Fire-Rated Assemblies in Commercial Construction

Second Edition
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

Whatever stage your project is in, our 1-800-NATIONAL® Construction Services experts are here to support you. Whether you have questions regarding fire-rated assemblies, products, specifications or building codes, we can help. Just call 1-800-NATIONAL – it’s that easy.

These gypsum board system details are intended solely as technical support incident to the sale and use of National Gypsum Company products. Architects, engineers, design professionals, contractors, building code officials, or competent construction industry trade personnel should consider this information for the selection, specification and use of National Gypsum Company products in these systems.

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® II, 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>2 Hour Rated Column</td>
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<td>4 Hour Rated Column</td>
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<td>BM Series - Rated Steel Beam Assemblies</td>
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<td>2 Hour Steel Beam</td>
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<td>PN Series - Penetrations Through Rated Wall and Floor Assemblies</td>
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<td>PN 201</td>
<td>Pipe Penetration Through Wall</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>
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<td>PN 302</td>
<td>Cable Penetration Through Floor</td>
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<td>PN 303</td>
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<td>SN 102</td>
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© National Gypsum Properties, LLC
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<th>UL Core Type Designation</th>
<th>Product Name</th>
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<tr>
<td>Type FSW</td>
<td>5/16&quot; Gold Bond® Brand Fire-Shield® Gypsum Board</td>
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<td>5/8&quot; Gold Bond® Brand Hi-Impact® XP® Fire-Shield® Gypsum Board, 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 FSK-C</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>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>5/8&quot; Gold Bond® Brand eXP® Interior Extreme® IR Gypsum Panel, Type X</td>
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<td>5/8&quot; Gold Bond® Brand eXP® Interior Extreme® AR Gypsum Panel, Type X</td>
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<td>1&quot; Gold Bond® Brand eXP® Extended Exposure Shaftliner, Type X</td>
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### ASTM Product Standards

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<td>C1177</td>
<td>Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing</td>
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<td>C1178</td>
<td>Standard Specification for Coated Glass Mat Water-Resistant Gypsum Backing Panel</td>
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<td>C1325</td>
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### ASTM Test Standards

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<td>C1629</td>
<td>Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber Reinforced Cement Panels</td>
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<td>D3273</td>
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<tr>
<td>E84</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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### ASTM Application Standards

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<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

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<th>Specification Description</th>
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<td>GA-216</td>
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<td>GA-253</td>
<td>Application of Gypsum Sheathing</td>
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</table>
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.
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

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

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

5/8" FIRE-SHIELD GYPSUM BOARD

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

1" MIN.

1/4" MAX.

PARTITION TO STEEL DECK

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

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

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

1/4 MIN.

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)

CONCRETE ON FLUTED
STEEL DECK

FIRESTOP SEALANT

MINERAL WOOL
INSULATION

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0034
UL DESIGN: HW-D-0045
1 HOUR PARTITION TO STEEL DECK

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

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

CONCRETE ON FLUTED STEEL DECK

ELASTOMERIC SPRAY FIRESTOP
MINERAL WOOL INSULATION

JOINT FORMING PROFILE MATERIAL

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

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 FASTENED
24" O.C. MAX.
FLEXIBLE SEALANT (OPTIONAL)
CONCRETE ON FLUTED STEEL DECK

FIRE TRAK SHADOWLINE

MECHANICALLY FASTEN 24" O.C. MAX.

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.

TOP ROW OF FASTENERS 3" FROM TOP OF GYPSUM BOARD

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)

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0060

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

DATE: 09/01/18

SCALE: 3"=1'-0"

1 HOUR PARTITION WITH DEFLECTION TRACK

DETAIL: SS 107

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

SCALE: 3"=1'-0"

DATE: 09/01/18

1 HOUR PARTITION OFFSET FROM BEAM

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0617
UL DESIGN: HW-D-0635

PARTITION - 1 HR
UL DESIGN: U465
UL DESIGN: V438
MIN. 4 1/2" THICK REINFORCED CONCRETE

HEAD OF WALL - 1 HR
UL DESIGN: HW-D-0079
UL DESIGN: HW-D-0083

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

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

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)

1 HOUR PARTITION TO CONCRETE SLAB
SCALE: 3"=1'-0" DETAIL: SS 110
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

PROFORM QUICK-SET SETTING COMPOUND

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

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

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

© National Gypsum Properties, LLC
2 1/2" MIN. STEEL STUD

5/8" FIRE-SHIELD GYPSUM BOARD

GLASS FIBER INSULATION (OPTIONAL)

2 1/2" MIN. STEEL STUD

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: V488

© National Gypsum Properties, LLC

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SS 112
CONCRETE ON FLUTED STEEL DECK

5/8" FIRE-SHIELD GYPSUM BOARD

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

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

MINERAL WOOL INSULATION

FLEXIBLE SEALANT (OPTIONAL)

1/2" PERMABASE CEMENT BOARD

1" MAX.

1" MIN.

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

PARTITION - 1 HR
UL DESIGN: V452

© 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)

FLEXIBLE SEALANT (OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

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

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

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)
CONCRETE ON FLUTED STEEL DECK

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

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

GLASS FIBER INSULATION (OPTIONAL)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

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

FLEXIBLE SEALANT (OPTIONAL)

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

PARTITION - 2 HR
UL DESIGN: HW-D-0292
UL DESIGN: HW-D-0411
UL DESIGN: HW-D-0292
UL DESIGN: HW-D-0438

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

© National Gypsum Properties, LLC
20

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

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

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAILED: 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. (SLOTTED TRACK OPTIONAL)

FLEXIBLE SEALANT (OPTIONAL)

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

JOINT FORMING PROFILE MATERIAL

CONCRETE ON FLUTED STEEL DECK

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

2 HOUR PARTITION TO STEEL DECK

© 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.

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)

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

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

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

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

© National Gypsum Properties, LLC
CONCRETE ON FLUTED STEEL DECK

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
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)

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

FLEXIBLE SEALANT (OPTIONAL)

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

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

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

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

2 HOUR PARTITION TO STEEL DECK
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)

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

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

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

ELASTOMERIC SPRAY FIRESTOP

MINERAL WOOL INSULATION

GLASS FIBER INSULATION (OPTIONAL)

3 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

STEEL TRACK - MECHANICALLY FASTEN
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: V438

3 HOUR PARTITION TO STEEL DECK
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)

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

FLEXIBLE SEALANT (OPTIONAL)

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 FASTEN 24" O.C. MAX.

FLEXIBLE SEALANT (OPTIONAL)

PARTITION - 3 HR
UL DESIGN: W455
UL DESIGN: V438

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

DATE: 09/01/18

SCALE: 3"=1'-0"

DETAIL: SS 302

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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 FASTENED
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

4 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

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

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1 HR PARTITION JOINT STAGGERING REQUIREMENTS

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

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

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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
1 HOUR PARTITION CORNER DETAIL

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

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

CORNER BEAD
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

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

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)

DATE: 09/01/18
SCALE: 2"=1'-0"
DETAIL: SS 610

© National Gypsum Properties, LLC
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
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
1 HOUR PARTITION AT NON-RATED EXTERIOR WALL

- Non-Rated Exterior Wall
- Exterior Wall Cladding
- EXP Extended Exposure Gypsum Sheathing
- Flexible Sealant (Optional)
- 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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TAPE AND JOINT COMPOUND

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

5/8" EXP EXTENDED EXPOSURE GYPSUM SHEATHING

FLEXIBLE SEALANT (OPTIONAL)

1 HR EXTERIOR WALL

EXTERIOR WALL CLADDING

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

© National Gypsum Properties, LLC
2 LAYERS 5/16" XP FIRE-SHIELD GYPSUM BOARD.
EACH LAYER FASTENED 8" O.C.

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

STEEL STUDS @ 12" O.C.

CONTINUE DOUBLE LAYER OF 5/16" GYPSUM 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

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

STEEL STUDS @ 10" O.C.

STEEL STUDS @ 12" O.C.

STEEL STUDS @ 8" O.C.

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

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

2 HOUR RATED CURVED CORNER DETAILS

DATE: 09/01/18
SCALE: 3/4"=1'-0"
DETAIL: SS 616

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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

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

FLEXIBLE SEALANT (OPTIONAL)

FIRESTOP SEALANT

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

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

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

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 HOUR SHAFTWALL WITH DEFLECTION TRACK

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 103

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

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

1 HOUR SHAFTWALL TO STEEL DECK

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

MINERAL WOOL INSULATION

PROFORM QUICK-SET FS-90 COMPOUND

CONCRETE ON FLUTED STEEL DECK

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

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

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SW 106

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

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

PARTITION - 1 HR
UL DESIGN: U499
UL DESIGN: W419
1/4" MIN. 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.

FLEXIBLE SEALANT (OPTIONAL)

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

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

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

3/8" DIAMOND MESH EXPANDED STEEL LATH

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

5/8" FIRE-SHIELD GYPSUM BOARD

DATE: 09/01/18
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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**HEAD OF WALL - 2 HR**
UL DESIGN: HW-D-0548

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

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**2 HOUR SHAFTWALL PARTITION AT STAIR**

**SCALE: 3"=1'-0"**

**DETAIL: SW 204**

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CONCRETE ON FLUTED STEEL DECK

MINERAL WOOL INSULATION

ELASTOMERIC SPRAY FIRESTOP

STEEL DEEP LEG 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)

PARTITION - 2 HR
UL DESIGN: HW-D-0548

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

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

© National Gypsum Properties, LLC
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)

TOP ROW OF FASTENERS 3" FROM TOP OF GYPSUM BOARD

CUT GYPSUM BOARD PANELS TO FIT DECK CONFIGURATION

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

PROFORM QUICK-SET FS-90 COMPOUND

MINERAL WOOL INSULATION

CONCRETE ON FLUTED STEEL DECK

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

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2 HOUR SHAFTWALL PARTITION TO STEEL BEAM

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

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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)

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

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

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

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2 HOUR SHAFTWALL TO STEEL DECK

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

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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.

TOP ROW OF FASTENERS 3" FROM TOP OF GYPSUM BOARD

3 LAYERS 5/8" FIRE-SHIELD C 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 - 3 HR
UL DESIGN: W414
UL DESIGN: W419

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CONCRETE OR FLUTED STEEL DECK

FIRESTOP SEALANT

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

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

7/8" STEEL FURRING CHANNELS 16" O.C.

3 LAYERS 5/8" FIRE-SHIELD C 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)
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

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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

1" FIRE-SHIELD SHAFTLINER

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS
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

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

12" MAX.
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

CT, CH, OR I STUDS

STEEL J TRACK

PAN-HEAD SCREW 24" O.C.

1" FIRE-SHIELD SHAFTLINER

STEEL J TRACK
1 HOUR SHAFTWALL CORNER DETAIL

DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 615

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2 HOUR SHAFTWALL CORNER DETAIL

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

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
2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

1" FIRE-SHIELD SHAFTLINER

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 621

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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

12" MAX.

DATE: 09/01/18

SCALE: 6"=1'-0"

DETAIL: SW 622

© National Gypsum Properties, LLC
2 HOUR SHAFTWALL CORNER DETAIL

1" FIRE-SHIELD SHAFTLINER

CT, CH, OR I STUDS

STEEL J TRACK

PAN-HEAD SCREW 24" O.C.

1" FIRE-SHIELD SHAFTLINER

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD
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

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

STEEL J TRACK

1" FIRE-SHIELD SHAFTLINER

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

CT, CH, OR I STUDS

1" FIRE-SHIELD SHAFTLINER

DATE: 09/01/18
SCALE: 6"=1'-0"
DETAIL: SW 625

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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

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

CONCRETE ON FLUTED STEEL DECK

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
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

J TRACK

CEILING LINE

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

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

DETAIL A

DETAIL B

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

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.

J Track

Ceiling line

CT, CH, or I studs 24" O.C.

J Track
2 HR RATED FLOOR-CEILING 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.

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

2 HR RATED WALL ASSEMBLY

3 LAYERS 1/2" FIRE-SHIELD C GYPSUM BOARD
2-1/2" I-STUDS 24" O.C.
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

DATE: 09/01/18
SCALE: 1 1/2"=1'-0"
DETAIL: ST 102

© National Gypsum Properties, LLC
STAIR SHAFTWALL CORNER AT LATERAL BRACE

DATE: 09/01/18
SCALE: 1 1/2"=1'-0"
DETAIL: ST 103

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

LATERAL STEEL Brace

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

NON-RATED STEEL STUD PARTITION

STEEL COLUMN

© National Gypsum Properties, LLC
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"
MINIMUM HOISTWAY WIDTH

MINIMUM HOISTWAY DEPTH

2 HR SHAFTWALL ASSEMBLY - UL DESIGN U497

GUIDE RAIL BRACKET ASSEMBLY

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 ATTACHMENT PLATE FOR GUIDE RAILS

ELEVATOR CAB

PIT LADDER

DETAL A

DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: EV 101
© National Gypsum Properties, LLC
ELEVATOR SHAFTWALL HEAD AND JAMB DETAILS

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: EV 103

© National Gypsum Properties, LLC
MAXIMUM 10" x 10" FLUSH PATCH MADE FROM 1"
FIRE-SHIELD SHAFTLINER
ATTACHMENT ON ALL SIDES OF OPENING

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

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

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

2 HR SHAFTWALL REPAIR DETAIL
© 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.
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" TYPE S SCREWS 24" 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 5/8" TYPE S SCREWS 12" O.C.
JOINTS STAGGERED 24"

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

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

DATE: 09/01/18
SCALE: 3"=1'-0"
DETAIL: SR 104

© National Gypsum Properties, LLC
3 LAYERS 5/8" GOLD BOND FIRE-SHIELD GYPSUM BOARD

FLOOR-CEILING - 1 HR
UL DESIGN: I504

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

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

BACK-TO-BACK 3-5/8" C TRACK

PAN HEAD SCREW 24" O.C.

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

© National Gypsum Properties, LLC
CONCRETE OR FLUTED STEEL DECK

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

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

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

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

FLOOR-CEILING - 2 HR
UL DESIGN: G586

HANGER ASSEMBLY DETAIL
(REQUIRED FOR SPANS GREATER THAN 8'-0")
RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED

DUCT

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

DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: CR 102

© National Gypsum Properties, LLC
DUCT

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

DETAIL: CR 103

DATE: 09/01/18

1 HOUR CORRIDOR ASSEMBLY

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
**RATED OR NON-RATED FLOOR-CEILING ASSEMBLY**

**BRACING AS REQUIRED**

**DUCT**

**MINERAL WOOL INSULATION**

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

**1 HR HORIZONTAL SHAFTWALL ASSEMBLY - UL EVALUATION REPORT: ER R3501-02 (SECTION 6.3.1)**

**1 HR RATED PARTITION**

DATE: 04/06/17

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

101

© National Gypsum Properties, LLC
2 HR RATED FLOOR-CEILING ASSEMBLY

1 1/2 HR FIRE-RATED DAMPER

NON-RATED SUSPENDED CEILING

2 HR RATED PARTITION

DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: CR 201

© National Gypsum Properties, LLC
RATED OR NON-RATED FLOOR-CEILING ASSEMBLY

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

DATE: 09/01/18
SCALE: 1/2"=1'-0"
DETAIL: CR 202
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

HORIZONTAL SHAFTWALL ASSEMBLY - UL DESIGN: G586

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

2 HR RATED PARTITION

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

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DUCT

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

2 HOUR CORRIDOR ASSEMBLY

DATE: 09/01/18

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

DETAIL: CR 204

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RATED OR NON-RATED
FLOOR-CEILING ASSEMBLY

BRACING AS REQUIRED

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

MINERAL WOOL INSULATION

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

2 HR RATED PARTITION
MIN. 2 1/2" CONCRETE SLAB
3/8" EXPANDED STEEL RIB LATH

7/8" STEEL FURRING CHANNELS 24" O.C.
MIN. W8X31 STEEL BEAM
MIN. 10J2 OR 10K1 STEEL JOIST 24" O.C.
1/2" FIRE-SHIELD C GYPSUM BOARD

FLOOR-CEILING - 2 HR
UL DESIGN: G514

DATE: 09/01/18
SCALE: 2"=1'-0"
DETAIL: FC 201

© National Gypsum Properties, LLC
1 HOUR RATED COLUMN

- MIN. W10X49 STEEL COLUMN
- 1/2" FIRE-SHIELD C OR 5/8" FIRE-SHIELD GYPSUM BOARD
- 1 5/8" STEEL STUD
- CORNER BEAD

COLUMNS - 1 HR
UL DESIGN: X528

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

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

1 5/8" STEEL STUD

CORNER BEAD

MIN. W10X49 STEEL COLUMN

COLUMN - 2 HR
UL DESIGN: X528

2 HOUR RATED COLUMN
COLUMN - 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

COLUMN - 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

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

2 LAYERS 5/8" FIRE-SHIELD GYPSUM BOARD

PROFORM QUICK-SET FS-90 COMPOUND

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

3 1/2" THICKNESS OF 0.5 PCF GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING

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

© National Gypsum Properties, LLC
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
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

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

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

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

DATE: 09/01/18
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

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
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
SOUND RATINGS FOR 1 HOUR PARTITIONS

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

TEST: NGC 2502
STC 43

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

TEST: NGC2009058
STC 49

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

TEST: RAL-TL07-148
STC 47

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

TEST: RAL-TL07-389
STC 54

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

TEST: RAL-TL06-334
STC 57

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# SOUND RATINGS FOR 2 HOUR PARTITIONS

<table>
<thead>
<tr>
<th>UL DESIGN: U411, V438</th>
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<tbody>
<tr>
<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
</tr>
<tr>
<td>3 5/8&quot; 25GA. STEEL STUDS 16&quot; O.C.</td>
</tr>
<tr>
<td>3 1/2&quot; GLASS FIBER INSULATION</td>
</tr>
<tr>
<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
</tr>
<tr>
<td><strong>STC 50</strong></td>
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<td>TEST: NGC 2500</td>
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<tr>
<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
</tr>
<tr>
<td>3 5/8&quot; 25GA. STEEL STUDS 24&quot; O.C.</td>
</tr>
<tr>
<td>3 1/2&quot; GLASS FIBER INSULATION</td>
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<tr>
<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
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<tr>
<td><strong>STC 53</strong></td>
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<tr>
<td>TEST: NGC2007002</td>
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<tr>
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<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
</tr>
<tr>
<td>3 5/8&quot; 25GA. STEEL STUDS 24&quot; O.C.</td>
</tr>
<tr>
<td>3&quot; MINERAL FIBER INSULATION</td>
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<tr>
<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
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<td><strong>STC 56</strong></td>
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<td>TEST: NGC 3022</td>
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<td>2 LAYERS 5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
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<tr>
<td>3 5/8&quot; 25GA. STEEL STUDS 24&quot; O.C.</td>
</tr>
<tr>
<td>3 1/2&quot; GLASS FIBER INSULATION</td>
</tr>
<tr>
<td>5/8&quot; FIRE-SHIELD GYPSUM BOARD</td>
</tr>
<tr>
<td>5/8&quot; SOUNDBREAK XP GYPSUM BOARD</td>
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<tr>
<td><strong>STC 60</strong></td>
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<td>TEST: RAL-TL07-168</td>
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</tbody>
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DATE: 09/01/18

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

DETAIL: SN 102

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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

UL DESIGN: U498, W419

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

UL DESIGN: U497, W419

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

UL DESIGN: U497, W419

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

UL DESIGN: U497, W419

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 2534

UL DESIGN: U498, W419

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 52
TEST: NGC 2538

UL DESIGN: U498, W419

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

UL DESIGN: U498, W419

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

UL DESIGN: U498, W419

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

UL DESIGN: U498, W419

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

UL DESIGN: U498, W419

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

A Valuable Resource.
With over 85 years of accumulated research, on-the-job experience and knowledge of building products and their application, National Gypsum is your resource for technical information. Beyond simply manufacturing and providing quality building products, National Gypsum has made a total commitment to technical assistance for our customers all along the line at every stage of a project’s development.

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(800) 329-6421

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