NATIONAL GYPSUM COMPANY

FIRE-RATED ASSEMBLIES
IN COMMERCIAL CONSTRUCTION

SECOND EDITION
The PURPLE Book® II is the second edition of National Gypsum Company’s *Fire-Rated Assemblies in Commercial Construction*. Originally published in 2013, The PURPLE Book® has proven to be a trusted resource for architects, contractors and inspectors for assembly details pertaining to National Gypsum Company product applications in fire-rated construction. The PURPLE Book® II features:

- GridMarX® detail, highlighting National Gypsum’s patented pre-printed installation guide marks
- MaX 12™ fastener pattern detail, highlighting National Gypsum’s 12-inch on center fastener pattern for 1-hour assemblies
- New National Gypsum Company fire-rated wall and ceiling assemblies
- New corner details for steel stud partitions
- New corner details for shaftwall assemblies
- New repair details for shaftwall assemblies

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Architects, engineers, designers and/or contractors involved should review these details with the governing code or inspection official at the time of the job submittal to determine if there are any discrepancies with local code or regulatory requirements. A design professional must provide a complete evaluation and verify the suitability of the system for a given application before beginning a project.

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For a guide to fire-safety information relating to certain systems described in The PURPLE Book®, please refer to the information on National Gypsum’s website at ngcfireandsafety.info or call Construction Services at 1-800-NATIONAL.

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<td>X510</td>
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<td><strong>BM Series - Rated Steel Beam Assemblies</strong></td>
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<td>BM 201</td>
<td>2 Hour Steel Beam</td>
<td>N501</td>
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<tr>
<td><strong>PN Series - Penetrations Through Rated Wall and Floor Assemblies</strong></td>
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<tr>
<td>PN 201</td>
<td>Pipe Penetration Through Wall</td>
<td>W-L-1041</td>
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<td>PN 202</td>
<td>Cable Penetration Through Wall</td>
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<td>PN 301</td>
<td>Pipe Penetration Through Floor</td>
<td>C-AJ-1163</td>
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<td>PN 303</td>
<td>Void Fill Assembly</td>
<td>C-AJ-0038</td>
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<td>SN 101</td>
<td>Sound Ratings for 1 Hour Partitions</td>
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<td>SN 102</td>
<td>Sound Ratings for 2 Hour Partitions</td>
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<td>SN 103</td>
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<td>Repair of Fire-Rated Gypsum Board Partitions</td>
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<td>5/8&quot; Gold Bond® Brand Fire-Shield® Gypsum Sheathing, Type X</td>
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<td>Type FSW-G</td>
<td>1/2&quot; Gold Bond® Brand Gridstone® Gypsum Ceiling Panels</td>
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<td>1/2&quot; Gold Bond® Brand Gridstone® CleanRoom Gypsum Ceiling Panels</td>
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<td>Type FSW-6</td>
<td>5/8&quot; Gold Bond® Brand eXP® Extended Exposure Sheathing, Type X</td>
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<td>5/8&quot; Gold Bond® Brand eXP® Interior Extreme® Gypsum Panel, Type X</td>
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<td>5/8&quot; Gold Bond® Brand eXP® Fire-Shield® Tile Backer, Type X</td>
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<td>Type FSW-7</td>
<td>1&quot; Gold Bond® Brand eXP® Extended Exposure Shaftliner, Type X</td>
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<td>5/8&quot; Gold Bond® Brand Fire-Shield® Gypsum Sheathing, Type X</td>
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<td>Type FSLX</td>
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## ASTM Product Standards

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<thead>
<tr>
<th>Standard Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>C475</td>
<td>Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing</td>
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<tr>
<td>C1177</td>
<td>Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel</td>
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<tr>
<td>C1178</td>
<td>Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing</td>
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<tr>
<td>C1325</td>
<td>Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units</td>
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<tr>
<td>C1396</td>
<td>Standard Specification for Gypsum Board</td>
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<tr>
<td>C1658</td>
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## ASTM Test Standards

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<th>Standard Number</th>
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<tbody>
<tr>
<td>C473</td>
<td>Standard Test Methods for Physical testing of Gypsum Panel Products</td>
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<tr>
<td>C474</td>
<td>Standard Test Methods for Joint Treatment Materials for Gypsum Board Construction</td>
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<tr>
<td>C1629</td>
<td>Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels</td>
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<tr>
<td>D3273</td>
<td>Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber</td>
</tr>
<tr>
<td>E84</td>
<td>Standard Test Method for Surface Burning Characteristics of Building Materials</td>
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<tr>
<td>E90</td>
<td>Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements</td>
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<td>E96</td>
<td>Standard Test Methods for Water Vapor Transmission of Materials</td>
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<tr>
<td>E136</td>
<td>Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C</td>
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<tr>
<td>G21</td>
<td>Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi</td>
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## ASTM Application Standards

<table>
<thead>
<tr>
<th>Standard Number</th>
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<tr>
<td>C840</td>
<td>Standard Specification for Application and Finishing of Gypsum Board</td>
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<tr>
<td>C1280</td>
<td>Standard Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing</td>
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## Gypsum Association Standards

<table>
<thead>
<tr>
<th>Standard Number</th>
<th>Description</th>
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<tr>
<td>GA-214</td>
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<td>GA-253</td>
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WALL PRIORITY LEGEND

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<tr>
<th>Priority</th>
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<tr>
<td>1</td>
<td>2 HOUR FIRE AND SMOKE WALL</td>
</tr>
<tr>
<td>2</td>
<td>2 HOUR FIRE WALL</td>
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<tr>
<td>3</td>
<td>2 HOUR SHAFTWALL</td>
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<tr>
<td>4</td>
<td>1 HOUR FIRE AND SMOKE WALL</td>
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<td>5</td>
<td>1 HOUR FIRE WALL</td>
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<td>NON-RATED WALL</td>
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SCALE: 3"=1'-0"  DETAIL: GN 103
GRIDMARX PREPRINTED GUIDE MARKS
RUN THE LENGTH OF THE BOARD AT FIVE POINTS IN FOUR-INCH INCREMENTS. MARKS RUN ALONG BOTH LONG EDGES AND AT 16", 24", AND 32". IN VERTICAL APPLICATIONS, GRIDMARX SERVE AS GUIDE MARKS TO IDENTIFY THE LOCATION OF FRAMING MEMBERS BEHIND THE GYPSUM BOARD AND A REFERENCE POINT FOR THE INSTALLATION OF FASTENERS. IN HORIZONTAL APPLICATIONS, GRIDMARX SERVE AS A REFERENCE POINT TO HELP IDENTIFY THE LOCATION OF FRAMING MEMBERS.

VERTICAL APPLICATION

HORIZONTAL APPLICATION

PARTITION - 1 HR
UL DESIGN: U420
UL DESIGN: U465
UL DESIGN: V417
UL DESIGN: V438
UL DESIGN: V450
UL DESIGN: V482
UL DESIGN: V483
UL DESIGN: V486
UL DESIGN: V488
UL DESIGN: W417
UL DESIGN: W421
UL DESIGN: W444

DATE: 09/01/18
MAX 12 FASTENER PATTERN FOR 1 HOUR PARTITIONS
SCALE: 1/2"=1'-0"
DETAIL: MAX 12

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD
24" O.C. MAX.

5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

GLASS FIBER INSULATION (OPTIONAL): REQUIRED FOR HIGH STRENGTH FIRE-SHIELD 60 APPLICATIONS

1" MIN.

5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438
1 HOUR PARTITION WITH DEFLECTION TRACK

CONCRETE ON FLUTED STEEL DECK

5/8" FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD 24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL); REQUIRED FOR HIGH STRENGTH FIRE-SHIELD 60 APPLICATIONS

5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

FIRESTOP SEALANT

MINERAL WOOL INSULATION

STEEL TRACK NESTED WITHIN DEFLECTION TRACK WITHOUT ATTACHMENT

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0034
UL DESIGN: HW-D-0045

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438

SCALE: 3"=1'-0"
DATE: 09/01/18
DETAIL: SS 105

© National Gypsum Properties, LLC
1 HOUR PARTITION TO STEEL DECK

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0363

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438

5/8" FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD 24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL); REQUIRED FOR HIGH STRENGTH FIRE-SHIELD 60 APPLICATIONS

5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

DATE: 09/01/18
SCALE: 3"=1'-0"
CONCRETE ON FLUTED STEEL DECK

SCALE: 3"=1'-0"

DATE: 09/01/18

1 HOUR PARTITION OFFSET FROM BEAM

DETAIL: SS 109

© National Gypsum Properties, LLC
HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0079
UL DESIGN: HW-D-0083

1 HOUR PARTITION TO CONCRETE SLAB
DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 110

MIN. 4 1/2" THICK REINFORCED CONCRETE

5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" STEEL STUD 24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL); REQUIRED FOR HIGH STRENGTH FIRE-SHIELD 60 APPLICATIONS

5/8" FIRE-SHIELD GYPSUM BOARD
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)

FIRESTOP SEALANT
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD
24" O.C. MAX.

GLASS FIBER INSULATION
(Optional)

FLEXIBLE SEALANT
(Optional)

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX.

FIRESTOP SEALANT

CONCRETE OR FLUTED STEEL DECK

PARTITION - 1 HR
UL DESIGN: V497
PARTITION RATED FROM BOTH SIDES

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 111

© National Gypsum Properties, LLC
1 HOUR CHASE WALL TO STEEL DECK

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 112

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD
24" O.C. MAX.

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

GLASS FIBER INSULATION (OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

1" MAX.

FLEXIBLE SEALANT (OPTIONAL)

2 LAYERS 5/16" XP
FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD
24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL)

2 LAYERS 5/16" XP
FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 114

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

FIRESTOP SEALANT

POLYETHYLENE BACKER ROD, GLASS FIBER INSULATION, OR MINERAL WOOL INSULATION

CUT GYPSUM BOARD PANELS TO FIT DECK CONFIGURATION

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0103
UL DESIGN: HW-D-0076

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD 24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL)

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD 24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL)

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTENED 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

FIRESTOP SEALANT

MINERAL WOOL INSULATION

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0034
UL DESIGN: HW-D-0045

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 204

© National Gypsum Properties, LLC
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" STEEL STUD 24" O.C. MAX.
GLASS FIBER INSULATION (OPTIONAL)
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

FIRESTOP SEALANT

MINERAL WOOL INSULATION

STEEL TRACK NESTED WITHIN DEFLECTION TRACK WITHOUT ATTACHMENT

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0034
UL DESIGN: HW-D-0045

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 205

© National Gypsum Properties, LLC
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" STEEL STUD 24" O.C. MAX.
GLASS FIBER INSULATION (OPTIONAL)
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK
ELASTOMERIC SPRAY FIRESTOP
MINERAL WOOL INSULATION
JOINT FORMING PROFILE MATERIAL
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0363

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 206

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

PROFORM QUICK-SET FS-90 COMPOUND

MINERAL WOOL INSULATION

CUT GYPSUM BOARD PANELS TO FIT DECK CONFIGURATION

FIRE TRAK SHADOWLINE MECHANICALLY FASTEN 24" O.C. MAX.

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0060

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

3 5/8" STEEL STUD 24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL)

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

SCALE: 3"=1'-0"
2 LAYERS 5/8" FIRE-SHIELD
GYPSUM BOARD
3 5/8" STEEL STUD
24" O.C. MAX.
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
GLASS FIBER INSULATION (OPTIONAL)
FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

STEEL BEAM
SPRAY-APPLIED FIRE RESISTIVE MATERIAL
20 GA. Z-CLIPS @ 16" O.C. MAX., FASTEN BEFORE APPLICATION OF SPRAY ON FIREPROOFING
FASTEN STEEL TRACK TO Z-CLIPS
MINERAL WOOL INSULATION
ELASTOMERIC SPRAY FIRESTOP

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" STEEL STUD
24" O.C. MAX.
GLASS FIBER INSULATION (OPTIONAL)
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)
CONCRETE ON FLUTED STEEL DECK

2 HOUR PARTITION OFFSET FROM BEAM

- STEEL BEAM
- SPRAY-APPLIED FIRE RESISTIVE MATERIAL
- 3/8" DIAMOND MESH EXPANDED METAL LATH
- MINERAL WOOL INSULATION
- 1 1/2" Z FURRING OR CHANNELS 24" O.C.
- ELASTOMERIC SPRAY FIRESTOP
- 2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
- 3 5/8" STEEL STUD 24" O.C. MAX.
- GLASS FIBER INSULATION (OPTIONAL)
- 2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
- STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
- FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0617
UL DESIGN: HW-D-0635

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 209

© National Gypsum Properties, LLC
3 5/8" STEEL STUD
24" O.C. MAX.

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

GLASS FIBER INSULATION (OPTIONAL)

FLEXIBLE SEALANT (OPTIONAL)

MIN. 4 1/2" THICK REINFORCED CONCRETE

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0079
UL DESIGN: HW-D-0083
CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD 16" O.C. MAX.

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

MINERAL WOOL INSULATION

FLEXIBLE SEALANT (OPTIONAL)

1/2" PERMABASE CEMENT BOARD

5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

PARTITION - 2 HR
UL DESIGN: V452

28
2 HOUR PARTITION TO STEEL DECK

SCALE: 3"=1'-0"

DATE: 09/01/18

DETAIL: SS 214

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CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD
24" O.C. MAX.

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

3" MINERAL WOOL INSULATION

FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

3/4" ULTRA-SHIELD FS GYPSUM BOARD

3 5/8" STEEL STUD
24" O.C. MAX.

3" MINERAL WOOL INSULATION

3/4" ULTRA-SHIELD FS GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

PARTITION - 2 HR
UL DESIGN: W432
UL DESIGN: V438

2 HOUR PARTITION TO STEEL DECK

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 215

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CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD
24" O.C. MAX.

3 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

3 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

GLASS FIBER INSULATION (OPTIONAL)

PARTITION - 3 HR
UL DESIGN: V438

HEAD OF WALL - 3 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

SCALE: 3"=1'-0"
DATE: 09/01/18
DETAIL: SS 301

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CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD
24" O.C. MAX.

STEEL TRACK - MECHANICALLY FASTENED
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

FLEXIBLE SEALANT (OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

2 LAYERS 3/4"
ULTRA-SHIELD FS GYPSUM BOARD

3 5/8" STEEL STUD
24" O.C. MAX.

GLASS FIBER INSULATION (OPTIONAL)

2 LAYERS 3/4"
ULTRA-SHIELD FS GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTENED
24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 3 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

PARTITION - 3 HR
UL DESIGN: W455
UL DESIGN: V438
CONCRETE ON FLUTED STEEL DECK

3 5/8" STEEL STUD
24" O.C. MAX.

4 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN
24" O.C. MAX. (SLOTTED TRACK OPTIONAL)

GLASS FIBER INSULATION
(OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

FLEXIBLE SEALANT
(OPTIONAL)

HEAD OF WALL - 4 HR
UL DESIGN: HW-D-0043
UL DESIGN: HW-D-0292

PARTITION - 4 HR
UL DESIGN: V438

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 401
VERTICAL JOINTS
STAGGERED ONE STUD
CAVITY ON OPPOSITE
SIDES OF PARTITION

HORIZONTAL JOINTS
NEED NOT BE
STAGGERED OR BACKED
BY FRAMING

5/8" FIRE-SHIELD
GYPSUM BOARD

1" TYPE S SCREWS 12"
O.C. PERIMETER AND
FIELD

1 HR PARTITION JOINT STAGGERING REQUIREMENTS
DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: SS 501

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438

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VERTICAL JOINTS
STAGGERED ONE STUD
CAVITY ON OPPOSITE
SIDES OF PARTITION

HORIZONTAL JOINTS
NEED NOT BE
STAGGERED OR BACKED
BY FRAMING

5/8" FIRE-SHIELD
GYPSUM BOARD

1" TYPE S SCREWS 12"
O.C. PERIMETER AND
FIELD

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438
VERTICAL JOINTS STAGGERED ONE STUD CAVITY BETWEEN BASE AND FACE LAYERS

VERTICAL JOINTS STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF PARTITION

HORIZONTAL JOINTS STAGGERED 12" MIN. BETWEEN BASE AND FACE LAYERS

HORIZONTAL BASE LAYER JOINTS NEED NOT BE STAGGERED OR BACKED BY FRAMING

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

FASTENERS - 1" TYPE S SCREWS 16" O.C. PERIMETER AND FIELD (BASE LAYER) 1-5/8" TYPE S SCREWS 16" O.C. PERIMETER AND FIELD (FACE LAYER)

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438
VERTICAL JOINTS STAGGERED ONE STUD CAVITY ON OPPOSITE SIDES OF PARTITION

HORIZONTAL BASE LAYER JOINTS NEED NOT BE STAGGERED OR BACKED BY FRAMING

HORIZONTAL JOINTS STAGGERED 12" MIN. BETWEEN BASE AND FACE LAYERS

VERTICAL JOINTS STAGGERED ONE STUD CAVITY BETWEEN BASE AND FACE LAYERS

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

FASTENERS - 1" TYPE S SCREWS 16" O.C. PERIMETER AND FIELD (BASE LAYER) 1-5/8" TYPE S SCREWS 16" O.C. PERIMETER AND FIELD (FACE LAYER)

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438
STEEL STUDS
VINYL OR METAL
CONTROL JOINT
5/8" FIRE-SHIELD
GYPSUM BOARD
1 5/8" TYPE S SCREWS
24" O.C.

2 LAYERS 5/8"
FIRE-SHIELD
GYPSUM BOARD

FIRE TEST - 1 HR
WHI-647-3024

STEEL STUDS
VINYL OR METAL
CONTROL JOINT
5/8" FIRE-SHIELD
GYPSUM BOARD
1 5/8" TYPE S SCREWS
24" O.C.

2 LAYERS 5/8"
FIRE-SHIELD
GYPSUM BOARD

FIRE TEST - 2 HR
WHI-651-0318.1
PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438

TAPE AND JOINT COMPOUND
5/8" FIRE-SHIELD GYPSUM BOARD

CORNER BEAD
PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438
PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

TAPE AND JOINT COMPOUND
TWO LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CORNER BEAD
PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

TWO LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
TAPE AND JOINT COMPOUND

CORNER BEAD
INTERSECTIONS OF RATED PARTITIONS

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438

PARTITION - 2 HR
UL DESIGN: U411
UL DESIGN: V438

1 HOUR RATED PARTITION

TAPE AND JOINT COMPOUND (TYP.)
1 LAYER REQUIRED AT 1 HOUR SMOKE PARTITION
2 HOUR RATED PARTITION (HIGHER PRIORITY)

SOLID CORE WOOD DOOR
JAMB ANCHOR CLIP
STEEL DOOR FRAME

1 HOUR CORRIDOR PARTITION
NON-RATED STEEL STUD PARTITION

TAPE AND JOINT COMPOUND (TYP.)
1 LAYER REQUIRED AT 1 HOUR SMOKE PARTITION
2 HOUR RATED PARTITION (HIGHER PRIORITY)
1 HR EXTERIOR WALL

EXTERIOR WALL CLADDING

5/8" EXP EXTENDED EXPOSURE GYPSUM SHEATHING

5/8" FIRE-SHIELD GYPSUM BOARD

TAPE AND JOINT COMPOUND

5/8" FIRE-SHIELD GYPSUM BOARD

1 HR PARTITION

DATE: 09/01/18

SCALE: 3"=1'-0"

DETAIL: SS 611

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1 HR EXTERIOR WALL

EXTERIOR WALL CLADDING

5/8" EXP EXTENDED EXPOSURE GYPSUM SHEATHING

5/8" FIRE-SHIELD GYPSUM BOARD

TAPE AND JOINT COMPOUND

5/8" FIRE-SHIELD GYPSUM BOARD

1 HR PARTITION

DATE: 09/01/18

SCALE: 3"=1'-0"

DETAIL: SS 612

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1 HOUR PARTITION AT NON-RATED EXTERIOR WALL

- NON-RATED EXTERIOR WALL
- EXTERIOR WALL CLADDING
- EXP EXTENDED EXPOSURE GYPSUM SHEATHING
- FLEXIBLE SEALANT (OPTIONAL)
- 5/8" FIRE-SHIELD GYPSUM BOARD
- TAPE AND JOINT COMPOUND
- 5/8" FIRE-SHIELD GYPSUM BOARD
- 1 HR PARTITION

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 613
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1 HR EXTERIOR WALL
EXTERIOR WALL CLADDING
5/8" EXP EXTENDED EXPOSURE GYPSUM SHEATHING
FLEXIBLE SEALANT (OPTIONAL)

CONTINUOUS STEEL TRACK CLIPPED TO RECEIVE GYPSUM BOARD

5/8" FIRE-SHIELD GYPSUM BOARD
TAPE AND JOINT COMPOUND
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
2 HR PARTITION

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 614

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STAGGER VERTICAL JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

STEEL STUDS @ 12" O.C.

2 LAYERS 5/16" XP FIRE-SHIELD GYPSUM BOARD. EACH LAYER FASTENED 8" O.C.

CONTINUE DOUBLE LAYER OF 5/16" BOARD OVER MIN. ONE STUD CAVITY OF STRAIGHT PORTION OF WALL (TYP.)

STAGGER VERTICAL JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

2 LAYERS 5/16" XP FIRE-SHIELD GYPSUM BOARD. EACH LAYER FASTENED 8" O.C.

STEEL STUDS @ 10" O.C.

2 LAYERS 5/16" XP FIRE-SHIELD GYPSUM BOARD. EACH LAYER FASTENED 8" O.C.

STEEL STUDS @ 8" O.C.

STAGGER VERTICAL JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

PARTITION - 1 HR
BASED ON UL DESIGN: U465
BASED ON UL DESIGN: V438

DATE: 09/01/18
SCALE: 3/4"=1'-0"
DETAIL: SS 615

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CONTINUE INNER 2 LAYERS OF 5/16" BOARD OVER MIN. ONE STUD CAVITY OF STRAIGHT PORTION OF WALL (TYP.)

STAGGER VERTICAL BASE LAYER JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

STAGGER VERTICAL BASE LAYER JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

STAGGER VERTICAL BASE LAYER JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

STAGGER VERTICAL BASE LAYER JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

4 LAYERS 5/16" XP FIRE-SHIELD GYPSUM BOARD

STAGGER VERTICAL BASE LAYER JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

STAGGER VERTICAL BASE LAYER JOINTS OF DOUBLE 5/16" GYPSUM BOARD ON OPPOSITE SIDES OF PARTITION

STEEL STUDS @ 12" O.C.

STEEL STUDS @ 10" O.C.

STEEL STUDS @ 8" O.C.

4 LAYERS 5/16" XP FIRE-SHIELD GYPSUM BOARD

PARTITION - 2 HR
BASED ON UL DESIGN: U411
BASED ON UL DESIGN: V438

DATE: 09/01/18
SCALE: 3/4"=1'-0"

2 HOUR RATED CURVED CORNER DETAILS
DETAIL: SS 616
CONCRETE ON FLUTED STEEL DECK

5/8" FIRE-SHIELD GYPSUM BOARD

SLOTTED TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FIRESTOP SEALANT

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0194

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

1 HOUR SHAFTWALL WITH DEFLECTION TRACK

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 102

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CONCRETE ON FLUTED STEEL DECK

MINERAL WOOL INSULATION
ELASTOMERIC SPRAY FIRESTOP
STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

5/8" FIRE-SHIELD GYPSUM BOARD
CT, CH, OR I STUDS 24" O.C.
1" FIRE-SHIELD SHAFTLINER
STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0572

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

1/4" MIN.

DATE: 09/01/18
1 HOUR SHAFTWALL WITH DEFLECTION TRACK
SCALE: 3"=1'-0"
DETAIL: SW 103

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CONCRETE ON FLUTED STEEL DECK

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIREFRONT

STEEL DEEP LEG TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0548

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

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DETAIL: SW 105

5/8" FIRE-SHIELD GYPSUM BOARD

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

STEEL DEEP LEG TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

CONCRETE ON FLUTED STEEL DECK

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0569

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 105

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5/8" FIRE-SHIELD GYPSUM BOARD

FLEXIBLE SEALANT (OPTIONAL)

FIRE TRAK SHADOWLINE MECHANICALLY FASTEN 24" O.C. MAX.

CUT GYPSUM BOARD PANELS TO FIT DECK CONFIGURATION

CONCRETE ON FLUTED STEEL DECK

PROFORM QUICK-SET FS-90 COMPOUND

MINERAL WOOL INSULATION

PARTITION - 1 HR
UL DESIGN: U499

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

TOP ROW OF FASTENERS 3" FROM TOP OF GYPSUM BOARD

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0119

1 HOUR SHAFTWALL WITH DEFLECTION TRACK

SCALE: 3"=1'-0"

DATE: 09/01/18

DETAIL: SW 106

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STANDARD SHEET ROCK WALLS - 1 HR

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0642
UL DESIGN: HW-D-0571

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

1 HOUR SHAFTWALL PARTITION TO STEEL BEAM

CONCRETE ON FLUTED STEEL DECK

STEEL TRACK - MECHANICALLY FASTEN 24" O.C.
FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

STEEL BEAM
SPRAY-APPLIED FIRE RESISTIVE MATERIAL
20 GA. Z-CLIPS @ 24" O.C. MAX., FASTEN BEFORE APPLICATION OF SPRAY ON FIREPROOFING

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIESTOP

5/8" FIRE-SHIELD GYPSUM BOARD
CT, CH, OR I STUDS 24" O.C.
1" FIRE-SHIELD SHAFTLINER

STEEL TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)
CONCRETE ON FLUTED STEEL DECK

STEEL BEAM
SPRAY-APPLIED FIRE RESISTIVE MATERIAL

3/8" DIAMOND MESH EXPANDED STEEL LATH

MINERAL WOOL INSULATION

1 1/2" Z FURRING OR CHANNELS 24" O.C.

ELASTOMERIC SPRAY FIRESTOP

5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0645
UL DESIGN: HW-D-0636

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

DATE: 09/01/18
1 HOUR SHAFTWALL PARTITION OFFSET FROM BEAM
SCALE: 3"=1'-0"
DETAIL: SW 108

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2 HOUR SHAFTWALL WITH DEFLECTION TRACK

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0194
UL DESIGN: HW-D-0342

PARTITION - 2 HR
UL DESIGN: U497
UL DESIGN: W419

CONCRETE ON FLUTED STEEL DECK

FIRESTOP SEALANT
SLOTTED CEILING TRACK MECHANICALLY FASTEN 24" O.C. MAX.

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER
STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 203

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CONCRETE ON FLUTED STEEL DECK

5/8" FIRE-SHIELD GYPSUM BOARD
CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER
5/8" FIRE-SHIELD GYPSUM BOARD

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

STEEL DEEP LEG TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

HORIZONTAL CONTROL JOINT 30'-0" O.C.

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0548

PARTITION - 2 HR
UL DESIGN: U498
UL DESIGN: W419

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 204

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DETAIL: SW 205

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5/8" FIRE-SHIELD GYPSUM BOARD

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

CONCRETE ON FLUTED STEEL DECK

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

STEEL DEEP LEG TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0548

PARTITION - 2 HR
UL DESIGN: U497
UL DESIGN: W419

SCALE: 3"=1'-0"

DATE: 09/01/18

2 HOUR SHAFTWALL TO STEEL DECK

DETAIL: SW 205

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CONCRETE ON FLUTED STEEL DECK

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

FIRE TRAK SHADOWLINE - MECHANICALLY FASTEN 24" O.C. MAX.

TOP ROW OF FASTENERS 3" FROM TOP OF GYPSUM BOARD

PROFORM QUICK-SET FS-90 COMPOUND

MINERAL WOOL INSULATION

CUT GYPSUM BOARD PANELS TO FIT DECK CONFIGURATION

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0119

PARTITION - 2 HR
UL DESIGN: U497
UL DESIGN: W419

DATE: 09/01/18
SCALE: 3" = 1'-0"
DETAIL: SW 206

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

STEEL BEAM
SPRAY-APPLIED FIRE RESISTIVE MATERIAL

20 GA. Z-CLIPS @ 24" O.C. MAX., FASTEN BEFORE APPLICATION OF SPRAY ON FIREPROOFING

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0642
UL DESIGN: HW-D-0571

PARTITION - 2 HR
UL DESIGN: U497
UL DESIGN: W419

© National Gypsum Properties, LLC

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 207

2 HOUR SHAFTWALL PARTITION TO STEEL BEAM
CONCRETE ON FLUTED STEEL DECK

STEEL BEAM
SPRAY-APPLIED FIRE RESISTIVE MATERIAL

3/8" DIAMOND MESH EXPANDED STEEL LATH

MINERAL WOOL INSULATION

1 1/2" Z FURRING OR CHANNELS 24" O.C.

ELASTOMERIC SPRAY FIRESTOP

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

PARTITION - 2 HR
UL DESIGN: U497
UL DESIGN: W419

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0645
UL DESIGN: HW-D-0636

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 208

© National Gypsum Properties, LLC
PARTITION - 2 HR
UL DESIGN: W441
UL DESIGN: W419

CONCRETE ON FLUTED STEEL DECK

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

STEEL DEEP LEG TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

3" MINERAL WOOL INSULATION

3/4" ULTRA-SHIELD FS GYPSUM BOARD

MIN. 4" CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

HEAD OF WALL - 2 HR
UL DESIGN: HW-D-0548

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 209

© National Gypsum Properties, LLC
PARTITION - 3 HR
UL DESIGN: W414
UL DESIGN: W419

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 301

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SHAFTWALL END CONDITIONS

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419

PARTITION - 2 HR
UL DESIGN: U497
UL DESIGN: W419

DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 601

© National Gypsum Properties, LLC
1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

5/8" FIRE-SHIELD GYPSUM BOARD

STEEL J TRACK

PAN-HEAD SCREW 24" O.C.

STEEL J TRACK

5/8" FIRE-SHIELD GYPSUM BOARD
1 HOUR SHAFTWALL CORNER DETAIL

5/8" FIRE-SHIELD GYPSUM BOARD

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK

STEEL J TRACK

1" FIRE-SHIELD SHAFTLINER

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS
DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 612

© National Gypsum Properties, LLC
5/8" FIRE-SHIELD
GYPSUM BOARD

2" x 2" 20 GA. ANGLE
FASTENED TO J TRACK
WITH 3/8" PAN-HEAD
SCREWS 24 O.C.

1" FIRE-SHIELD
SHAFTLINER

STEEL J TRACK

PAN-HEAD SCREW
24" O.C.

1" FIRE-SHIELD
SHAFTLINER

STEEL J TRACK

CT, CH, OR I STUDS

© National Gypsum Properties, LLC
1 HOUR SHAFTWALL CORNER DETAIL

DATE: 09/01/18
SCALE: 6"=1'-0"

CT, CH, OR I STUDS
1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK
1" FIRE-SHIELD SHAFTLINER

5/8" FIRE-SHIELD GYPSUM BOARD

5/8" FIRE-SHIELD GYPSUM BOARD
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL J TRACK

PAN-HEAD SCREW 24" O.C.

STEEL J TRACK

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
2 HOUR SHAFTWALL CORNER DETAIL

CT, CH, OR I STUDS

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

1" FIRE-SHIELD SHAFTLINER

1" FIRE-SHIELD SHAFTLINER

DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 621
© National Gypsum Properties, LLC
2 HOUR SHAFTWALL CORNER DETAIL

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

2" x 2" 20 GA. ANGLE FASTENED TO J TRACK WITH TWO 3/8" PAN-HEAD SCREWS AT CEILING AND TWO AT FLOOR

1" FIRE-SHIELD SHAFTLINER

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

2" x 2" 20 GA. ANGLE FASTENED TO J TRACK WITH TWO 3/8" TYPE S-12 SCREWS AT CEILING AND TWO AT FLOOR

DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 622
© National Gypsum Properties, LLC
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

STEEL J TRACK

PAN-HEAD SCREW 24" O.C.

1" FIRE-SHIELD SHAFTLINER

1" FIRE-SHIELD SHAFTLINER
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

2" x 2" 20 GA. ANGLE FASTENED TO J TRACK WITH 3/8" PAN-HEAD SCREWS 24 O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK

PAN-HEAD SCREW 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK

CT, CH, OR I STUDS
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL J TRACK

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

1" FIRE-SHIELD SHAFTLINER

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

DATE: 09/01/18

SCALE: 6"=1'-0"

DETAIL: SW 625
CONCRETE ON FLUTED STEEL DECK

5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

CONCRETE ON FLUTED STEEL DECK

4 3/4" MAX.

FLEXIBLE SEALANT (OPTIONAL)

STEEL J TRACK - MECHANICALLY FASTEN 24" O.C. MAX.

5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS 24" O.C.

1" FIRE-SHIELD SHAFTLINER

DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 650

© National Gypsum Properties, LLC
J TRACK CUT AND FOLDED TO FRAME DUCT AND FASTENED WITH PAN-HEAD SCREWS SEE DETAIL A

J TRACK HEADERS WITH WEBS CUT TO RECEIVE STUDS, FASTEN WITH PAN-HEAD SCREWS SEE DETAIL B

CT, CH, OR I STUDS 24" O.C.

CEILING LINE

J TRACK

J TRACK CUT AND FOLDED TO FRAME DUCT AND FASTENED WITH PAN-HEAD SCREWS

CUT WEB FROM J TRACK TO RECEIVE CT STUD, FASTEN WITH PAN-HEAD SCREWS

DETAIL A

DETAIL B

DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: SW 701

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FRAMING NOT REQUIRED AROUND DUCT WHEN CONFINED TO ONE STUD BAY

CT, CH, OR I STUDS 24" O.C.

J TRACK

CEILING LINE
2 HOUR HORIZONTAL DUCT PROTECTION

VERTICAL - 2 HR
UL DESIGN: U497
HORIZONTAL - 2 HR
UL DESIGN: G586

DATE: 09/01/18
SCALE: 2"=1'-0"
2 HR RATED WALL ASSEMBLY

MECHANICALLY FASTEN STEEL J TRACK 24" O.C.

FLEXIBLE SEALANT
(OPTIONAL)

1/2" TYPE S OR S-12 PAN-HEAD SCREWS
(TWO PER STUD)

DUCT

1" FIRE-SHIELD SHAFTLINER

2 1/2" I-STUDS 24" O.C.

2 LAYERS 1/2" FIRE-SHIELD C GYPSUM BOARD

1/2" TYPE S OR S-12 PAN-HEAD SCREW
24" O.C.

J TRACK FASTENED
24" O.C.

3 LAYERS 1/2"
FIRE-SHIELD C
GYPSUM BOARD

2-1/2" I-STUDS 24"
O.C.

J TRACK FASTENED TO
STUDS 24" O.C. MAX.

2 HR RATED WALL
ASSEMBLY

2 HR RATED
FLOOR-CEILING
ASSEMBLY

UL EVALUATION REPORT
UL ER R3501-02

VERTICAL - 2 HR
UL DESIGN: U497
HORIZONTAL - 2 HR
WHI 694-0300.1

DATE: 09/01/18

SCALE: 2"=1'-0"

DETAIL: SW 705

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2 HR SHAFTWALL ASSEMBLY - UL DESIGN: U498

1" SHAFTLINER
FILLER STRIP

FASTEN J TRACKS WITH 1" TYPE S SCREWS 24" O.C.

STEEL COLUMN

NON-RATED STEEL STUD PARTITION

LATERAL STEEL BRACE

2 HR SHAFTWALL ASSEMBLY WITH LINER PANEL ORIENTED TOWARD LATERAL BRACE - UL DESIGN: U497
2 HR SHAFTWALL ASSEMBLY
WITH LINER PANEL ORIENTED
TOWARD LATERAL BRACE -
UL DESIGN: U497

LATERAL STEEL BRACE

NON-RATED STEEL STUD
PARTITION

STEEL COLUMN

FASTEN J TRACKS
WITH 1 5/8" TYPE S
SCREWS 24" O.C.

1" SHAFTLINER
FILLER STRIP

2 HR SHAFTWALL
ASSEMBLY WITH LINER
PANEL ORIENTED TOWARD
LATERAL BRACE -
UL DESIGN: U497
2 HR SHAFTWALL ASSEMBLY WITH LINER PANEL ORIENTED TOWARD LATERAL BRACE
UL DESIGN: U497

STEEL BEAM

NON-RATED STEEL STUD PARTITION

LATERAL STEEL BRACE

CONTROL JOINT

10"
2 HR SHAFTWALL ASSEMBLY - UL DESIGN U497

30" x 6" x 1/2" STEEL PLATE

STEEL J TRACK

4" x 4" STEEL TUBE

1 1/2" x 6" x 1/2" STEEL PLATE

FIRE CAULK ALL SIDES OF STEEL PLATE PENETRATION

STEEL J TRACK

1" FIRE-SHIELD SHAFTLINER PANEL FASTENED TO STEEL J TRACKS WITH 1 1/2" TYPE S SCREWS

4" x 4" STEEL TUBE

1 1/2" x 6" x 1/2" STEEL PLATE

30" x 6" x 1/2" STEEL ATTACHMENT PLATE FOR GUIDE RAILS

GUIDE RAIL BRACKET ASSEMBLY

2" MINIMUM HOISTWAY WIDTH

GUIDERAIL BRACKET ASSEMBLY

PIT LADDER

2 HR SHAFTWALL ASSEMBLY - UL DESIGN: U497

MINIMUM HOISTWAY DEPTH

ELEVATOR SHAFT ENCLOSURE PLAN

DATE: 09/01/18

SCALE: 1/2"=1'-0"

DETAIL: EV 101

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SECTION A-A

25 GA. 3" x 28" SHEET STEEL

25 GA. 3" x 14" SHEET STEEL

4" SHAFTWALL STUD

SECTION B-B

1/2" FIRE-SHIELD C OR 5/8" FIRE-SHIELD GYPSUM WALLBOARD

3/4" STEEL CHANNEL

CALL BOX

CONDUIT

SECTION C-C

J TRACK

SHAFTWALL STUD

1" FIRE-SHIELD SHAFTLINER

POSITION INDICATOR

FIREMAN SWITCH

CALL BOX

CONDUIT

SECTION D-D

16" x 30" x 1"

FIRE-SHIELD SHAFTLINER

25 GA. 3" x 28" SHEET STEEL

18 GA. x 3/4" x 1"

ANGLE 2-1/2" LONG

CALL BOX

3/4" CHANNEL

5/8" FIRE-SHIELD OR 1/2" FIRE-SHIELD C GYPSUM WALLBOARD

RIGID ELBOW AND CONDUIT

1" FIRE-SHIELD SHAFTLINER

TEST REFERENCE:
FM WP-612
FM WP-621
ELEVATOR SHAFTWALL HEAD AND JAMB DETAILS

Scale: 3" = 1'-0"
Detail: EV 103

DATE: 09/01/18

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REPLACE FACE LAYER WITH 5/8" FIRE-SHIELD GYPSUM BOARD FASTENED TO STUDS AND TRACK WITH 1 5/8" TYPE S SCREWS 12" O.C. JOINTS STAGGERED 24" HORIZONTALLY AND 12" VERTICALLY FROM BASE LAYER JOINTS

MAXIMUM 10" x 10" FLUSH PATCH MADE FROM 5/8" FIRE-SHIELD GYPSUM BOARD FASTENED TO STEEL TRACK WITH 1" TYPE S SCREWS 5" O.C.

STEEL TRACK OR STRAPPING FOR 5/8" PATCH ATTACHMENT ON ALL SIDES OF OPENING

MAXIMUM 10" x 10" FLUSH PATCH MADE FROM 1" FIRE-SHIELD SHAFTLINER

5/8" FIRE-SHIELD GYPSUM BOARD LAMINATED TO SHAFTLINER PANEL WITH SETTING COMPOUND AND SCREWED TO STUDS WITH 1" TYPE S SCREWS 12" O.C., TOP AND BOTTOM EDGES OF BOARD TO OVERLAP PATCHED AREA 12" MIN. UNLESS TERMINATING AT J-TRACK

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SR 101

© National Gypsum Properties, LLC
NEW 1" SHAFTLINER PANEL
CUT IN HALF LENGTHWISE

5/8" FIRE-SHIELD GYPSUM BOARD
LAMINATED TO SHAFTLINER PANEL
WITH SETTING COMPOUND AND
SCREWED TO STUDS WITH 1" TYPE S
SCREWS 12" O.C., TOP AND BOTTOM
EDGES OF BOARD TO OVERLAP
PATCHED AREA 12" MIN. UNLESS
TERMINATING AT J-TRACK

REPLACE FACE LAYER WITH 5/8"
FIRE-SHIELD GYPSUM BOARD
FASTENED TO STUDS AND TRACK
WITH 1 5/8" TYPE S SCREWS 12" O.C.
JOINTS STAGGERED 24"
HORIZONTALLY AND 12" VERTICALLY
FROM BASE LAYER JOINTS

REPLACE BASE LAYER WITH 5/8"
FIRE-SHIELD GYPSUM BOARD
FASTENED TO STUDS AND TRACK
WITH 1" TYPE S SCREWS 24" O.C.

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SR 102

© National Gypsum Properties, LLC
1" x 1" STEEL ANGLE FASTENED TO STUD WITH 3/8" PAN-HEAD SCREWS 24" O.C.

REPLACE FACE LAYER WITH 5/8" FIRE-SHIELD GYPSUM BOARD FASTENED TO STUDS AND TRACK WITH 1 5/8" TYPE S SCREWS 12" O.C. JOINTS STAGGERED 24" HORIZONTALLY AND 12" VERTICALLY FROM BASE LAYER JOINTS

REPLACE BASE LAYER WITH 5/8" FIRE-SHIELD GYPSUM BOARD FASTENED TO STUDS AND TRACK WITH 1" TYPE S SCREWS 24" O.C.

MAXIMUM 10" x 10" FLUSH PATCH MADE FROM 1" FIRE-SHIELD SHAFTLINER

1" SHAFTLINER PANEL LAMINATED TO EXISTING SHAFTLINER PANEL AND PATCH WITH SETTING COMPOUND AND SCREWED TO STUD AND STEEL ANGLE WITH 1 5/8" TYPE S SCREWS 12" O.C., EDGES OF BOARD TO OVERLAP THE TOP AND BOTTOM OF PATCHED AREA 12" MIN. UNLESS TERMINATING AT J-TRACK
NEW 1" SHAFTLINER PANEL CUT IN HALF LENGTHWISE

REPLACE BASE LAYER WITH 5/8" FIRE-SHIELD GYPSUM BOARD FASTENED TO STUDS AND TRACK WITH 1 5/8" TYPE S SCREWS 12" O.C. JOINTS STAGGERED 24" HORIZONTALLY AND 12" VERTICALLY FROM BASE LAYER JOINTS

REPLACE FACE LAYER WITH 5/8" FIRE-SHIELD GYPSUM BOARD FASTENED TO STUDS AND TRACK WITH 1" TYPE S SCREWS 24" O.C.

1" SHAFTLINER PANEL LAMINATED TO SHAFTLINER PANEL WITH SETTING COMPOUND AND SCREWED TO STUD AND STEEL ANGLE WITH 1 5/8" TYPE S SCREWS 12" O.C., EDGES OF BOARD TO OVERLAP THE TOP AND BOTTOM OF PATCHED AREA 12" MIN. UNLESS TERMINATING AT J-TRACK

1" x 1" STEEL ANGLE FASTENED TO STUD WITH 3/8" PAN-HEAD SCREWS 24" O.C.

NEW 1" SHAFTLINER PANEL CUT IN HALF LENGTHWISE

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SR 104
CONCRETE OR FLUTED STEEL DECK

8 GA. HANGER WIRE 24" O.C.

4" STEEL STRAP 20 GA. FASTENED TO STUDS AT MIDSPAN

BACK-TO-BACK 3-5/8" STEEL C TRACKS 20 GA.

3-5/8" STEEL STUDS 20 GA. 16" O.C. MAX.

3 LAYERS 5/8" GOLD BOND FIRE-SHIELD GYPSUM BOARD

FLOOR-CEILING - 1 HR
UL DESIGN: I504

1 HOUR HORIZONTAL MEMBRANE

HANGER ASSEMBLY DETAIL
(REQUIRED FOR SPANS GREATER THAN 8'-0")

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: HM 101

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CONCRETE OR FLUTED STEEL DECK

8 GA. HANGER WIRE
24" O.C.

6" STEEL C TRACK 25 GA.

2" x 6" MINERAL WOOL

1" FIRE-SHIELD SHAFTLINER

4" CT STUDS 20 GA.
24" O.C. MAX.

4" J TRACK 20 GA. EACH SIDE OF C TRACK

3 LAYERS 5/8" GOLD BOND FIRE-SHIELD C GYPSUM BOARD

2 PAN HEAD SCREWS OPPOSITE C TRACK FLANGES 24" O.C.

HANGER ASSEMBLY DETAIL
(REQUIRED FOR SPANS GREATER THAN 8'-0")

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: HM 201

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DUCT

RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED

CORRIDOR WALL PERMITTED TO TERMINATE AT UPPER MEMBRANE OF CEILING ASSEMBLY

CORRIDOR CEILING CONSTRUCTED AS REQUIRED FOR CORRIDOR WALLS - 2015 IBC 708.4

1 HR RATED PARTITION

SCALE: 1/2"=1'-0"

DATE: 09/01/18

1 HOUR CORRIDOR ASSEMBLY

DETAIL: CR 102

© National Gypsum Properties, LLC
DUCT

SCALE: 1/2"=1'-0"

DETAIL: CR 103

1 HOUR CORRIDOR ASSEMBLY

DATE: 09/01/18

SCALE: 1/2"=1'-0"

DETAIL: CR 103

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RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED

4" STEEL STRAP 20 GA. FASTENED TO STUDS AT MIDSPAN

MINERAL WOOL INSULATION

STEEL TRACK - FASTEN TO STUDS WITH 1-1/4" TYPE S SCREWS

1 HOUR GYPSUM BOARD MEMBRANE - UL DESIGN I504
3 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD ON 20 GA.
3-5/8" STEEL STUDS 16" O.C.

1 HR RATED PARTITION
DUCT

SCALE: 1/2"=1'-0" DETAIL: CR 104

1 HOUR CORRIDOR ASSEMBLY

DATE: 04/06/17
SCALE: 1/2"=1'-0"
DETAIL: CR 104

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DUCT
RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED

CORRIDOR WALL PERMITTED TO TERMINATE AT UPPER MEMBRANE OF CEILING ASSEMBLY

CORRIDOR CEILING CONSTRUCTED AS REQUIRED FOR CORRIDOR WALLS - 2015 IBC 708.4

2 HR RATED PARTITION
DUCT SCALE: 1/2"=1'-0"

2 HOUR CORRIDOR ASSEMBLY

DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: CR 203

HORIZONTAL SHAFTWALL ASSEMBLY - UL DESIGN: G586

NOTE:
FOR SPANS GREATER THAN 8'-0" REFER TO DETAIL HM 201
FOR INTERMEDIATE SUPPORTS

RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED

MINERAL WOOL INSULATION

STEEL J TRACK - FASTEN TO STUDS WITH 1 5/8" TYPE S SCREWS

2 HR RATED PARTITION
DUCT

© National Gypsum Properties, LLC

SCALE: 1/2"=1'-0"

DATE: 09/01/18

2 HOUR CORRIDOR ASSEMBLY

2 HOUR HORIZONTAL SHAFTWALL ASSEMBLY - UL EVALUATION REPORT: ER R3501-02 (SECTION 6.3.1)

2 HR RATED PARTITION

MINERAL WOOL INSULATION

STEEL J TRACK - FASTEN TO STUDS WITH 1 5/8" TYPE S SCREWS

RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED
FLOOR-CEILING - 2 HR
UL DESIGN: G514

MIN. 2 1/2" CONCRETE SLAB

3/8" EXPANDED STEEL RIB LATH

MIN. 2 1/2" CONCRETE SLAB

MIN. W8X31 STEEL BEAM

MIN. 10J2 OR 10K1 STEEL JOIST 24" O.C.

7/8" STEEL FURRING CHANNELS 24" O.C.

1/2" FIRE-SHIELD C GYPSUM BOARD

© National Gypsum Properties, LLC
1 HOUR RATED COLUMN

SCALE: 3"=1'-0"

DATE: 09/01/18

DETAIL: CL 101

© National Gypsum Properties, LLC
COLUMN - 2 HR
UL DESIGN: X528

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

1 5/8" STEEL STUD

CORNER BEAD

MIN. W10X49 STEEL COLUMN

2 HOUR RATED COLUMN

MIN. W10X49 STEEL COLUMN
COLUMNS - 3 HR
UL DESIGN: X510

MIN. W10X49 STEEL COLUMN

3 LAYERS
5/8" FIRE-SHIELD GYPSUM BOARD

1 5/8" STEEL STUD

CORNER BEAD
MIN. W10X49 STEEL COLUMN

4 LAYERS 5/8" FIRE-SHIELD C GYPSUM BOARD

1 5/8" STEEL STUD

2" x 2" STEEL ANGLE

CORNER BEAD

COLUMNS - 4 HR
UL DESIGN: X501

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: CL 401

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CONCRETE ON FLUTED STEEL DECK

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

SPRAY APPLIED FIRE RESISTIVE MATERIAL PROVIDING FLAT SURFACE 1/4" FROM BOTTOM OF FLUTES

1"x2" STEEL ANGLE

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

BEAM - 2 HR
UL DESIGN: N501
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
4" SCHEDULE 5 STEEL PIPE, 4" CONDUIT, OR 3" COPPER TUBING
PROFORM QUICK-SET FS-90 COMPOUND
3 1/2" THICKNESS OF 0.5 PCF GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING

2 1/2" MIN. STEEL STUDS 24" O.C. MAX. OR 2x4 WOOD STUDS 16" O.C. MAX.

WALL PENETRATION
F RATING - 2 HR
T RATING - 0 HR
UL DESIGN: W-L-1041

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: PN 201

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2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
MAX. 100 PAIR NO. 24 AWG CABLES MIN. 10% TO MAX. 33% OF AGGREGATE CROSS-SECTIONAL AREA OF OPENING
PROFORM QUICK-SET FS-90 COMPOUND
3 1/2" THICKNESS OF 0.5 PCF GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING
2 1/2" MIN. STEEL STUDS 24" O.C. MAX. OR 2x4 WOOD STUDS 16" O.C. MAX.
7" MAX. DIAMETER

WALL PENETRATION
F RATING - 2 HR
T RATING - 0 HR
UL DESIGN: W-L-3035

© National Gypsum Properties, LLC
MIN. 1" THICKNESS PROFORM QUICK-SET FS-90 COMPOUND

MIN. 4 1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR

NOM. 8" DIAMETER OR SMALLER STEEL EMT, CONDUIT OR PIPE GROUTED FLUSH WITH FLOOR OR WALL ASSEMBLY (OPTIONAL)

3" THICKNESS OF 6 PCF MINERAL WOOL INSULATION FIRMLY PACKED INTO OPENING

NOTE: WALL ASSEMBLIES MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS

4" SCHEDULE 5 STEEL PIPE, 4" CONDUIT, OR 3" COPPER TUBING

FLOOR PENETRATION
F RATING - 3 HR
T RATING - 0 HR
UL DESIGN: C-AJ-1163

DATE: 09/01/18
PIPE PENETRATION THROUGH FLOOR
SCALE: 3"=1'-0"
 DETAIL: PN 301
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MAX. 100 PAIR NO. 24 AWG CABLES MIN. 10% TO MAX. 40% OF AGGREGATE CROSS-SECTIONAL AREA OF OPENING

MIN. 1" THICKNESS PROFORM QUICK-SET FS-90 COMPOUND

MIN. 4 1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR MIN. 5" THICK CONCRETE WALL

NOM. 6" DIAMETER OR SMALLER SCHEDULE 40 STEEL EMT, CONDUIT OR PIPE GROUTED FLUSH WITH FLOOR OR WALL ASSEMBLY (OPTIONAL)

3" THICKNESS OF GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING

MAX. 100 PAIR NO. 24 AWG CABLES MIN. 10% TO MAX. 40% OF AGGREGATE CROSS-SECTIONAL AREA OF OPENING

NOTE: WALL ASSEMBLIES MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS

FLOOR PENETRATION
F RATING - 3 HR
T RATING - 1/4 HR
UL DESIGN: C-AJ-3073

DATE: 09/01/18
CABLE PENETRATION THROUGH FLOOR
SCALE: 3"=1'-0"
DETAIL: PN 302

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MIN. 2" THICKNESS PROFORM QUICK-SET FS-90 COMPOUND
MIN. 4 1/2" THICK LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR
NOM. 6" DIAMETER OR SMALLER STEEL EMT, CONDUIT OR PIPE GROUTED FLUSH WITH FLOOR OR WALL ASSEMBLY (OPTIONAL)
2" THICKNESS OF MIN. 6 PCF MINERAL WOOL INSULATION FIRMLY PACKED INTO OPENING

NOTE: WALL ASSEMBLIES MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS
STC 43
TEST: NGC 2502
5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 16" O.C.
3 1/2" GLASS FIBER INSULATION
5/8" FIRE-SHIELD GYPSUM BOARD

STC 49
TEST: NGC2009058
5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 16" O.C.
3 1/2" GLASS FIBER INSULATION
5/8" SOUNDBREAK XP GYPSUM BOARD

STC 52
TEST: RAL-TL07-148
5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 16" O.C.
3 1/2" GLASS FIBER INSULATION
5/8" SOUNDBREAK XP GYPSUM BOARD
5/8" FIRE-SHIELD GYPSUM BOARD

STC 47
TEST: NGC 2386
5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 24" O.C.
2 1/2" GLASS FIBER INSULATION
5/8" FIRE-SHIELD GYPSUM BOARD

STC 54
TEST: RAL-TL07-389
5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 24" O.C.
3" MINERAL FIBER INSULATION
5/8" SOUNDBREAK XP GYPSUM BOARD

STC 57
TEST: RAL-TL06-334
5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 24" O.C.
3 1/2" GLASS FIBER INSULATION
1/2" SOUNDBREAK XP GYPSUM BOARD
5/8" FIRE-SHIELD GYPSUM BOARD
SOUND RATINGS FOR 2 HOUR PARTITIONS

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 16" O.C.
3 1/2" GLASS FIBER INSULATION
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

UL DESIGN: U411, V438

STC 50
TEST: NGC 2500

UL DESIGN: U411, V438

STC 53
TEST: NGC2007002

UL DESIGN: U411, V438

STC 56
TEST: NGC 3022

UL DESIGN: U411, V438

STC 60
TEST: RAL-TL07-168

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 24" O.C.
3 1/2" GLASS FIBER INSULATION
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
3 5/8" 25GA. STEEL STUDS 24" O.C.
3 1/2" GLASS FIBER INSULATION
5/8" FIRE-SHIELD GYPSUM BOARD
5/8" SOUNDBREAK XP GYPSUM BOARD
SOUND RATINGS FOR SHAFTWALL PARTITIONS

1" FIRE-SHIELD SHAFTLINER
2 1/2" 25GA. CT, CH, OR I STUDS 24" O.C.
1 1/2" GLASS FIBER INSULATION
5/8" FIRE-SHIELD GYPSUM BOARD

STC 42
TEST: NGC 2542

1" FIRE-SHIELD SHAFTLINER
2 1/2" 25GA. CT, CH, OR I STUDS 24" O.C.
1 1/2" GLASS FIBER INSULATION
1/2" RESILIENT CHANNEL 24" O.C.
5/8" FIRE-SHIELD GYPSUM BOARD

STC 48
TEST: NGC 2541

1" FIRE-SHIELD SHAFTLINER
2 1/2" 25GA. CT, CH, OR I STUDS 24" O.C.
1 1/2" GLASS FIBER INSULATION
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STC 48
TEST: NGC 2507

1" FIRE-SHIELD SHAFTLINER
2 1/2" 25GA. CT, CH, OR I STUDS 24" O.C.
1 1/2" GLASS FIBER INSULATION
1/2" RESILIENT CHANNEL 24" O.C.
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STC 51
TEST: NGC 2540

5/8" FIRE-SHIELD GYPSUM BOARD
1" FIRE-SHIELD SHAFTLINER
2 1/2" 25GA. CT, CH, OR I STUDS 24" O.C.
1 1/2" GLASS FIBER INSULATION
5/8" FIRE-SHIELD GYPSUM BOARD

STC 48
TEST: NGC 2534

5/8" FIRE-SHIELD GYPSUM BOARD
1" FIRE-SHIELD SHAFTLINER
2 1/2" 25GA. CT, CH, OR I STUDS 24" O.C.
1 1/2" GLASS FIBER INSULATION
1/2" RESILIENT CHANNEL 24" O.C.
5/8" FIRE-SHIELD GYPSUM BOARD

STC 52
TEST: NGC 2538
FLUSH PATCH IN RATED PARTITION
FOR MEMBRANE PENETRATIONS LESS THAN 10" IN DIAMETER

NOTES:
FOR MULTIPLE LAYER SYSTEMS STAGGER VERTICAL AND HORIZONTAL PATCH JOINTS 12" MINIMUM AND FASTEN VERTICAL EDGES TO STUD FRAMING
FOR MINOR SURFACE ABRASIONS, PAPER TEARS, OR SMALL DENTS, REMOVE ALL LOOSE PAPER AND APPLY SETTING COMPOUND OVER THE DAMAGED AREA.
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Construction Services

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You've got the questions ... we've got the answers.
From left, the technical service team: Mark Chapman, Jim Farrell and Sam Halverson.