

MAXIMUM PIPE DIAMETER (%)	MAXIMUM EMT	ANNULAR SPACE (in.)	FORMING MATERIAL THICKNESS (in.)	MINIMUM SEALANT THICKNESS (in.)	F RATING (HOURS)	T RATING (HOURS)
1-1/2	-	3/8 TO 2-1/8	2-1/2	2	3	1
6	4	3/8 TO 3/4	3-1/2	1	3	0
6	4	3/8 TO 1	2-1/2	2	3	0

CONCRETE FLOOR OR WALL ASSEMBLY, MINIMUM 4-1/2 in. THICKNESS FLOOR / MINIMUM 6-1/2 in. WALL

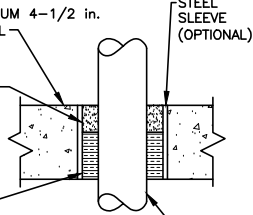
TYPE AS OR TYPE SS: MINIMUM THICKNESS OF SEALANT AS SPECIFIED IN THE TABLE BELOW, APPLIED WITHIN THE OPENING, FLUSH WITH THE TOP SURFACE OF THE FLOOR OR BOTH SURFACES OF THE WALL.

FORMING MATERIAL: MINERAL WOOL INSULATION (MINIMUM 4.0 pcf) FIRMLY PACKED INTO THE OPENING AS A PERMANENT FORM; SEE TABLE FOR MINIMUM REQUIRED THICKNESS

METALLIC PIPE: STEEL PIPE: 6" (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE. CONDUIT: 4" (OR SMALLER) ELECTRICAL METALLIC TUBING (EMT) OR 6" RIGID STEEL CONDUIT.

UL SYSTEM NUMBER: C-AJ-1020  
F RATING - 3 HR.

PIPE AND CONDUIT PENETRATION  
DETAIL IN CONCRETE OR MASONRY



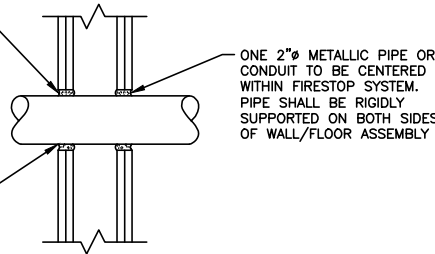
PACKING MATERIAL: MIN. 1 in. THICKNESS OF MIN. 3.5 pcf FIBERGLASS INSULATION SHALL BE WRAPPED AROUND THE THROUGH-PENETRANT AND SECURED TOGETHER BY MEANS OF NO. 24 AWG STEEL TIE WIRE. PACKING MATERIAL SHALL BE CENTERED AT MID-DEPTH OF OPENING AND RECESSED FROM BOTH SURFACES OF WALL ASSEMBLY REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

FILL VOID OR CAVITY MATERIAL - CAULK OR PUTTY: IN 2 HR FIRE RATED ASSEMBLIES MIN 3/4 in. THICKNESS FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/4 in. CROWN IS FORMED AROUND THE PENETRATING ITEM. IN 1 HR FIRE RATED ASSEMBLIES, MIN 5/8 in. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS ON BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 3/8 in. CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 in. BEYOND THE PERIPHERY OF THE OPENING.

SPECIFIED TECHNOLOGIES INC.: SPECSEAL SERIES SSS SEALANT, SPECSEAL LCI SEALANT OR SPECSEAL PUTTY.

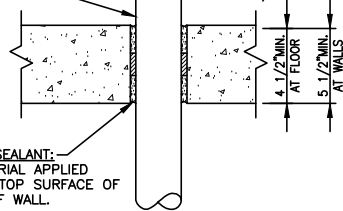
UL SYSTEM NUMBER: W-L-1029  
F RATING - 1 & 2 HR.

PIPE AND CONDUIT PENETRATION  
DETAIL IN GYPSUM WALLBOARD



PACKING MATERIAL: MIN 1-1/2 in. THICKNESS OF MIN 6 pcf MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

ONE 2" SCHEDULE 40 PVC PIPE TO BE CENTERED WITHIN FIRESTOP SYSTEM. A NOM. ANNULAR SPACE OF 5/16" IS REQUIRED WITHIN THE FIRESTOP SYSTEM PIPE SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL/FLOOR ASSEMBLY



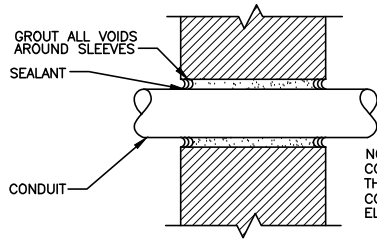
FILL VOID OR CAVITY MATERIAL - SEALANT: MIN 2 in. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH THE TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL.

SPECIFIED TECHNOLOGIES INC.: SPECSEAL SERIES SSS SEALANT OR SPECSEAL LCI SEALANT.

UL SYSTEM NUMBER: C-AJ-2057  
F RATING - 2 HR.

PVC CONDUIT PENETRATION  
DETAIL IN CONCRETE OR MASONRY

ALL CORES THROUGH ELECTRIC ROOMS TO BE FIRE-STOPPED.  
USE FULL CONDUIT RUNS THROUGH PENETRATIONS



NOTE: CORE HOLE 1 1/2" LARGER THAN THE DIAMETER OF THE CONDUIT. CORE DRILLS TO BE SEALED WITH ELASTOMERIC SEALANT.

PIPE AND CONDUIT PENETRATION  
DETAIL IN NON-RATED PARTITION

### PENETRATION DETAILS

SCALE: N.T.S.

WALL HR	MAX DIAM OF THROUGH PENETRANT in.	T RATING HR
1	2	1
1	1-1/4	1
2	2	1
2	1-1/4	1 1/2

THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

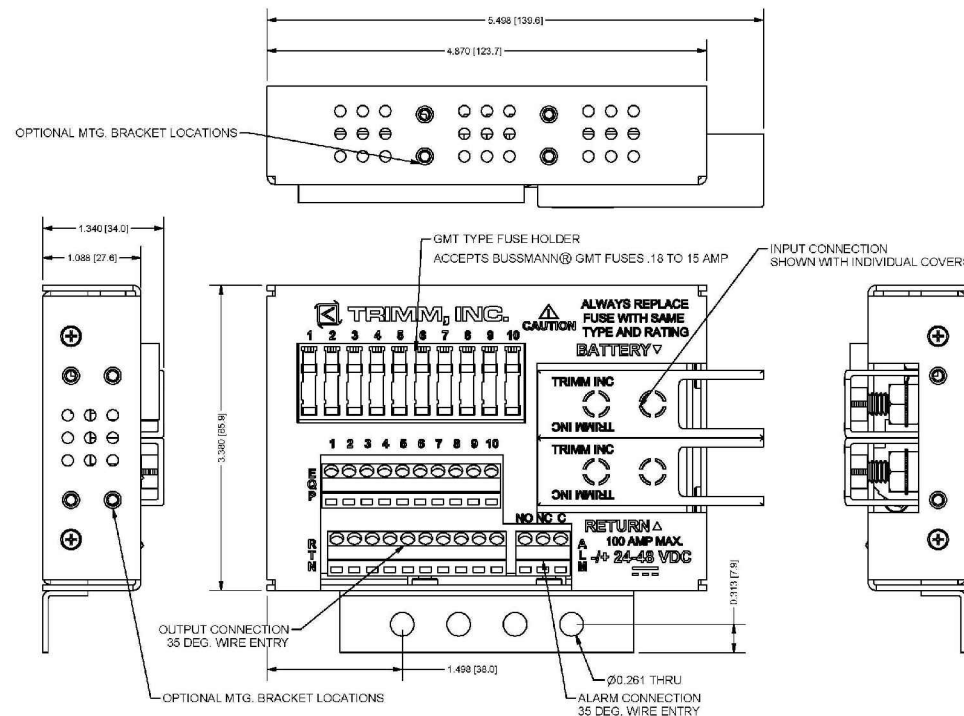
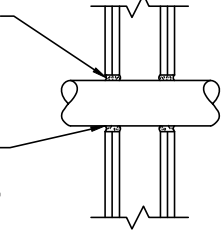
THROUGH PENETRANTS: ONE 2" NONMETALLIC PIPE, CONDUIT OR RACEWAY TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. A NOM ANNULAR SPACE OF 5/16 in. IS REQUIRED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR RACEWAY TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

FILL VOID OR CAVITY MATERIAL - SEALANT: MIN 5/8 in. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/4 in. THICK CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 in. BEYOND THE PERIPHERY OF THE OPENING.

SPECIFIED TECHNOLOGIES INC.: SPECSEAL SERIES SSS SEALANT, SPECSEAL LCI SEALANT.

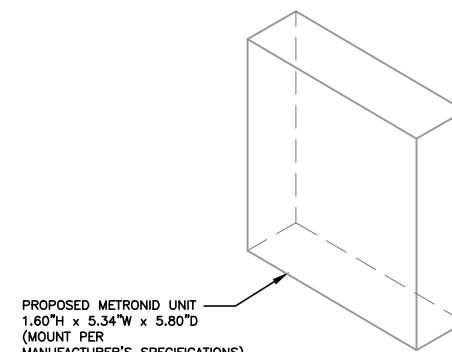
UL SYSTEM NUMBER: W-L-2093  
F RATING - 1 & 2 HR.

PVC CONDUIT PENETRATION  
DETAIL IN GYPSUM WALLBOARD



### FUSE PANEL DETAIL

SCALE: N.T.S.



PROPOSED METRONID UNIT  
1.60"H x 5.34"W x 5.80"D  
(MOUNT PER MANUFACTURER'S SPECIFICATIONS)

### PROPOSED NID DETAIL

SCALE: N.T.S.

**Sprint VISION**  
1 INTERNATIONAL BLVD, SUITE 600  
MAHWAH, NJ 07495  
TEL: (800) 357-7641

**Alcatel-Lucent**  
1 ROBINS ROAD  
WESTFORD, MA 01886  
TEL: (978) 952-1600

**Hudson Design Group**  
1600 OSGOOD STREET  
BUILDING 20 NORTH, SUITE 3090  
N. ANDOVER, MA 01845  
TEL: (978) 557-5553  
FAX: (978) 336-5584

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	09/12/12	FOR REVIEW	TH

SITE NUMBER:  
NM03XC067  
SITE NAME:  
ONE CITY CENTER  
PORTLAND  
SITE ADDRESS:  
1 CITY CENTER  
PORTLAND, ME 04101

SHEET TITLE  
DETAILS

SHEET NUMBER  
A-2