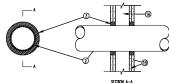
System No. W-L-1054 METAL PIPE THROUGH GYPSUM WALL ASSEMBLY F Rotings - 1 and 2 Hr (See Items 1 and 3) T Roting - 0 Hr L Roting At Ambient - Less Than 1 CFM/Sq Ft L Roting At 400 F - 4 CFM/Sq Ft



1. WALL ASSURET HE I OR 2 HR FRE-MATID CYPSAM WALLISOANI, CRID WALL ASSURET SMALL BE CONSTRUCTED OF HE WATERIAS AND IN THE MANEY SPECTED IN THE MONOLUL LOUGO OF UGO STREES WALL AND PARTITION DESCRIPTION. A STORE "FALL FRANCH MANY CONSESS" OF THE FREE WAS DESCRIPTION OF STREEL DAWNESS LOUGO STRUCT OF AND ADMINISTRATION OF STREET OF THE FREE WAS DESCRIPTION OF STREET LOWERS AND THE OF STREET STREET OF STREET STREET OF MATERIAL PROPERTY OF STREET ST

WEST THE PERSONANCE THE REPORTAGE OF THE COMMON, A 2 TO 3 N EXCENSION OF PRESENT EXTENSION TO
PROFESSION OF THE AND THE PROMISE OF ALL TIMES STREET.

THE CONTROL AND THE PROMISE OF THE PROMISE OF THE PROMISE STREET, AND THE PROMISE OF THE PROMIS

1 U.L SYSTEM NO W-L-1054 DETAIL

System No. W-L-8047 HVAC LINE SET THROUGH GYPSUM WALL ASSEMBLY





SECTION A-A

I, WAL USSEABLY — THE 2 HE FIRE-RATED DYSSUM ADMON/STUD WALL ASSEMBLY SHAME BE CONSTRUCTED OF THE VANCE ADMON/STUD WALL ASSEMBLY SHAME BE CONSTRUCTED OF THE VANCE OF PARTHON DESIGN IN THE INDIVIDUAL USOO OR UFOO SERES WALL OR PARTHON DESIGN IN THE U.I. FIRE RESISTANCE PRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION TEATURES.

FOLLOWING CONSTRUCTION TEATURES.

FOLLOWING CONSTRUCTION OF THE PROPERTY OF THE PARTHON CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOW 2 BY A N. LUMBER?

PACED MAX 16 N. OC. STEEL STUDS TO BE MIN 3-1/2 IN. WIDE AND SPACED

MAX 24 N. OC.

B. GYPSUM BOARD* —— THE GYPSUM BOARD TYPE, THOCKIESS NUMBER OF

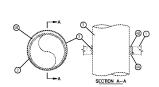
LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE SPECIFIED IN THE

MONDMOLAL WALL AND PARTITION DESIGN IN THE U. FIRE RESISTENCE. DI MA. TO IN, CO. STELL STUDIO TO BE MIN 3-7/2 IN, WILL AND SPACED SHAM BOARD?— THE OFFSAM BOARD PER, THRONGS SINMERE OF SESSION BOARD PER, THRONGS SINMERE OF SESSION BOARD PER PROPERTIES USBON THE LL FREE RESISTANCE.

STATISTICAL PROPERTIES USBON THE LL FREE RESISTANCE.

SINCH MALL AND PERFORMEN SESSION THE LL FREE PERFORMENT OF THE OFFSAME THE SPACE ETHER SESSION BOARD PERFORMENT OF THE OFFSAME DE SPACE ETHER PERFORMENT AND THE PERFORMENT OF THE OFFSAME DE SPACE ETHER PERFORMENT AND THE PERFORMENT OF THE OFFSAME DE SPACE ETHER PERFORMENT AND THE PERFORMENT OF THE OFFSAME THE SPACE ETHER SESSION BOARD PERFORMENT OF THE OFFSAME THE SPACE ETHER SESSION BOARD PERFORMENT OF THE OFFSAME THE SESSION THE SESSIO B. COPPER PIPE -- NOM 1 IN. DIAM (OR SMALLER) REGULAR (OR HEAVER) COPPER PIPE. EMPALID PIES OF THESS ALTHOUT OF EMPALED ON EAR WAVE OF THE HEAT OF THE PARTY OF TH

System No. C-AJ-1226 METAL PIPE THROUGH CONCRETE WALL ASSEMBLY



1. FLOOR OR WALL ASSEMBLY — MIN 4-1/2 IN, THICK REINFORCED LIGHTWEIGHT OR NORMAL WIGHTH (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY U. CLASSFEED WIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY U. CLASSFEED ASSEMBLY FOR THE CONCRETE ASSEMBLY FOR THE CONCRETE ASSEMBLY FOR THE WIGHT OF THE CONCRETE ASSEMBLY FOR THE WIGHT OF THE WALL ASSEMBLY, FLUSH MITH FLOOR OR WALL ASSEMBLY, FLUSH MITH FLOOR FLOOR AND WALL ASSEMBLY FLOOR FOR WALL ASSEMBLY FLOOR FOR WALL ASSEMBLY FLOOR FOR WALL ASSEMBLY FLOOR FL HE CONCRETE FLOOR.

82. SHEET METAL SELEVE.— (OPTIONAL) — MAX 12 IN. DIAM, MIN 24 GA GALV STEEL PROVIDED
WITH A 24 GA GALV STEEL SOLARE FLANGE SPOT WELDED TO THE SLEEVE AT APPROX
MODE-HEIGHT, OR FLUSH WITH BOTTOM OF SLEEVE IN FLOORS, AND SIZED TO BE A MIN OF 2 IN.
AGREET HIAM THE SLEEVE GAM. THE SLEEVE IN TO BE CAST IN FLACE AND MAY EXTEND A MAY.
AREA THAN THE SLEEVE GAM. THE SLEEVE AND THE STORY OF 1 IN. AGOVE THE OPTION OF A CONTROL OF THE OPTION OPTION OF THE OPTION OPTI

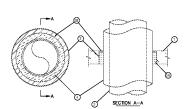
LARGER THAN INE SELEKE DIAM. THE SELEKE IS TO BE CAST IN FLACE, AND MAY EXTRULY A MAY BE THE CONCRETE THOSE THE CONCRETE THOSE.

3. THROUGH-PENETRANT — OR METALLIC PRE. THE CONCRETE THOSE THOS

2 U.L. SYSTEM NO C-AJ-1226 DETAIL

INSULATED METAL PIPE THROUGH CONCRETE WALL ASSEMBLY

Filtering — 2 Hr Titlering — 1 Hr Litering Att Ambient — 4 CFM/Sq Ft Litering Att400 F — Loss Than 1 CFM/Sq F



1. FLOOR OR WALL ASSEMBLY — MIN 4—1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100—150 PGF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURIZES. ANNUT ACTURERS.

L METALLIC SLEEVE — (OPTIONAL) — NOM 20 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR LEANER) STEEL BIBE

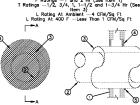
REQUIRED HITAKINESS OF FILL MATERIAL.

B. FILL, VOID OR CANTY MATERIAL. — SEALANT — MIN 1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES IN MINERAL PROPERTY.

BEARING THE UL CLASSIFICATION MARK

3 U.L. SYSTEM NO 7-AJ-50

System No. W-L-5029 INSULATED METAL PIPE THROUGH GYPSUM WALL ASSEMBLY F Ratings -1 and 2 Hr (See Item 1)
T Ratings -1/2, 3/4, 1, 1-1/2 and 1-3/4 Hr (See Item 3)



18-5/8 IN.

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



4 U.L SYSTEM NO W-L-5029 DETAIL

PIPE AND DUCTWORK WALL PENETRATION NOTES (MECHANICAL)

- ALL INSULATED METAL PIPING PENETRATING A ONE HOUR OR MORE RATED ASSEMBLY SHALL BE SEALED AROUND INSULATION ON BOTH
- ALL NON-INSULATED METAL PIPING PENETRATING A ONE HOUR WALL OR MORE RATED WALL OR FLOOR SHALL BE SEALED AROUND PIPE ON BOTH SIDES OF WALL WITH AN APPROVED FIRE STOP CAULK. THICKNESS SHALL BE AS RECOMMENDED BY MANUFACTURER FOR WALL RATING REQUIRED TO MAINTAIN U.L. CLASSEIGATION.
- ALL DUCTWORK PENETRATING A TWO HOUR OR MORE RATED WALL OR FLOOR SHALL BE PROVIDED WITH A FIRE DAMPER INSTALLED AS DETAILED.
- NO FLEXIBLE DUCTWORK WILL BE ALLOWED TO PENETRATE ONE HOUR WALLS, TWO HOUR WALLS, SORNIEW RALLS, CORRIDOR WALLS GRADE CLOSED—OFF TO STRUCTURE METAL RIGID DUCTWORK SHALL EXTEND A MINIMUM OF 5'-0' FROM WALL BEFORE THE FIRST AIR DISTRIBUTION DEVICE IS NATHALLED OR BEFORE FLEXIBLE DUCT IS STATED. FLEXIBLE DUCTWORK IN A SINGLE DUCT RUN IS ALLOWED ON ONE SIDE O'F A RATED WALL BUT NOT BOTH SIDE.
- ACCEPTABLE MANUFACTURERS OF FIRE STOP MATERIALS ARE AS FOLLOWS:

NELSON FLAMESEAL PUTTY+
CROUSE-HINDS CABLE BARRIER SYSTEM





RENOVATION

FLOOR GROUND

NO. DATE DESCRIPTION
1 03/07/18 ISSUED FOR BID

PRINCIPAL IN CHARGI PROJECT ARCHITECT DRAWN BY:

MECHANICAL DETAILS

AGENCY REVIEW ID

M502