL REQUIREMENTS. VENDOR MAY ADD TO, AND/OR DELETE FROM, THE NOTED EQUIPMENT SHOWN ON THE PLANS.
CONTRACTOR MUST FULLY COMPLY WITH VENDOR REQUIREMENTS AND RECOMMENDATIONS.
CONTRACTOR SHALL OBTAIN A SEPARATE PRICE FROM VENDOR AND SHALL INCLUDE IT IN THE BID.
CONTRACTOR SHALL OBTAIN SERVICES OF A QUALIFIED AGENCY TO MEASURE, VERIFY, AND CERTIFY THE GROUND SYSTEM. PROVIDE REPORT TO OWNER AND ARCHITECT.

DETAIL NO. 3	SPD CONNECTION 1-PH DETAIL	NOT TO SCALE
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Classified System
UL
CAJ 1064

2 and 4 Hour Fire Rated Through Penetration Firestop for Single Metal Pipe through Concrete Floors or Walls using FYRE-SIL.

TREMCO
3735 Green Rd.
Beachwood, OH, 44122

F-Rating = 2 and 4 Hr.
T-Rating = 0 Hr.

Drawing not to scale

① Pre-Rated Concrete Floors or Block Walls: See Table below for min. thickness.
② Metallic Pipe: A) Steel Pipe - 4" diam. (or smaller) Sch. 10 (or heavier) steel pipe.
B) Iron Pipe - 4" diam. (or smaller) cast or ductile iron pipe.
C) Conduit - 4" diam. (or smaller) EMT or steel conduit.
D) Copper Tubing - 4" diam. (or smaller) Type L (or heavier) copper tubing.
E) Copper Pipe - 4" diam. (or smaller) Regular (or heavier) copper pipe.
③ Packing Material - See Table below for the mineral wool insulation requirements.
④ FYRE-SIL - Min. 1/2" thickness of sealant applied within annulus, flush with top of floor surface or with both sides of the wall assembly.

Min. Thickness of Concrete, in.	Annular Space Range, in.	Min. Packing Material Thickness, in.	Min. Packing Material Density, pcf	F-Rating Hr.
4-1/2	1/2 to 2-7/8	3-1/2	6.0	2
5-1/2	0 to 1-7/8	5	4.0	4

DETAIL NO. 5	FIRE SAFE PENETRATION DETAIL (2 AND 4 HR.)	NOT TO SCALE
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1" C. MIN.
4' x 4' x 3/4" PLYWOOD TELEPHONE BOARD (PAINT BLACK)
TYP.
#6 GND BOND TO BUILDING GROUNDING SYSTEM PER NEC 250.94
TGB
#6 GND
2 SETS OF 2" CONDUITS WITH PULLSTRING TO MAIN TELEPHONE SERVICE CONNECTION POINT. VERIFY LENGTH OF RUN PRIOR TO BID.
VERIFY ALL REQUIREMENTS WITH TELEPHONE COMPANY PRIOR TO CONSTRUCTION.

DETAIL NO. #	TELEPHONE RISER	NOT TO SCALE
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6" MIN. CEILING
TELE/DATA LINES TO BE PLENUM RATED OR INSTALLED IN CONDUIT WHEN RUNNING THRU A PLENUM RATED SPACE
TERMINATE CONDUIT STUB UP WITH INSULATED BUSHING
12" 1" CONDUIT
18"
TELEPHONE OUTLET TO BE RJ11 JACK
DATA OUTLET TO BE RJ45 JACK

1. OWNER TO SELECT RJ STYLE JACKS, NUMBER OF JACKS PER BOX
2. PROVIDE 4" SQUARE BOXES.

DETAIL NO. 7	DATA/TELEPHONE OUTLET	NOT TO SCALE
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REVISIONS	BY

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4420 WOODFIELD BLVD.
BOCA RATON, FLORIDA

PRIOR TO SUBMITTING THE BID, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE ARCHITECT AND THE ENGINEER OF ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND THE EXISTING CONDITIONS AND SHALL INCLUDE IN THE BID TO CORRECT THE SAME AS DIRECTED. THE ENGINEER AND THE ARCHITECT, ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD. ALL CHANGES SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. NOT FOR BID UNTIL PERMIT HAS BEEN ISSUED.

PERMIT SET: 07/21/16

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DESIGNED BY: DB/FR/AB PM: KS P/N: 16104

DRAWN DB/FR/AB
CHECKED UI/SR/DA/UB
DATE 07-21-16
SCALE AS NOTED
JOB NO. 16104
SHEET

E5.1

PERMIT - 7-21-16