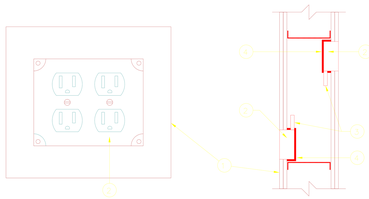


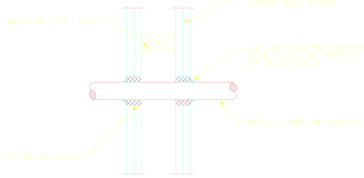
1. RATED GYPSUM WALL BOARD ASSEMBLY.
2. NOMINAL 4"x4" FLUSH DEVICE U.L. LISTED METALLIC BOX.
3. CONDUIT LEADING TO ELECTRICAL BOX.
4. SPECSEAL PUTTY PAD, COMPLETELY COVER EXTERIOR SURFACES OF THE BOX WITHIN THE STUD CAVITY WITH AN ADDITIONAL 4" OF PUTTY FORMED AROUND THE END OF EACH ELECTRICAL METALLIC TUBE OR CONDUIT AT ITS CONNECTION TO THE BOX. WHEN MOLDABLE PUTTY AND ALTERNATE BOX PROTECTIVE MATERIAL USED AS DIRECTED, THE HORIZONTAL SEPARATION BETWEEN OUTLET BOXES ON OPPOSITE SIDES OF THE WALL MAY BE LESS THAN 24" PROVIDED THAT THE BOXES ARE NOT INSTALLED "BACK-TO-BACK".

NOTE: THE PRODUCTS USED IN THIS DESIGN SYSTEM HAVE BEEN TESTED AS FOLLOWS:

- ASTM E814 (UL1479). REFER TO UL CATEGORY CLIV. (PAGE 1516, VOLUME ONE 1995)
- ASTM E119 (TIME/TEMPERATURE EXPOSE) (COTTON WASTE IGNITION)
- ANNULAR SPACE REQUIREMENTS

FIRESTOP FOR METALLIC ELECTRICAL OUTLET BOXES

NO SCALE (2 HOUR RATING)



NOTES:

1. THE CAULK IS TO BE FORCED INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE FLUSH WITH THE EXTERIOR OF THE PENETRATION SUBTACE.
2. FINISH CAULKING WITH A 1/4"(6MM) MINIMUM BEAD OF CP 25N/S CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16"(5MM).
4. INSTALL 3M FIRESTOP ON BOTH SIDES OF THE WALL.
5. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL THROUGH PENETRATION FIRESTOP SYSTEM #WL1001.

PENETRATION THROUGH GYPSUM WALL BOARD

NO SCALE (1-2 HOUR RATING)

UL SYSTEM #WL1001

LIGHTING FIXTURE SCHEDULE

SYMBOL	LAMPS: NOMINAL WATTAGE	LAMPS: CONNECTED LOAD	LAMPS: ASTM TYPE	LAMPS: MIN. PRESSURE SODIUM	LAMPS: QUANTITY	LAMPS: RATED	MOUNTING: CEILING: PENDANT STEM LENGTH	MOUNTING: CEILING: SURFACE	MOUNTING: CEILING: RECESSED	MOUNTING: WALL: FRONT ARM (INCHES) FLOOR OR CHART	DESCRIPTION: SHAPE, SIZE, TYPE MATERIALS, FINISH, MOUNTING	MANUFACTURER'S PRODUCT NUMBER: COMPANY	MANUFACTURER'S PRODUCT NUMBER: CATALOG NO.	REMARKS
A		•			4	32			•		2x4 GRID TROFFER, 0.125" THICK ACRYLIC LENS	LITHONIA	2SP@432 A12.125	PROVIDE TWO BALLASTS IN FIXTURES WHERE NOTED, SEE LIGHTING PLAN.
B		•			3	32			•		2x4 GRID TROFFER, 0.125" THICK ACRYLIC LENS	LITHONIA	2SP@232 A12.125	
C		•			5	32		•			ACRYLIC WRAPAROUND	LITHONIA	4W-132	
D		•			4	17			•		2x2 GRID TROFFER, 0.125" THICK ACRYLIC LENS	LITHONIA	2SP@417 A12.125	PROVIDE TWO BALLASTS IN FIXTURES WHERE NOTED, SEE LIGHTING PLAN.
E		•			2	32		•			ACRYLIC WRAPAROUND	LITHONIA	LB-232	
F		•			3	32			•		2x4 GRID TROFFER, 37 DEEP SEMI-SPECULAR SILVER PARABOLIC LOUVERS, 18 CELL	LITHONIA	2BM3NG-332-18LR	PROVIDE TWO BALLASTS IN FIXTURES WHERE NOTED, SEE LIGHTING PLAN.
G		•			3	17			•		2x2 DEE TROFFER, 37 DEEP SEMI-SPECULAR SILVER PARABOLIC LOUVERS, 9 CELL	LITHONIA	2BM3NG-317-9SD	
H		•			2	32	•				PENDANT DIRECT/INDIRECT, SEMI-INDIRECT, NOMINAL SIZE 5"x8"	PEERLESS	PDIRX SERIES PDIRX-5-8-2-T8-32-120-4A	SUSPEND SUCH THAT BOTTOM OF FIXTURE IS 8' AFF. VERIFY SUSPENSION LENGTH
I		•			1	32		•			BARE LAMP STRIP WITH WIRE GUARD.	LITHONIA	C-132-WG	
J											NOT USED TO DESIGNATE FIXTURE			
K			•		1	400					CYLINDRICAL HIGH BAY BOTTOM: ANODIZED ALUMINUM, SHOCK RESISTANT, PRISMATIC GLASS REFRACTOR, WIRE GUARD, SAFETY CHAIN KIT, POWER HOOK	GENERAL BALLASTS	MAGS-40-MIL-H-SC-FS-M4-G-PRBTP-WLRH-CHKS-P-PH-S	30" BY FIXTURE ON PLANS SHOWING AS ABOVE "QUARTZ RESTRIKE"
L		•			1	150		•			UNDERCANOPY LIGHT, ROUGH SERVICE TYPE, POLYCARBONATE LENS, WHITE FINISH, POWER HOOK	LITHONIA	VGRTC-150M-LPBHO	

LIGHTING FIXTURE NOTES

1. FOUR FOOT T-8 LAMPS SHALL OPERATE WITH ONE OF THE FOLLOWING PROGRAMED RAPID START BALLASTS. NO SUBSTITUTIONS.

MANUFACTURER:	BALLAST NO: 1-LAMP:	2-LAMP:	3-LAMP:	4-LAMP:
ADVANCE	R(V)0N-T832-SC	R(V)0N-2832-SC	R(V)0N-3832-SC	R(V)0N-4832-SC
UNIVERSAL	B232PUNVHP-A	B232PUNVHP-A	-	-
ES	ES-2/1-TR-32/2S/ 17-UNV-A	ES-2/1-TR-32/2S/ 17-UNV-A	ES-3-TR-32/2S -UNV-NM-PS	-
SYLVANIA	QTP1x32T8120(277) PSN-SC	QTP2x32T8120(277) PSN-SC	QTP3x32T8120(277) PSN-SC	QTP4x32T8120(277) PSN-SC

2. FOUR FOOT T-8 LAMPS SHALL BE ONE OF THE FOLLOWING. NO SUBSTITUTIONS.

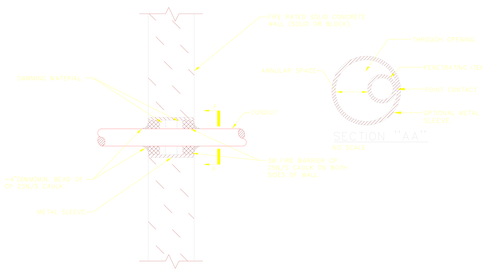
MANUFACTURER:	LAMPS	PRODUCT CODE
GE	F32T8/SP41/ECO	25618
SYLVANIA	F032835ECO/GS1/SKW	21779
PHILLIPS	F32T8/TL835/ALL-TO	046877-24870-2

3. SHOP DRAWINGS SHALL CLEARLY INDICATE SPECIFIC BALLAST AND LAMP, OR THEY WILL BE REJECTED.

L E G E N D

SYMBOL DESCRIPTION

- INCANDESCENT, MERCURY, OR COMPACT FLUORESCENT LIGHTING FIXTURE. "A" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE. "a" REFERS TO SWITCH LOCATION. "AND" "n" REFERS TO CIRCUIT NUMBER.
- FLUORESCENT LIGHTING FIXTURE. "B" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE. "b" REFERS TO SWITCH LOCATION. "AND" "n" REFERS TO CIRCUIT NUMBER.
- FLUORESCENT LIGHTING FIXTURE CONNECTED TO BUILDING EMERGENCY POWER SYSTEM.
- WALL SWITCH: SINGLE POLE (UNLESS NOTED). "a" REFERS TO SWITCH LOCATION. "AND" "n" INDICATES CIRCUIT NUMBER. "S" INDICATES SPECIAL MOUNTING HEIGHT. "K" INDICATES KEY OPERATED SWITCH. +48"/" ABOVE FLOOR. "C" INDICATES CABINET MOUNTED. "W" INDICATES WEATHERPROOF. "X" INDICATES KEY OPERATED SWITCH. +48"/" ABOVE FLOOR. "D" INDICATES DIMMER SWITCH. "M" INDICATES MOTION SENSOR. "P" INDICATES PILOT LIGHT SWITCH. "F" INDICATES FAN SPEED SWITCH. "T" INDICATES TIMER SWITCH. "V" INDICATES VARIABLE SPEED SWITCH. "AV" INDICATES AUDIO/VISUAL SWITCH. "U" INDICATES PENDANT MOUNTED. PROVIDE DIRECTIONAL ARROWS ON DRAWINGS AS NEEDED. ON/OFF SWITCH BOX BY OWNER. INDICATES WIRE GUARD TO BE PROVIDED. UNLESS NOTED OTHERWISE.
- DUPLEX RECEPTACLE, 120-VOLTS, 20-AMPERES, MOUNT 3" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. "a" REFERS TO CIRCUIT NUMBER.
- SINGLE RECEPTACLE, 120-VOLTS, 20-AMPERES, MOUNT 3" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. "a" REFERS TO CIRCUIT NUMBER.
- DUPLEX RECEPTACLE, 120-VOLTS, 20-AMPERES, SHARED CENTER SWITCH. "a" REFERS TO SWITCH LOCATION. "AND" "n" REFERS TO CIRCUIT NUMBER. "S" INDICATES SPECIAL MOUNTING HEIGHT. "C" INDICATES CABINET MOUNTED. "W" INDICATES WEATHERPROOF. "D" INDICATES DIMMER SWITCH. "M" INDICATES MOTION SENSOR. "P" INDICATES PILOT LIGHT SWITCH. "F" INDICATES FAN SPEED SWITCH. "T" INDICATES TIMER SWITCH. "V" INDICATES VARIABLE SPEED SWITCH. "AV" INDICATES AUDIO/VISUAL SWITCH. "U" INDICATES PENDANT MOUNTED. PROVIDE DIRECTIONAL ARROWS ON DRAWINGS AS NEEDED. ON/OFF SWITCH BOX BY OWNER. INDICATES WIRE GUARD TO BE PROVIDED. UNLESS NOTED OTHERWISE.
- DUPLEX RECEPTACLE, 120-VOLTS, 20-AMPERES, SHARED CENTER SWITCH. INDICATES OUTLET TO BE MOUNTED 7'-6" AFF. ADJACENT TO TELEVISION OUTLET.
- PANELBOARD, RECESSED OR SURFACE MOUNTED AS INDICATED ON DRAWINGS. TOP 6'-FEET ABOVE FINISHED FLOOR ADJUSTED TO OCCUR AT A MASONRY JOINT. SEE PANELBOARD SCHEDULE FOR DESIGNATION CONTENTS.
- HOMERUN CONDUIT AND CONDUCTORS EXTENDED TO PANELBOARD. "X" INDICATES NUMBER OF CIRCUITS. "Y" INDICATES NUMBER OF #12AWG CONDUCTORS. WHEN MORE THAN TWO CONDUITS SHARING THE SAME NEUTRAL SPACE, THEY ARE CONNECTED TO DIFFERENT PHASES WITHIN THE PANELBOARD REGARDLESS OF NUMBERING INDICATED ON ONE DRAWING.
- CONDUIT IN THE FLOOR CONSTRUCTION OR UNDERGROUND SHOWN TURNING UP.
- CONDUIT IN THE WALL OR CEILING CONSTRUCTION SHOWN TURNING DOWN.
- JUNCTION BOX, SIZE AND USE AS REQUIRED. CONCENTRIC SHALL OVERLAP FLUSH ON EDGE. 24" X 24" WHERE BRACKETED IN WALL. WHEN CONCEALED IN CEILING.
- ELECTRIC MOTOR REQUIRED CONNECTION, STATE USE AND LOCATION AS INDICATED ON PLANS. VERIFY LOCATION AND CONNECTIONS REQUIRED WITH MECHANICAL TRADE PRIOR TO ROUGH-IN. USE FLEXIBLE CONDUIT WITHIN 6' OF EQUIPMENT.
- FUSED DISCONNECT SWITCH, HEAVY DUTY "HP" RATED. PROVIDE NEMA 3R ENCLOSURE WHERE OUTDOORS.
- FIRE ALARM MANUAL PULL STATION, 48" AFF.
- FIRE ALARM HORN/FLASHING STROBE COMBINATION UNIT, +80" AFF EXCEPT NOT LESS THAN 12" BELOW CEILING. "WG" BY DEVICE INDICATES WIRE GUARD TO BE PROVIDED.
- FIRE ALARM FLASHING STROBE LIGHT, +80" AFF EXCEPT NOT LESS THAN 12" BELOW CEILING. "WG" BY DEVICE INDICATES WIRE GUARD TO BE PROVIDED.
- CEILING MOUNTED FIRE ALARM AUTOMATIC SMOKE DETECTOR.
- CEILING MOUNTED FIRE ALARM HEAT DETECTOR.
- INDICATE NON-METALLIC RACE WAY BUILT-IN POWER POLE SEPARATION OF POWER AND DATA OUTLETS. PROVIDE FIRE-RATED BARRIER AS REQUIRED. DATA OUTLETS, AND TELEPHONE OUTLETS WHERE INDICATED ON PLANS. LOCATED 12" ABOVE BACKSPLASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED OTHERWISE.
- WALL MOUNTED TELEPHONE JACK. PROVIDE 4" SQUARE BOX WITH SINGLE GANG COVER RING AND, WHERE INDICATED, ELECTRICAL DUPLEX OUTLET BOX AS INDICATED AND TERMINATE WITH BUSHING. LOCATE OUTLET BOX 12" ABOVE BACKSPLASH AT WORK COUNTERS AND +18" AFF ELSEWHERE UNLESS NOTED OTHERWISE. PROVIDE FACEPLATE, ETC. SEE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- COMBINATION TELEPHONE/POWER POLE. SET JUNCTION BOX FLUSH. CONDUIT TO CONNECT VERIFY EXACT LOCATION PRIOR TO INSTALLATION.
- WALL RECESSED GENERATOR REMOTE ANNUNCIATOR PANEL. TOP 54" AFF.
- MANUAL MOTOR STARTER TO CONTROL MOTOR INDICATED. SAME MOUNTING HEIGHT AS WALL SWITCH.



SECTION "AA"
NO SCALE

NOTES:

1. THE FIRESTOP SYSTEM MUST BE INSTALLED ON BOTH SIDES OF THE WALL WHEN THE ANNULAR SPACE IS GREATER THAN 1"(25MM).
2. WHEN THE MAXIMUM ANNULAR SPACE IS 1"(25MM) OR LESS, A 1/4"(13MM) MINIMUM DEPTH OF 3M FIRE BARRIER CP 25N/S CAULK IS REQUIRED. THE CAULK MAY BE APPLIED TO ONE SIDE OF THE WALL ONLY.
3. WHEN THE MAXIMUM ANNULAR SPACE IS GREATER THAN 1"(25MM), A 1"(25MM) MINIMUM DEPTH OF CP 25N/S CAULK IS REQUIRED.
4. THE MAXIMUM ANNULAR SPACE TO BE FILLED WITHOUT A COVER PLATE IS 2 1/2" (64MM).
5. IF PROVIDED, SEAL THE METAL SLEEVE WITH A 1/4"(6MM) MINIMUM BEAD OF CP 25N/S CAULK AROUND THE PERIMETER OF THE SLEEVE.
6. POINT CONTACT (0 ANNULAR SPACE) WITH THE PENETRATING ITEM AND THE THROUGH OPENING IS PERMITTED.
7. THE CP 25N/S CAULK FIRE RATING IS BASED ON THE WET INSTALLED DEPTH. SHRINKAGE MAY BE EXPECTED AFTER INSTALLATION.
8. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL THROUGH PENETRATION FIRESTOP SYSTEM #CA1006.

PENETRATION THROUGH CONCRETE WALL

NO SCALE (2 HOUR RATING)

UL SYSTEM #CA1006

SECTION "CC"
NO SCALE

NOTES:

1. WHEN THE MAXIMUM ANNULAR SPACE IS 1"(25MM) OR LESS, A 1/4"(13MM) MINIMUM DEPTH OF 3M FIRE BARRIER CP 25 CAULK IS REQUIRED. THE FIRESTOP MAY BE FILLED FLUSH WITH TOP OR BOTTOM OF THE FLOOR WHEN THE MAXIMUM ANNULAR GAP SPACE IS 1"(25MM) OR LESS.
2. WHEN THE MAXIMUM ANNULAR SPACE IS 1"(25MM) OR LESS, A 1/4"(13MM) MINIMUM DEPTH OF 3M FIRE BARRIER CP 25N/S CAULK IS REQUIRED. THE CAULK MAY BE APPLIED TO ONE SIDE OF THE FLOOR ONLY.
3. USE CP 25N/S(SELF LEVELING) CAULK ON HORIZONTAL SURFACES WHEN FILLING GAPS FROM ABOVE. USE INSTALLATION TOOL OR KNIFE TO APPLY CP 25N/S CAULK ON VERTICAL SURFACES AND ON HORIZONTAL SURFACES WHERE FILLING FROM ABOVE IS NOT PRACTICAL.
4. THE MAXIMUM ANNULAR SPACE TO BE FILLED WITHOUT A COVER PLATE IS 2 1/2" (64MM).
5. POINT CONTACT OF THE PENETRATING ITEM WITH THE THROUGH OPENING IS PERMITTED.
6. THE FIRE RATING OF THE CP 25 CAULK IS BASED ON THE WET INSTALLED DEPTH. SHRINKAGE MAY BE EXPECTED AFTER INSTALLATION.
7. THESE RECOMMENDATIONS ARE BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL THROUGH PENETRATION FIRESTOP SYSTEM #CA1006.

PENETRATION THROUGH CONCRETE FLOOR

NO SCALE (2 HOUR RATING)

UL SYSTEM #CA1006

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Drawing
LEGEND, SCHEDULES, AND DETAILS

Date
JANUARY 30, 2004

Sheet
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Of