
AIR SEALING GUIDE

MULTIFAMILY STEEL CONSTRUCTION



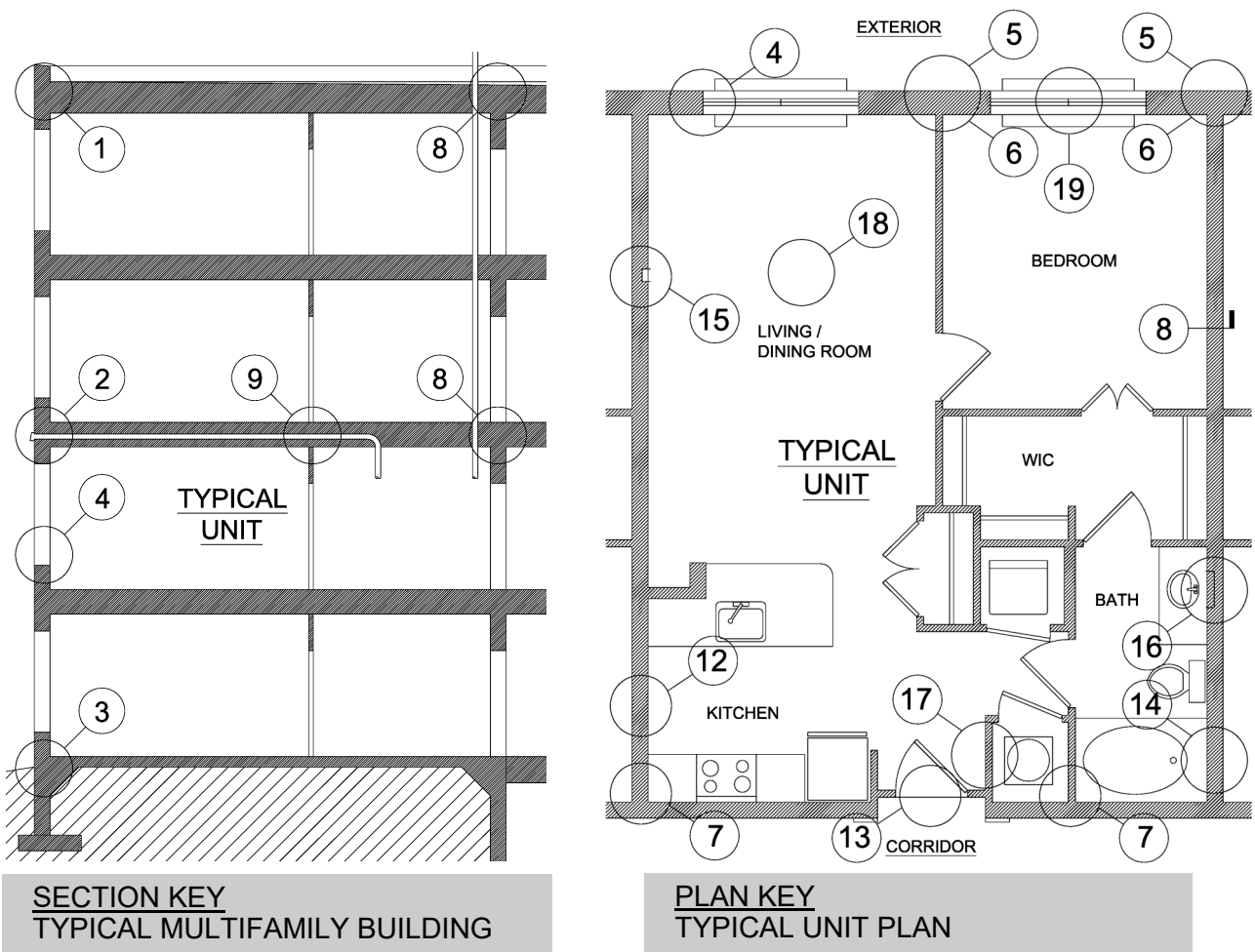
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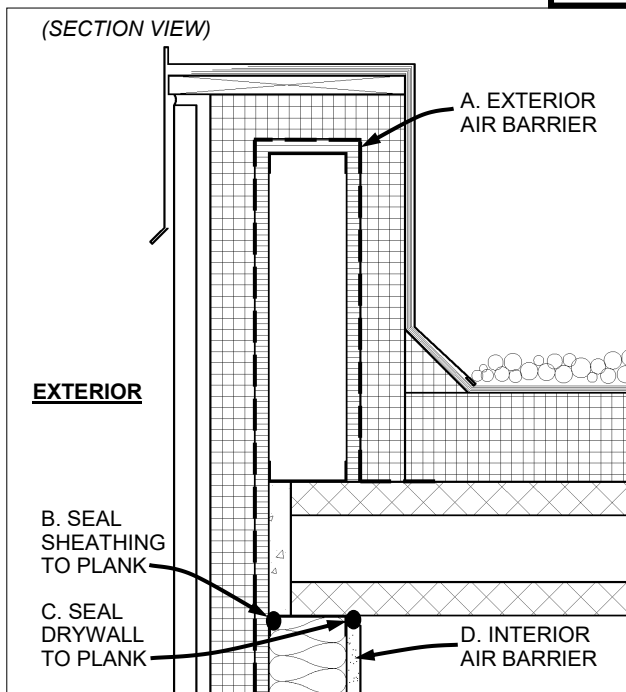
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RULES OF THUMB

1. Use shrink/crack-proof caulk to seal gaps smaller than 1/4"
2. Use expanding foam to seal gaps larger than 1/4"
3. Spray-on air sealing products are very effective (i.e. EcoSeal)
4. Use low-expanding foam at window and door openings
5. Use temperature-appropriate sealant (i.e. high-temp caulk at flues, heating pipes, etc.)
6. Clean out cracks before applying sealant (i.e. compressed air, vacuum, damp cloth, etc.)
7. Assign to one trades person or party the responsibility of confirming completion of the air sealing tasks for each type of penetration or condition (this guide includes suggestions for which trades should be initially responsible for each task)

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**EXTERIOR WALL - PARAPET
(GRAVEL STOP SIMILAR)****Notes:**

A, B. Intent: reduce leakage between the exterior and the wall cavity

C, D. Intent: reduce leakage between the wall cavity and the interior

A. Seal exterior sheathing at all seams and penetrations with manufacturer recommended products

D. Typically drywall

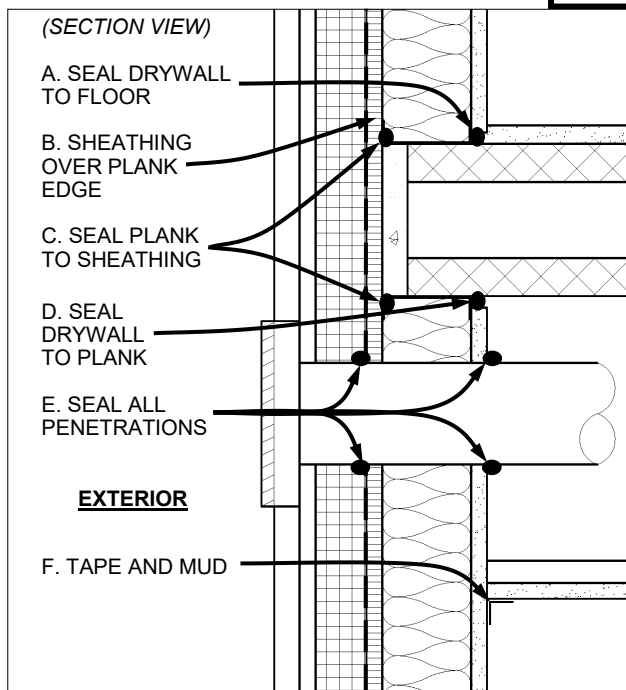
Responsibilities:

Envelope: A

Framing: B

Drywall: C, D

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EXTERIOR WALL - MIDDLE**Notes:**

B, C. Intent: reduce leakage between the exterior and the wall cavity

A, D. Intent: reduce leakage between the wall cavities and the interior

E. Includes ducts, pipes, wires, etc. (high priority)

F. Typical

Responsibilities:

Envelope: B

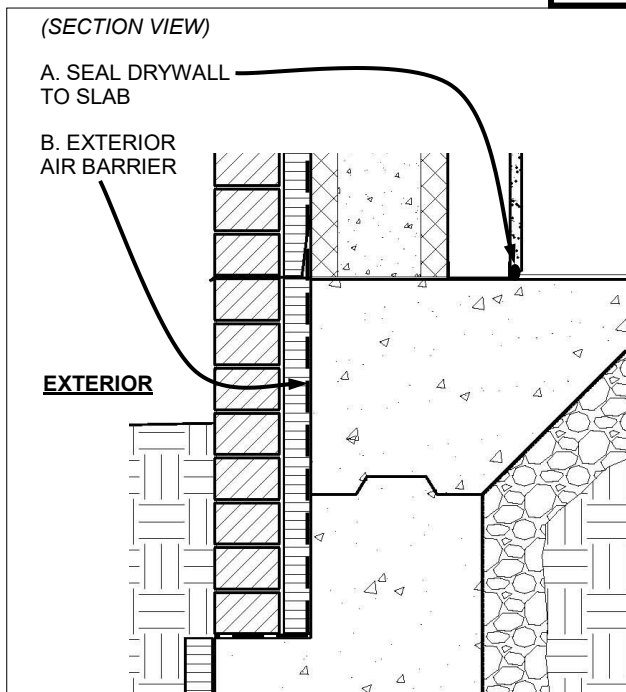
Framing: C

Drywall: A, D, F

Mech/Elec/Plumb: E

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EXTERIOR WALL - BOTTOM

**Notes:**

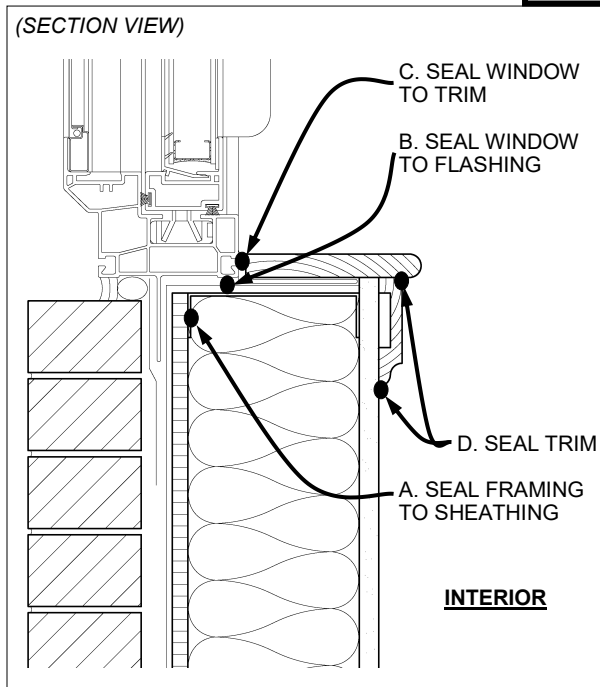
A. Intent: reduce leakage between wall cavity and apartment

A. Option: self-leveling subfloor (i.e. gypcrete)
- Seal any remaining gaps between self-leveling subfloor and drywall with caulk

Responsibilities:

Drywall: A
Envelope: B

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WINDOW SILL
(HEADER AND JAMB SIMILAR)**Notes:**

A, B. Intent: reduce leakage between wall cavity and outdoors

C, D. Intent: reduce leakage between wall cavity and the interior

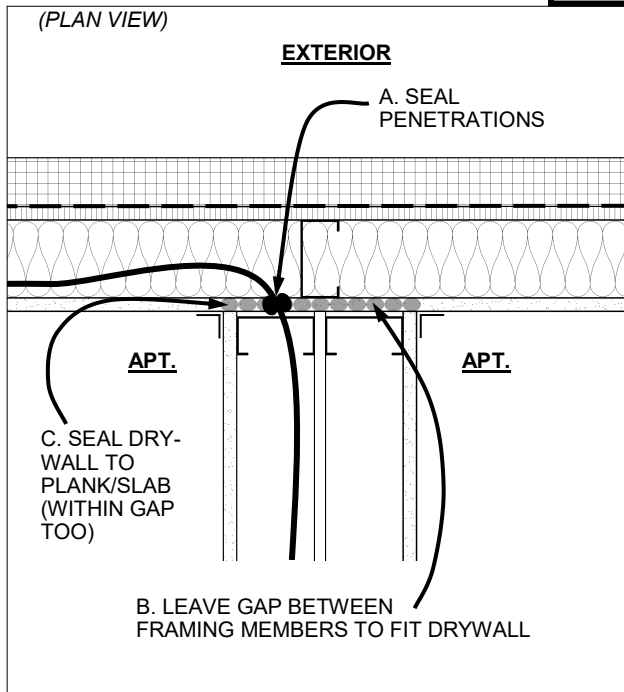
B. Continuous perimeter seal of window to rough opening (seal any gaps at shims) and if using foam, use low-expanding foam

Responsibilities:

Framing: A, B
Millwork: C
Paint: D

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DEMISING / INTERIOR WALL AT EXTERIOR WALL



PLAN VIEW (SECTION VIEW BELOW)

Notes:

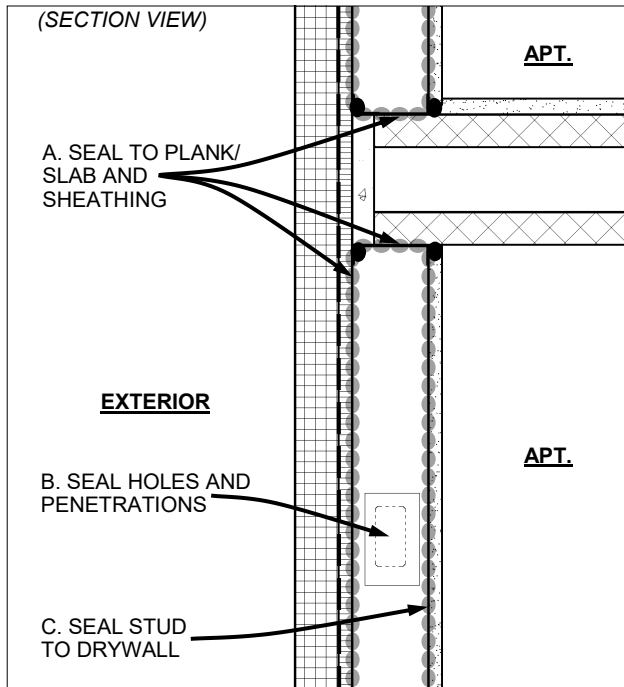
A, B, C. Intent: reduce leakage between exterior / corridor wall and demising wall / interior partition

A. Includes ducts, pipes, wires, etc.

C. Continuous sealant applied within the gap, before drywall is installed, to seal the drywall to the plank/slab

Responsibilities:

Framing: B
Mech/Elec/Plumb: A
Drywall: C



SECTION VIEW (PLAN VIEW ABOVE)

Notes:

A, B, C. Intent: reduce leakage along the exterior wall between the apartment and adjacent spaces

A, B, C. Choose one exterior wall stud at each demising wall to seal completely

A. Seal the bottom and top plate to the plank/slab and seal stud to sheathing

B. Seal all holes, gaps and penetrations

C. Seal stud to drywall

Responsibilities:

Framing: A
Mech/Elec/Plumb: B
Drywall: C

ALTERNATE - DEMISING / INTERIOR
WALL AT EXTERIOR WALL



C. Includes pipes, wires, etc.

Framing: A
Drywall: B
Mech/Elec/Plumb: C

INTERIOR PARTITION AT DEMISING / CORRIDOR WALL



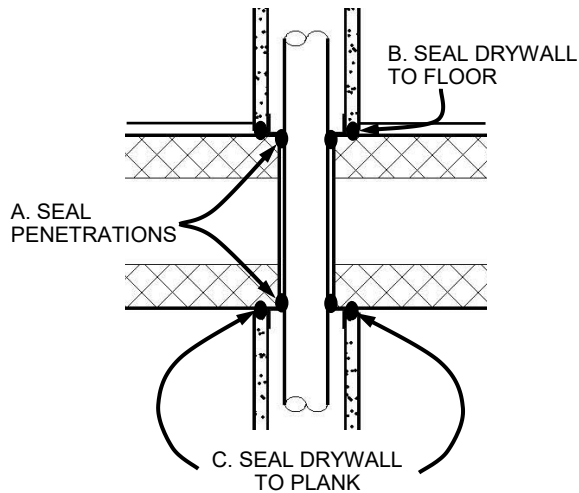
A. Includes ducts, pipes, wires, etc.

Framing: B
Mech/Elec/Plumb: A

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PLANK / SLAB PENETRATIONS

(SECTION VIEW)

EXTERIOR / CORRIDOR**Notes:**

A, B, C. Intent: reduce leakage between wall cavities and apartments

A. Includes ducts, pipes, wires, etc.

Responsibilities:

Drywall: B, C

Mech/Elec/Plumb: A

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DEMISING / CORRIDOR WALL PENETRATIONS

(SECTION VIEW)

A. SEAL TO FLOOR

B. SEAL DRYWALL TO PLANK

C. SEAL ALL PENETRATIONS

APT.

APT.

Notes:

A, B, C. Intent: reduce leakage between the wall cavities and the apartment

C. Includes ducts, pipes, wires, etc.

Responsibilities:

Drywall: A, B

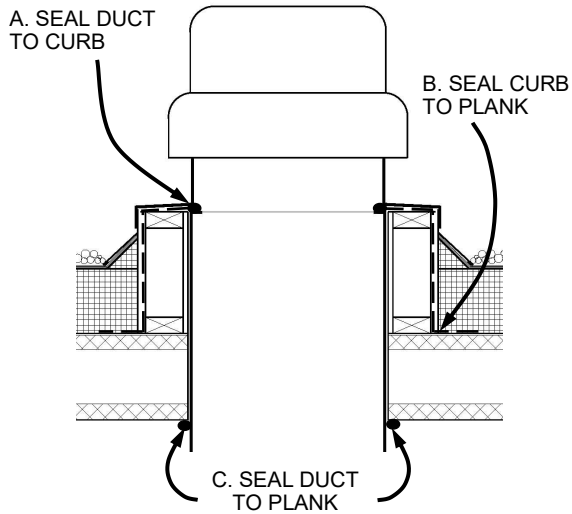
Mech/Elec/Plumb: C



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ROOF FAN

(SECTION VIEW)

**Notes:**

A, B. Intent:

- Reduce leakage between conditioned & unconditioned space
- Reduce duct leakage

C. Intent: Reduce leakage between conditioned & unconditioned space

Note: Connect fan to curb tightly (but do not seal permanently to allow removal for maintenance)

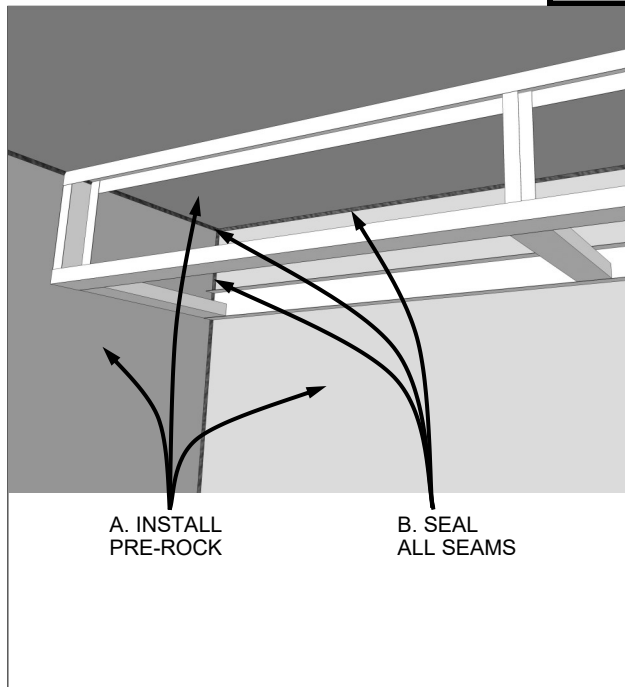
Responsibilities:

Roofing: B

Mech/Elec/Plumb: A, C

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SOFFIT PRE-ROCK

**Notes:**

A, B. Intent: reduce leakage through soffit

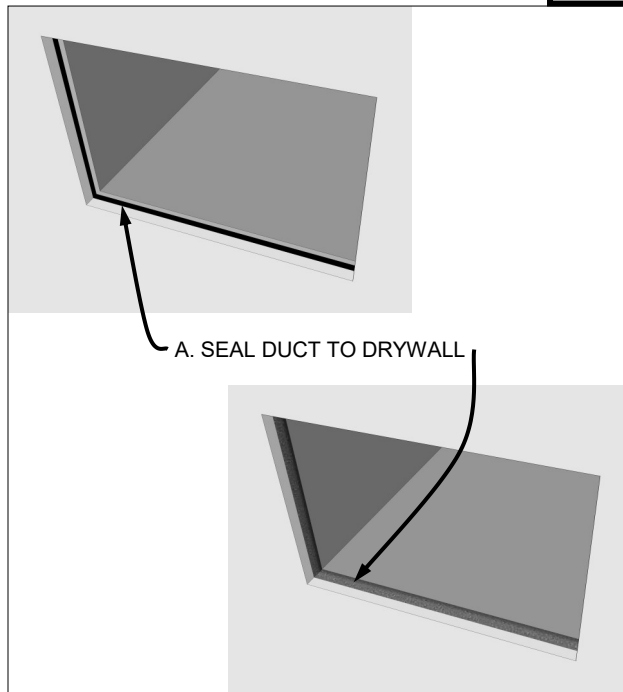
A. Install pre-rock BEFORE framing the soffit

Responsibilities:

Drywall: A, B

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DUCTWORK

**Notes:**

A. Intent: reduce duct leakage into the wall cavities and reduce air leakage between the wall cavities and the apartment

Typical penetrations include:

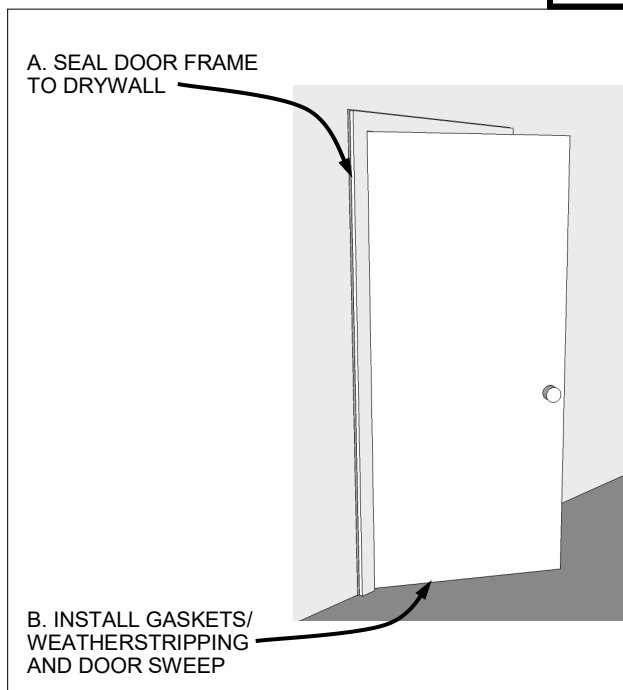
- Heating/cooling ductwork
- Exhaust ductwork
- Exhaust fans
- Dryer vent

Responsibilities:

Drywall: A

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CORRIDOR / EXTERIOR DOOR

**Notes:**

A, B. Intent: reduce leakage between apartment and corridor / outdoors

A, B. Also applicable at rooms that are vented to outdoors (i.e. boiler room, trash room, etc.)

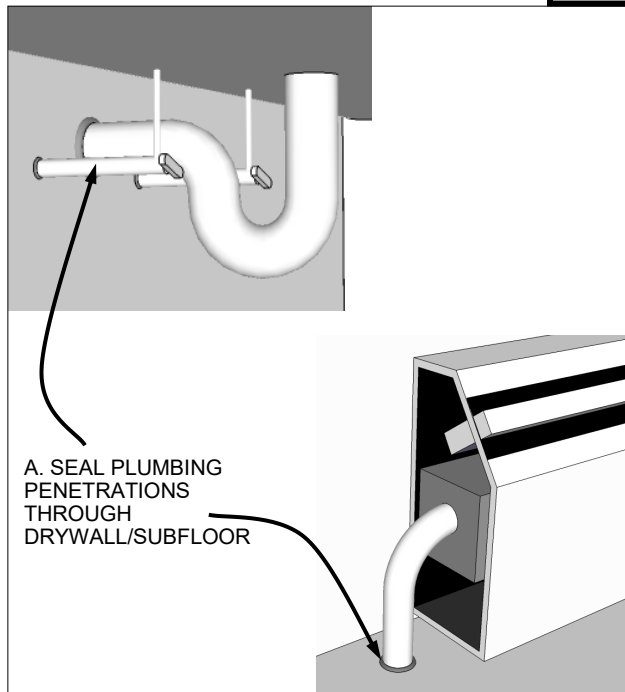
Responsibilities:

Painter: A

Window/Door: B

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PLUMBING PENETRATIONS

**Notes:**

A. Seal all penetrations BEFORE installing cabinetry and escutcheons

A. Intent: reduce leakage between wall cavities and apartment

Typical plumbing penetrations include:

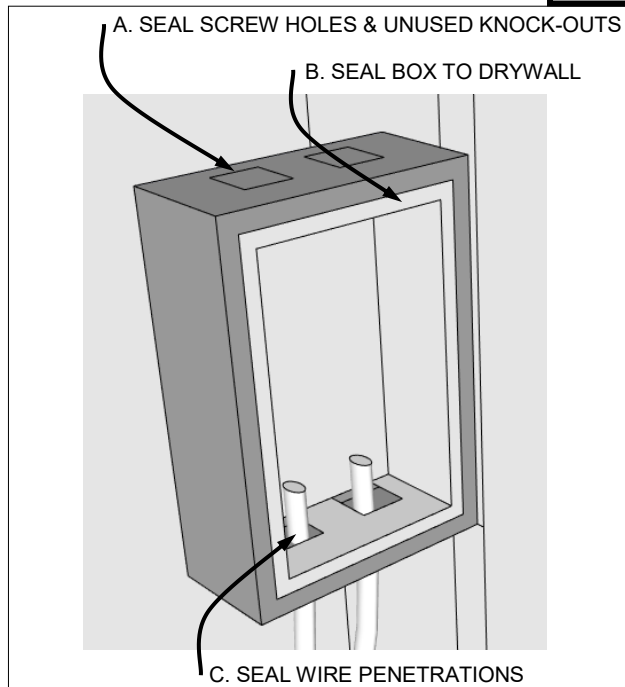
- Sink faucet supplies & drain
- Toilet supply
- Showerhead stub-out
- Heating supply/return
- Gas supply
- Sprinklers

Responsibilities:

Drywall: A

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ELECTRICAL BOXES

**Notes:**

A, B, C. Intent: reduce leakage between framing cavities and apartment

A, B, C. Includes boxes in floors, walls and ceilings

A, C. Options:

- Caulk
- Foam
- Mastic (over entire box)
- Putty pack

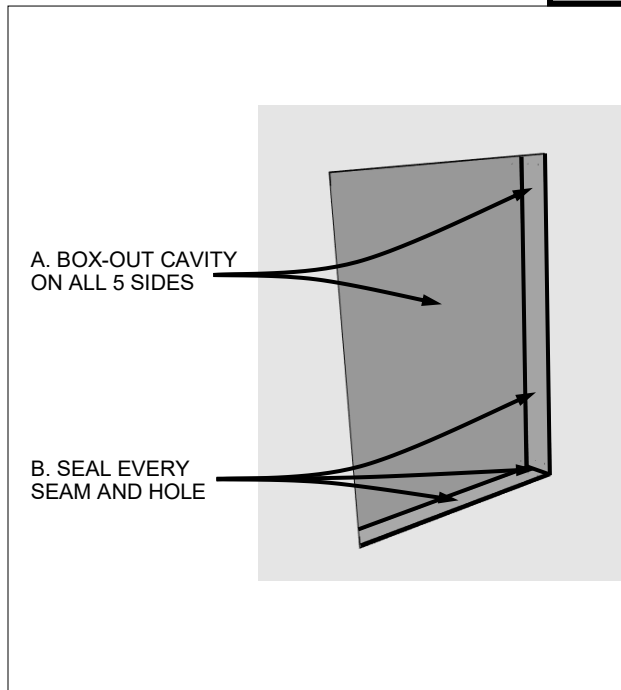
Responsibilities:

Drywall: B

Electrical: A, C

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RECESSED COMPONENTS

**Notes:**

A, B. Intent: reduce leakage between wall cavities and apartment

A. Box-out/enclose the recessed cavity on all 5 sides

A. Drywall preferred on all 5 sides

B. Seal all seams, cracks or holes BEFORE recessed component is installed

B. Seal holes in metal framing (if applicable)

Typical recessed components include:

- Medicine cabinet
- Fire extinguisher cabinets
- Mailboxes

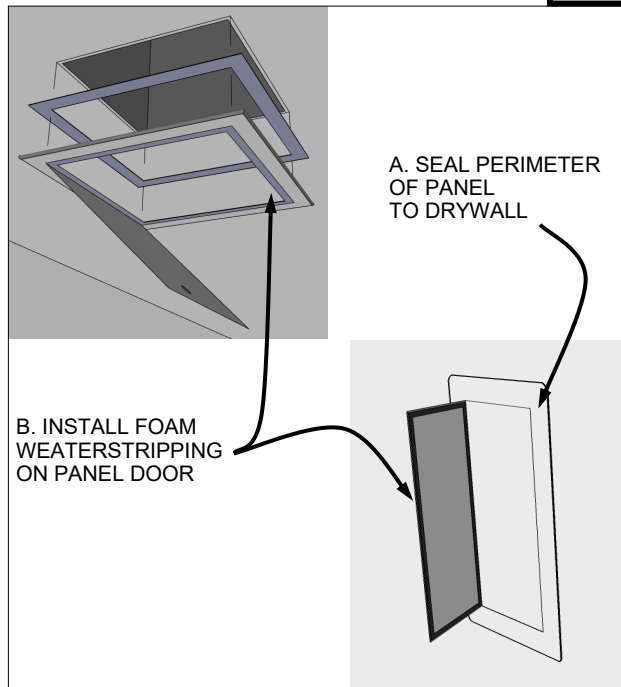
Responsibilities:

Drywall: A, B

Framing: A

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UTILITY / ACCESS PANELS

**Notes:**

A, B. Intent: reduce leakage between structural cavities and apartment

A. Options:

- Caulk
- Foam
- Gasket

B. Inexpensive, adhesive-backed weather-stripping usually works best

Responsibilities:

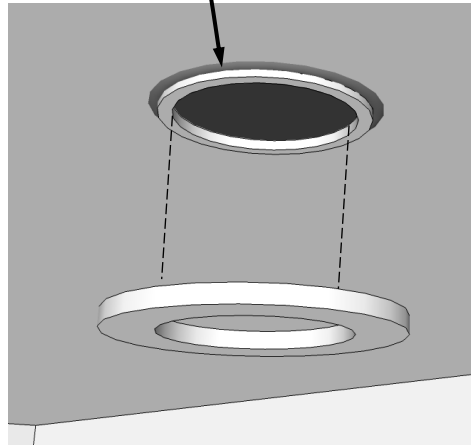
Drywall: A

Mech/Elec/Plumb: B

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RECESSED LIGHTING

A. SEAL RECESSED LIGHT HOUSING TO DRYWALL

**Notes:**

A. Intent: reduce leakage between ceiling/floor cavities and apartment

A. Options:

- Caulk
- Foam
- Gasket

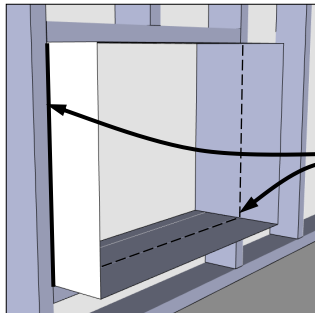
A. Use insulation contact air-tight cans (ICAT)

Responsibilities:

Drywall: A

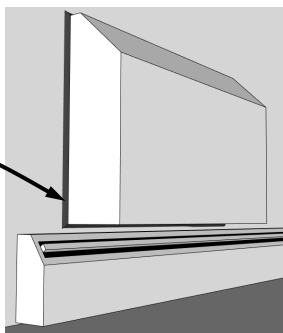
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PACKAGED HEATING / COOLING EQUIPMENT (PTACs)



A. SEAL SLEEVE TO FRAMING

B. SEAL SLEEVE TO DRYWALL

**Notes:**

A. Intent: reduce leakage between apartment and outdoors

B. Intent: reduce leakage between wall cavity and apartment

Additional measures:

- Seal PTAC equipment to sleeve
- Provide insulated interior cover with compressible gasket

Responsibilities:

Mechanical: A

Drywall: B