2013 CBC
FIRE-RESISTIVE STANDARD DETAILS

OPD-0091-13
BY: Gary Dunger
DATE: 10/09/2014
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Section Title: **OSHPD FIRE RESISTIVE STANDARD DETAILS**

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| **FR4** PENETRATIONS DETAILS FOR OF RATED FLOOR/CEILING ASSEMBLIES | |
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| FR4.01 | FLOOR SLAB PENETRATION AT WATER CLOSET WASTE LINE |
| FR4.02 | VERTICAL DUCT SHAFT BOTTOM DETAILS |
2013 California Building Code (2013 CBC) Fire Resistive Details document contains OSHPD Pre-Approved Details (OPD), which may be incorporated into construction documents. These details have been reviewed for compliance with the 2013 CBC and, when used as shown, without modifications, are deemed to comply with code. They are intended to cover common conditions that occur on many projects. It is anticipated that use of these details will facilitate the design, review, and construction process.

The Narrative and supporting Flowchart, which follows the Narrative, are provided to assist in selecting applicable details from the OPD for incorporation into the construction documents. It is to be used only as a guide and does not provide complete step-by-step instructions for use of the OPD. Narrative comment numbers correspond to the numbered items on the Flowchart.

The following steps apply to use of OPD:

1. Define Project Parameters
   
   A. Construction Classification by Type of Construction.
      
      i. The Registered Design Professional (RDP) in responsible charge shall identify the minimum requirements for the fire resistance ratings of building elements, based on the provisions of Chapter 6 of the CBC.
   
   B. Coordination with Primary Structural Elements.
      
      i. The RDP in responsible charge shall identify with the Structural Engineer of Record (SEOR) the primary structural elements and the methods for providing the required fire protection in compliance with CBC Table 601.
      
      ii. The RDP in responsible charge shall identify and coordinate the project conditions where primary structural elements and architectural and MEP systems may be in conflict.
   
   C. Coordination of Non-structural Building Elements.
      
      i. The RDP in responsible charge shall identify the non-structural building elements to be constructed and their compliance to the requirements of Chapter 7, Fire and Smoke Protection Features, of the CBC, for the specific use within the project.
      
      ii. The RDP in responsible charge shall identify the unique conditions which apply to the use of the OPD under consideration.

2. Verify Applicability of the OPD (refer to PIN 51)
   
   A. The OPD’s allow design professionals to incorporate pre-approved details into their project construction documents when they satisfy the following conditions.
      
      i. The RDP in responsible charge determines the applicability of the OPD for the specific project conditions, and the project specific details for those conditions may not otherwise be met by tested and listed assemblies of the manufacturer’s products specified.
      
      ii. The OPD details must be directly applicable to the project conditions, without modification.
   
   B. Substitutions of items shown in the OPD are not permitted, unless specifically allowed by the OPD itself.
   
   C. Changes to the OPD to accommodate variations of the project conditions are not permitted. In such cases, project specific details are required.
   
   D. OPD shall not be used as a basis of comparison for Engineering Judgements.
3. Select Appropriate Details from OPD

A. Review the OPD General Notes before the start of the OPD selection process. The General Notes provide detailed specifications of the materials and the workmanship associated with the details. The RDP in responsible charge shall confirm the applicability of the OPD details and the specifications noted in this section.

B. The protection of primary structural elements of the project shall not be compromised. Details indicating connections of miscellaneous framing to primary steel shall have protective construction (i.e. spray fireproofing) replaced as acceptable to manufacturer and OSHPD.

C. Non-structural partitions of fire resistive construction shall comply with approved tested assemblies, listed by accepted testing agencies.

D. Select the type of condition which the detail needs to address – intersection of fire-resistive assemblies or penetrations of fire resistive assemblies.

E. For Intersections of fire-resistant assemblies, select the applicable fire-resistant rating for the partition components of the detail.
   i. One-hour fire resistive details begin with sheet FR1.00, and Two-hour fire resistive details begin with sheet FR2.00.
   ii. Select the condition for the type of intersection – intersections with protected columns begin with detail FR1.10 or FR2.10; intersections with rated floor/roof decks begin with FR1.20 and FR2.20; intersections with exterior wall construction begin with FR1.30 and FR2.30.
   iii. Select the appropriate detail based on the particular detail condition, e.g. column orientation, adjacent wall construction, etc.

F. For Penetrations of fire-resistant assemblies, select the type of components to be detailed.
   i. Select details by type of component penetrating rated assembly, e.g. shaft enclosure, ductwork, piping, fixture, etc.
   ii. Select detail appropriate to the specific field condition.

4. Implementation and Use of OPD During Plan Review
Refer to PIN 51.

5. Implementation and Use of OPD During Construction Process
Refer to PIN 51.

A. During construction, OPD’s are treated as any other detail in the approved documents.

B. Pre-approved details submitted after the construction documents have been approved and a building permit has been issued shall be used and/or processed in accordance with Code Application Notice 2 -107.4 “Amended Construction Documents.” Pre-approved details may be applied as alternates to the approved details shown on the permitted construction documents only on a one for one basis and with written consents of the registered design professional and the registered design professional in responsible charge and in concurrence incorporated without any modification. Pre-approved details are subject to field confirmation during which the applicability of pre-approved details for specific project conditions shall be evaluated.

C. Changing the scope of a project (adding additional space to the construction area or modifying the spaces of the original design, for example) does constitute a “material alteration” to the project, even if OPD can be used for all conditions. In such a case, an Amended Construction Document must be submitted to OSHPD field staff for review and approved prior to add or modification.
APPLICATION FLOWCHART - OVERVIEW OF OPD USE

Section Title: OSHPD FIRE RESISTIVE STANDARD DETAILS
Sheet Title: APPLICATION FLOWCHART - OVERVIEW OF OPD USE

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Gary Dunger
APPLICATION FLOWCHART - RATED PARTITIONS, WALLS, AND BARRIERS

2-HOUR RATED PARTITIONS, WALLS OR BARRIERS
(Refer to FR2.00)

Intersections with Protected Columns
(Refer to FR2.1x)

Intersections with Slabs and Protected Beams
(Refer to FR2.2x)

Intersections with Exterior Walls
(Refer to FR2.3x)

INCORPORATE OPD INTO CONSTRUCTION DOCUMENTS

OPD-0091-13

BY: Gary Dunger

DATE: 10/09/2014
RATED FLOOR/CEILING PENETRATIONS
(Refer to FR4.00)

Penetrations by Shaft Enclosures
(Refer to FR4.1x)

Penetrations by Ducts, Pipes, Conduits and Cables
(Refer to FR4.2x)

Penetrations by Framed Openings, Fixtures and Equipment
(Refer to FR4.3x)

INTEGRATE OPD INTO CONSTRUCTION DOCUMENTS

OPD-0091-13

BY: Gary Dunger

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GENERAL NOTES

1. CONSTRUCTION, WORKMANSHIP AND MATERIAL SHALL CONFORM TO THE 2013 CALIFORNIA BUILDING CODE (CBC 2013).

2. THE CONTRACTOR SHALL NOTIFY OSHPD AND THE REGISTERED DESIGN PROFESSIONAL (RDP) IN RESPONSIBLE CHARGE WHERE A CONFLICT OR DISCREPANCY OCCURS BETWEEN THE CONSTRUCTION DRAWINGS AND ANY OTHER PORTION OF THE CONTRACT DOCUMENTS, FIELD CONDITIONS, OR WHERE ANY CONDITIONS ARISE NOT COVERED BY THESE DOCUMENTS WHEREIN WORK WILL NOT COMPLY WITH CODE REQUIREMENTS.


4. THE FIRE-RESISTANCE RATING OF BUILDING ELEMENTS, COMPONENT OR ASSEMBLIES SHALL BE DETERMINED IN ACCORDANCE WITH ASTM E 119 OR UL 263 OR IN ACCORDANCE WITH CBC SECTION 703.3.

5. WHERE FIRE RESISTIVE PARTITIONS, WALLS AND BARRIERS ARE CONSTRUCTED OF GYPSUM BOARD TO MEET THE FIRE AND SMOKE PROTECTION FEATURES IN ACCORDANCE WITH CBC CHAPTER 7, THEY SHALL MEET THE REQUIREMENTS OF THE FOLLOWING:

   i. THE DOCUMENTED REQUIREMENTS OF TESTING AND LISTING AGENCIES FOR MANUFACTURER’S PROPRIETARY MATERIALS AND CONSTRUCTION METHODS AS SHOWN IN THE TEST REPORT – E.G. UNDERWRITERS LABORATORIES, INTERTEK’S WARNock-HERSEY, ETC., OR

   ii. THE GENERIC FILE NUMBERS OF WALLS AND INTERIOR PARTITIONS DOCUMENTED IN THE GYPSUM ASSOCIATION’S PUBLICATION, “FIRE RESISTANCE DESIGN MANUAL, OR

   iii. THE PRESCRIPTIVE CONSTRUCTION ITEMS LISTED IN CBC TABLE 721.1(2) FOR WALLS AND PARTITIONS.

6. WHERE STRUCTURAL MEMBERS ARE PROTECTED WITH SPRAYED FIRE-RESISTANT MATERIALS (SFRM) THEY SHALL MEET THE FIRE RESISTANCE RATING REQUIREMENTS OF SECTION 704 OF THE CBC AND THE FOLLOWING:

   i. THE DOCUMENTED REQUIREMENTS OF TESTING AND LISTING AGENCIES FOR MANUFACTURER’S PROPRIETARY MATERIALS AND CONSTRUCTION METHODS AS SHOWN IN THE TEST REPORT – E.G. UNDERWRITERS LABORATORIES, INTERTEK’S WARNock-HERSEY, ETC.

7. WHERE STRUCTURAL MEMBERS ARE PROTECTED WITH OTHER NON-COMBUSTIBLE INSULATING MATERIALS, THEY SHALL MEET THE FIRE RESISTANCE RATING REQUIREMENTS OF SECTION 704 OF THE CBC AND THE FOLLOWING:

   i. THE PRESCRIPTIVE CONSTRUCTION ITEMS LISTED IN CBC TABLE 721.1(1) FOR MINIMUM PROTECTION OF STRUCTURAL PARTS.
8. STRUCTURAL DECKS SHALL BE CONSTRUCTED TO MEET THE REQUIREMENTS OF RATED HORIZONTAL ASSEMBLIES IN ACCORDANCE WITH CBC SECTION 711, AND SHALL MEET THE REQUIREMENTS OF THE FOLLOWING:

   i. THE DOCUMENTED REQUIREMENTS OF TESTING AND LISTING AGENCIES FOR MANUFACTURER’S PROPRIETARY MATERIALS AND CONSTRUCTION METHODS AS SHOWN IN THE TEST REPORT – E.G. UNDERWRITERS LABORATORIES, INTERTEK’S WARNOCK-HERSEY, ETC., OR
   
   ii. THE PRESCRIPTIVE CONSTRUCTION ITEMS LISTED IN CBC TABLE 721.1(3) FOR MINIMUM PROTECTION OF FLOOR AND ROOF SYSTEMS.

9. THE RDP IN RESPONSIBLE CHARGE SHALL VERIFY THAT THE USE OF THE OPD IN PROVIDING AN ACCEPTABLE FIRE RESISTIVE RATING FOR SPECIFIC CONDITIONS, WILL ALSO MEET ANY ACOUSTICAL CRITERIA THAT MAY OTHERWISE BE REQUIRED BY THE PROJECT DESIGN CRITERIA.

10. INDIVIDUAL DETAILS WITHIN THIS OPD TYPICALLY RELY UPON OTHER DETAILS FOR INFORMATION ESSENTIAL TO THEIR APPLICATION. OPD’S ARE TO BE USED IN CONJUNCTION WITH ALL RELATED, APPLICABLE DETAILS WITHIN THIS OPD PACKAGE INCLUDING THE GENERAL NOTES.

11. OPD PROVIDE OPTIONS FOR SOME COMPONENTS, SUCH AS FRAMING MEMBER SIZES, FASTENERS, ETC. THE RDP IN RESPONSIBLE CHARGE SHALL CLEARLY IDENTIFY ALL COMPONENTS SELECTED FOR USE IN THE PROJECT-SPECIFIC CONDITIONS.

12. OPD SHALL NOT BE USED AS THE BASIS FOR ENGINEERING JUDGMENTS SUBMITTED TO THE OFFICE PURSUANT TO CBC SECTION 703.3 AND OSHPD CODE APPLICATION NOTICE 2-703.3
GRAPHICS LEGEND

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING. REFER STRUCTURAL DRAWINGS

COLD FORMED METAL STUD. REFER ARCHITECTURAL DRAWINGS FOR WALL TYPE.

COLD FORMED SHAFT STUD. REFER ARCHITECTURAL DRAWINGS FOR WALL TYPE.

GYPSUM BOARD. REFER ARCHITECTURAL DRAWINGS FOR WALL TYPE.

COMPRESSED MINERAL WOOL MEETING UL (OR EQUIVALENT) STANDARDS FOR SAFING PRODUCTS

FIRE SEALANT
TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL
WOOL COMPRRESSED 50% W/ UL
TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN
1/2" OVER GYP. BD. AND 2"
OVER COLUMN FIREPROOFING

MIN THICKNESS
IS EQUAL TO
THICKNESS OF
FIRE PROOFING

DBL STUD OR EXTENDED FLANGE
DEPTH OF SINGLE STUD AS REQ'D FOR
GYPSUM WALLBOARD ATTACHMENT

RATED GYPSUM WALLBOARD
ASSEMBLY CONSTRUCTION PER
CBC-721 OR TESTED LISTING

METAL FRAMING PER
ARCHITECTURAL/ STRUCTURAL
DRAWINGS

STRUCTURAL STEEL
COLUMN W/ FIREPROOF
PER CBC-721 OR
TESTED LISTING

1 1/2" MAX
METAL FRAMING PER
ARCHITECTURAL/ STRUCTURAL
DRAWINGS

RATED GYPSUM WALLBOARD
ASSEMBLY CONSTRUCTION
PER CBC-721 OR TESTED
LISTING

DOUBLE STUD
WHERE OCCURS

TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL
WOOL COMPRESSED 50%

UL TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN
1/2" OVER GYP. BD. AND 2"
OVER COLUMN FIREPROOFING

STRUCTURAL STEEL
COLUMN W/ FIREPROOF
PER CBC-721 OR
TESTED LISTING

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM
WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE
EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN
ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

METAL FRAMING PER ARCHITECTURAL/ STRUCTURAL DRAWINGS

UL TESTED (ANSI/UL 2079) SEALANT/SPIRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING

TYPICAL FIRE RESISTIVE JOINT COMPRISD OF 4 PCF MINERAL WOOL COMPRESSED 50%

STRUCTURAL STEEL COLUMN W/ FIREPROOF PER CBC-721 OR TESTED LISTING

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1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

CONTINUOUS RATED ASSEMBLY

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079) SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

LINES OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION

Section Title: OSHPD FIRE RESISTIVE STANDARD DETAILS
Sheet Title: INTERSECTION OF 1-HR-FR PARTITION, WALL AND BARRIER AT PROTECTED COLUMN

OPD No: FR1.10

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1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

DOUBLE STUD WHERE OCCURS

LEAST DIMENSION SHALL BE AT LEAST THE THICKNESS OF THE FIREPROOFING, TYP.

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079) SEALANT/Spray OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING: TYPICAL ALL COLUMN INTERSECTIONS.

1 1/2" MAX

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION

Section Title: OSPD FIRE RESISTIVE STANDARD DETAILS
Sheet Title: INTERSECTION OF 1-HR-FR PARTITION, WALL AND BARRIER AT PROTECTED COLUMN
OPD No: FR1.11

10/10/2014
NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2”.
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION.
1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079) SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

NOTES:
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4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION
1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

DOUBLE STUD WHERE OCCURS, BOTH SIDES

CONTINUOUS RATED ASSEMBLY

1 1/2" MAX

TYPICAL FIRE RESISTIVE JOINT COMPRISSED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079) SEALANT/SprüAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION
1 1/2" MAX

1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY
CONSTRUCTION PER CBC-721 OR TESTED LISTING

DOUBLE STUD WHERE OCCURS, BOTH SIDES

NON-RATED ASSEMBLY

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING.
TYPICAL ALL COLUMN INTERSECTIONS.

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

LEAST DIMENSION SHALL BE AT LEAST THE THICKNESS OF THE FIREPROOFING, TYP.

1 1/2" MAX

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION
INTERSECTION OF 1-HR-FR PARTITION, WALL AND BARRIER AT PROTECTED COLUMN

1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

DOUBLE STUD WHERE OCCURS, BOTH SIDES

CONTINUOUS RATED ASSEMBLY

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

1 1/2" MAX

1 1/2" MAX

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079)

SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION
1 HOUR RATED GYPSUM WALLBOARD ASSEMBLY
CONSTRUCTION PER CBC-721 OR TESTED LISTING

TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL
WOOL COMPRESSED 50% W/ UL
TESTED (ANSI/UL 2079)
SEALANT/SPIRAY OVERLAP MIN
1/2" OVER GYP. BD. AND 2" OVER
COLUMN FIREPROOFING. TYPICAL
ALL COLUMN INTERSECTIONS.

LINE OF NON-RATED FINISH
CONSTRUCTION AROUND
COLUMN TYP. (OPTIONAL)

STRUCTURAL STEEL
COLUMN W/ SPRAY
APPLIED FIREPROOFING
CONSTRUCTION PER
CBC-721 OR TESTED
LISTING

DOUBLE STUD WHERE
OCCURS, BOTH SIDES

LEAST DIMENSION SHALL
BE AT LEAST THE
THICKNESS OF THE
FIREPROOFING, TYP.

1 HOUR RATED GYPSUM
WALLBOARD ASSEMBLY
CONSTRUCTION PER
CBC-721 OR TESTED
LISTING

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM
WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE
EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN
ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR1.00, FR1.01, FR1.02 FOR JOINT DESCRIPTION

Section Title: OSHPD FIRE RESISTIVE STANDARD DETAILS
Sheet Title: INTERSECTION OF 1-HR-FR PARTITION, WALL
AND BARRIER AT PROTECTED COLUMN
OPD No: FR1.17
GYPSUM BOARD EXTENDS PER PLAN

MIN 5/8” DEPTH FLEXIBLE FIRESTOP SEALANT UL WW-D-0040

MINERAL WOOL

BATT INSULATION

EXTERIOR STUDS PER STRUCT.

FOIL FACE

MINERAL WOOL, TIGHT FIT WITH FOIL FACE ON ONE SIDE

PLASTER SYSTEM

GYP5UM BOARD AT INTERIOR FACE OF EXTERIOR WALL EXTENDS VERTICALLY FROM FLOOR TO FLOOR AND HORIZONTALLY FROM STUD TO STUD MIN. AS NEEDED TO RECEIVE WIDTH OF INTERIOR RATED PARTITION WALL.

RATED WALL SEE PLAN FROM STUD TO STUD MIN. WIDTH
**OSHPD FIRE RESISTIVE STANDARD DETAILS**

**PARTITION TERMINATION @ GLAZING**

- **TYP. 1 HR. RATED PTN.**
  - Cont. Black Closed-Cell Neoprene w/ Firestop on both sides @ horiz. Mullion below, typ.
  - Cl. PTN. / Mullion, U.O.N
  - Rated Partition per Architectural Drawings
  - Cont. Black Closed-Cell Neoprene w/ Firestop on both sides

- **TYP. 2 HR. RATED PTN.**
  - Cont. Black Closed-Cell Neoprene w/ Firestop on both sides @ horiz. Mullion below, typ.
  - Cl. PTN. / Mullion, U.O.N
  - Cont. Black Closed-Cell Neoprene w/ Firestop on both sides

**GLAZING PER EXTERIOR DRAWINGS**

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**Section Title:** OSHPD FIRE RESISTIVE STANDARD DETAILS

**Sheet Title:** PARTITION TERMINATION @ GLAZING

**OPD No:** FR1.35

**Date:** 10/10/2014

**Comments:**

OPD-0091-13: Reviewed for Code Compliance by Gary Dunger
NOTE:
1. JOINT TRANSITIONS FROM VERTICAL AND HORIZONTAL MULLIONS TO RATED PARTITION ARE TO BE SEISMICALLY COMPATIBLE WITH BUILDING MOVEMENTS.
NOTE:
1. PRECAST PANELS SHOWN ARE CURTAIN WALL SUPPORTED CONCRETE PANELS WITH SEISMIC DRIFT MOVEMENTS. CONCRETE PRECAST MATERIAL TO BE FULL DEPTH OF PANEL.
NOTE:
1. PRECAST PANELS SHOWN ARE CURTAIN WALL SUPPORTED CONCRETE PANELS WITH SEISMIC DRIFT MOVEMENTS. CONCRETE PRECAST MATERIAL TO BE FULL DEPTH OF PANEL.
TYPICAL FIRE RESISTIVE JOINT COMPRised of 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079) SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING.

LEAST DIMENSION SHALL BE AT LEAST THE THICKNESS OF THE FIREPROOFING, TYP.

DOUBLE STUD WHERE OCCURS

RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

METAL FRAMING PER ARCHITECTURAL/STRUCTURAL DRAWINGS

STRUCTURAL STEEL COLUMN W/ FIREPROOF PER CBC-721 OR TESTED LISTING

1 1/2" MAX
METAL FRAMING PER ARCHITECTURAL/STRUCTURAL DRAWINGS

2 HR FIRE RESISTANCE RATED WALL ASSEMBLY PER ARCHITECTURAL DRAWINGS

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50%

UL TESTED (ANSI/UL 2079) SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING.

STRUCTURAL STEEL COLUMN W/ FIREPROOF PER CBC-721 OR TESTED LISTING

1 1/2" MAX
RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

METAL FRAMING PER ARCHITECTURAL/STRUCTURAL DRAWINGS

UL TESTED (ANSI/UL 2079) SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING.

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50%

STRUCTURAL STEEL COLUMN W/ FIREPROOF PER CBC-721 OR TESTED LISTING
2 HOUR RATED WALL ASSEMBLY
PER ARCHITECTURAL DRAWINGS

DOUBLE STUD WHERE OCCURS

CONTINUOUS RATED ASSEMBLY

STRUCTURAL STEEL COLUMN W/ SPRAY
APPLIED FIREPROOFING
PER CBC-721 OR TESTED LISTING

1 1/2" MAX

TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL
WOOL COMPRESSED 50% W/ UL
TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN 1/2"
OVER GYP. BD. AND 2" OVER
COLUMN FIREPROOFING. TYPICAL
ALL COLUMN INTERSECTIONS.

LINE OF NON-RATED FINISH
CONSTRUCTION AROUND
COLUMN (OPTIONAL)

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM
WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE
EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN
ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION
**FR2.11**

2-HOUR RATED WALL ASSEMBLY PER ARCHITECTURAL DRAWINGS

DOUBLE STUD WHERE OCCURS

TYPICAL FIRE RESISTIVE JOINT COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079)

SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

LEAST DIMENSION SHALL BE AT LEAST THE THICKNESS OF THE FIREPROOFING, TYP.

1 1/2" MAX

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN TYP. (OPTIONAL)

1 1/2" MAX

NOTES:

1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION
NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION.
2 HOUR RATED WALL ASSEMBLY
PER ARCHITECTURAL DRAWINGS

DOUBLE STUD WHERE OCCURS

LEAST DIMENSION SHALL BE AT LEAST THE THICKNESS OF THE FIREPROOFING, TYP.

1 1/2" MAX

TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN 1/2"
OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN TYP. (OPTIONAL)

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION.
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION.
2 HOUR RATED WALL ASSEMBLY PER ARCHITECTURAL DRAWINGS

TYPICAL FIRE RESISTIVE JOINT
COMPRISED OF 4 PCF MINERAL
WOOL COMPRESSED 50% W/ UL
TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN 1/2"
OVER GYP. BD. AND 2" OVER
COLUMN FIREPROOFING. TYPICAL
ALL COLUMN INTERSECTIONS.

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM
WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE
EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN
ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION
2 HOUR RATED WALL ASSEMBLY PER ARCHITECTURAL DRAWINGS

DOUBLE STUD WHERE OCCURS, BOTH SIDES

CONTINUOUS RATED ASSEMBLY

TYPICAL FIRE RESISTIVE JOINT COMPRised of 4 PCF MINERAL WOOL COMPRESSED 50% W/ UL TESTED (ANSI/UL 2079)
SEALANT/SPRAY OVERLAP MIN 1/2" OVER GYP. BD. AND 2" OVER COLUMN FIREPROOFING. TYPICAL ALL COLUMN INTERSECTIONS.

LINE OF NON-RATED FINISH CONSTRUCTION AROUND COLUMN (OPTIONAL)

2 HOUR RATED GYPSUM WALLBOARD ASSEMBLY CONSTRUCTION PER CBC-721 OR TESTED LISTING

STRUCTURAL STEEL COLUMN W/ SPRAY APPLIED FIREPROOFING PER CBC-721 OR TESTED LISTING

1 1/2" MAX

1 1/2" MAX

NOTES:
1. MAXIMUM SEPARATION BETWEEN EDGE OF GYPSUM WALLBOARD AND FACE OF FIREPROOFING IS 1 1/2".
2. THE FIRE RESISTIVE RATING OF STEEL COLUMN MUST BE EQUAL OR GREATER THAN WALL RATING.
3. "WET" THICKNESS OF SEALANT TO BE MIN. 1/8" TESTED IN ACCORDANCE WITH ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION

Section Title : OSHPD FIRE RESISTIVE STANDARD DETAILS
OPD No: FR2.16

Sheet Title : INTERSECTION OF 2-HR-FR PARTITION, WALL AND BARRIER AT PROTECTED COLUMN
**Notes:**

1. **Maximum Separation Between Edge of Gypsum Wallboard and Face of Fireproofing** is 1 1/2".
2. The **Fire Resistant Rating of Steel Column MUST BE EQUAL OR GREATER THAN WALL RATING**.
3. "**Wet**" Thickness of Sealant to be MIN. 1/8" Tested in accordance with ASTM E1966 (ANSI/UL 2079).
4. SEE FR2.00, FR2.01, FR2.02 FOR JOINT DESCRIPTION.
1. PLAN

1-HOUR PARTITION AS SCHEDULED - SEE ARCHITECTURAL DRAWINGS FOR WALL TYPE

RECESSED MEP ITEM - SEE MEP DRAWINGS

(2) #10 SELF-TAPPING SCREWS EACH SIDE OF CABINET TYPICAL

5-SIDE GYPSUM WALLBOARD WRAP. FIRETAPE @ INSIDE CORNERS

2. SECTION

1-HOUR PARTITION AS SCHEDULED - SEE ARCHITECTURAL DRAWINGS FOR WALL TYPE

SILL, JAMB AND HEAD FRAMING PER STRUCTURAL DRAWINGS

RECESSED MEP ITEM - SEE MEP DRAWINGS

(2) #10 SELF-TAPPING SCREWS EACH SIDE OF CABINET TYPICAL, 24" O.C. MAX.

25 GA MIN. LIGHT GAGE ANGLE 1 1/2" X 1 1/2" ALL FOUR SIDES

5-SIDE GYPSUM WALLBOARD WRAP. FIRETAPE @ INSIDE CORNERS

SILL, JAMB AND HEAD FRAMING PER STRUCTURAL DRAWINGS

NOTE: ALL PENETRATIONS TO MEET UL LISTING FOR PENETRATIONS.
PARTITION PER ARCHITECTURAL DRAWINGS

KING STUD PER STRUCTURAL DRAWINGS

1/2" MIN.

16 GA. FIRE RATED HOLLOW METAL WRAP-AROUND DOOR FRAME
PARTITION PER ARCHITECTURAL DRAWINGS

KING STUD PER STRUCTURAL DRAWINGS

1/2" MIN.

16 GA. FIRE RATED HOLLOW METAL WRAP-AROUND DOOR OR WINDOW FRAME

Section Title: OSHPD FIRE RESISTIVE STANDARD DETAILS
Sheet Title: HOLLOW METAL DOOR JAMB @ 2HR-RATED WALL

FR3.03
NOTE:
1. CONTROL JOINT MATERIAL MAY TERMINATE 6" ABOVE CEILING LINE. CONTINUE JOINT WITH GYP. BD. TAPE - DO NOT FILL JOINT WITH TAPING COMPOUND.

2. THROUGH JOINTS ARE NOT PERMITTED. OFFSET CONTROL JOINT AT BOTH SIDES OF WALL A MINIMUM OF ONE STUD BAY
1 OR 2 HR. RATED PARTITION

2 HR. RATED PARTITION

NOTE:
CONTROL JOINT MATERIAL MAY TERMINATE 6" ABOVE CEILING LINE. CONTINUE JOINT WITH GYP. BD. TAPE - DO NOT FILL JOINT WITH TAPING COMPOUND.
TYPE ‘S’ SCREWS (MIN. 4 PER SECTION) PER HOLES OVER 3” DIA.

OVER-SIZED HOLES (BEYOND) ON EXIST. PARTITION

SELF TAPPING GYP. BD. SCREWS (MIN. 2 PER SECTION) PER HOLES UP TO 3” DIA.

5/8” TYPE ‘X’ GYP. BD.

SCREW - SEE NOTES

EXIST. MTL STUD & GWB, IN FOREGROUND & GYP. BD.

NOTES:
1. BUTTER BACK SIDE OF PATCH WITH JOINT COMPOUND OR GYPSUM FIRE SEALANT
2. LEAVE ALL SCREWS EXPOSED
CONCRETE SLAB - SEE STRUCTURAL DRAWINGS

FLUTE STRAP - SEE STRUCTURAL DRAWINGS FOR TYPE AND SPACING.

RATED HEAD-OF-WALL JOINT SYSTEM PER ARCHITECTURAL DRAWINGS

MECHANICAL SUPPORT THROUGH FIRE SPRAY - SEE MEP DRAWINGS FOR SUPPORT TYPE AND LOCATIONS.

FIRE SEALANT 5/8" ONTO VERTICAL GYP. BD. AND ACROSS CONCRETE DECK ASSEMBLY TO OUTER EDGE OF FLUTE.

CONTINUOUS COMPRESSED MINERAL WOOL @ FLUTE VOID ABOVE HEAD OF WALL

FIRE SEALANT 5/8" ONTO VERTICAL GYP. BD. AND ACROSS CONCRETE DECK ASSEMBLY TO OUTER EDGE OF FLUTE.
SHAFT WALL PER ARCHITECTURAL DRAWINGS

SHAFT WALL "J" TRACK

REQUIRED THICKNESS OF FIREPROOFING

STL. Z-CLIP
SEE STRUCTURAL DRAWINGS FOR CONNECTIONS AND SPACING

FIRE STOP SEALANT
SEE ARCHITECTURAL DRAWINGS FOR DEFLECTION CRITERIA

MAX. 1" THICKNESS 4 PCF MINERAL WOOL COMPRESSED 50%

FIRE STOP SEALANT
SEE ARCHITECTURAL DRAWINGS FOR DEFLECTION CRITERIA

SHAFTWALL PER ARCHITECTURAL DRAWINGS

SHAFT SIDE
1. CONCRETE FLOOR OVER METAL DECKING ASSEMBLY (MINIMUM 2-1/2" THICK) (2HR. FIRE-RATING).
2. CAST IRON CLOSET FLANGE SIZED TO ACCOMMODATE DRAIN PIPE AND SECURED TO CONCRETE FLOOR WITH CONCRETE ANCHORS.
3. MAXIMUM 4" NOMINAL DIAMETER CAST IRON PIPE.
4. MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED AND RECESSED FROM BOTTOM OF CONCRETE FLOOR TO ACCOMMODATE SEALANT.
5. INTUMESCENT FIRESTOP SEALANT.
6. FLOOR MOUNTED WATER CLOSET.

NOTES: 1. MAXIMUM DIAMETER OF OPENING = 5"
2. ANNULAR SPACE = MINIMUM 3/8"
NOTES:
1. DETAIL BASED ON ICBO EVALUATION REPORT ER-3579.
2. REPORTS NER-258, NER-506, ER-2541, AND ER-4924 MAY BE
   SUBSTITUTED FOR ER-3579 WITH APPROPRIATE ALTERATIONS
   TO HORIZONTAL DRYWALL CONFIGURATION.
3. PROVIDE REPORT ON DOCUMENTS OF RECORD AND
   REFERENCE LOCATION.