
AIR SEALING GUIDE

MULTIFAMILY MASONRY CONSTRUCTION



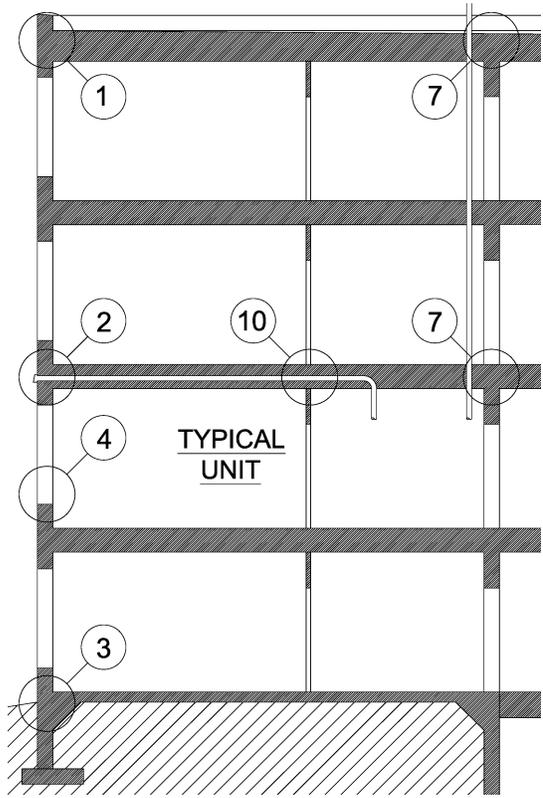
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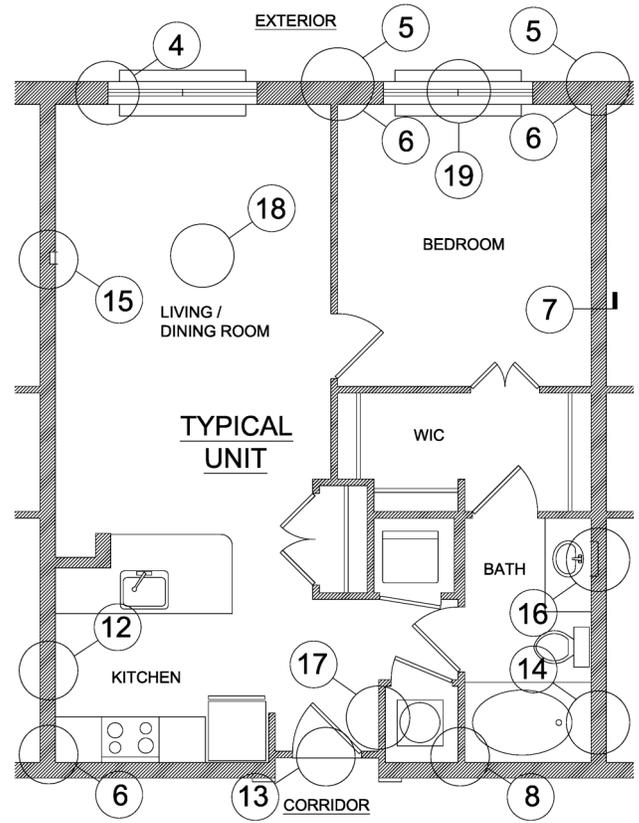
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SECTION KEY
TYPICAL MULTIFAMILY BUILDING



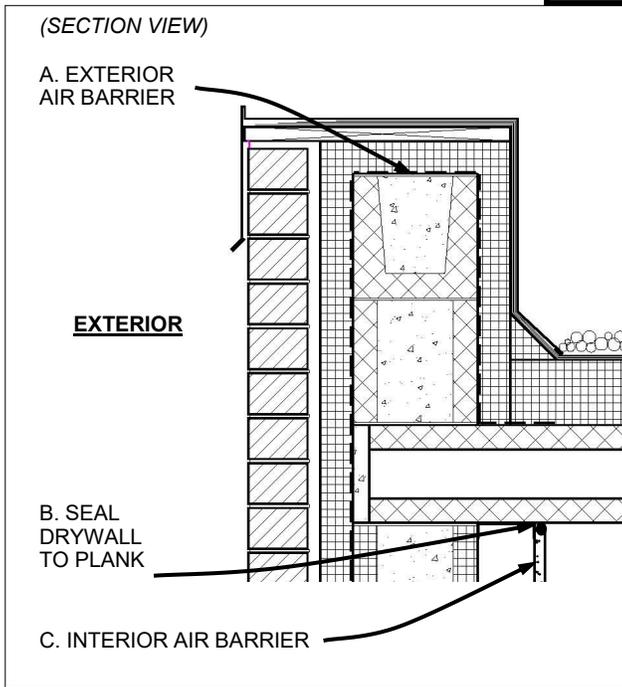
PLAN KEY
TYPICAL UNIT PLAN

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 (e.g. EcoSeal)
4. Use low-expanding foam at window and door openings
5. Use temperature-appropriate sealant (e.g. high-temp caulk at flues, heating pipes, etc.)
6. Clean out cracks before applying sealant (e.g. 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. Typically fluid-applied or adhesive membrane on CMUs (e.g. Grace / Henry products)

B. Intent: reduce leakage between wall cavity and apartment

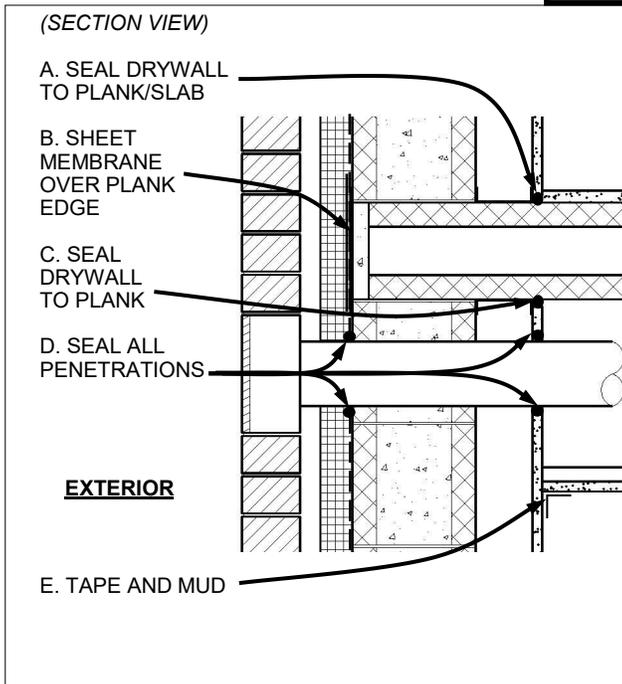
C. Typically drywall

Responsibilities:

Envelope: A
Drywall: B, C

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EXTERIOR WALL - MIDDLE



Notes:

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

B. Incorporate with exterior air barrier

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

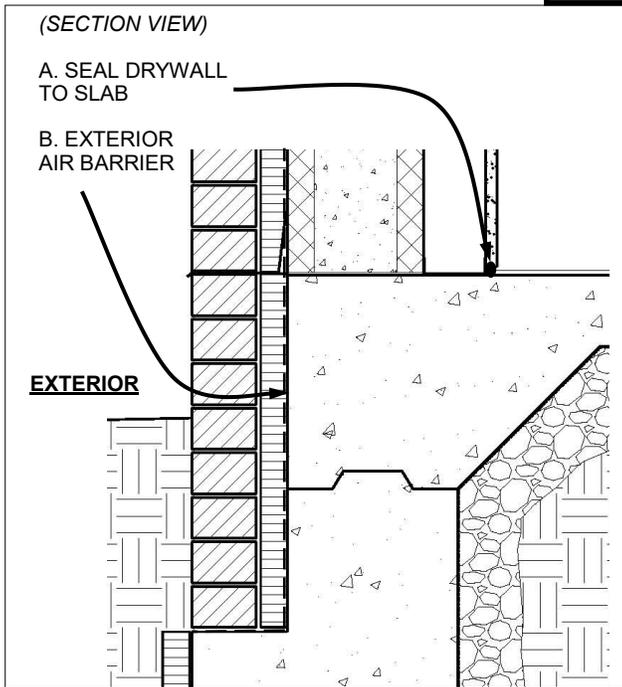
E. Typical

Responsibilities:

Envelope: B
Drywall: C, E
Mech/Elec/Plumb: D

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EXTERIOR WALL - BOTTOM



Notes:

A. Intent: reduce leakage between wall cavity and apartment

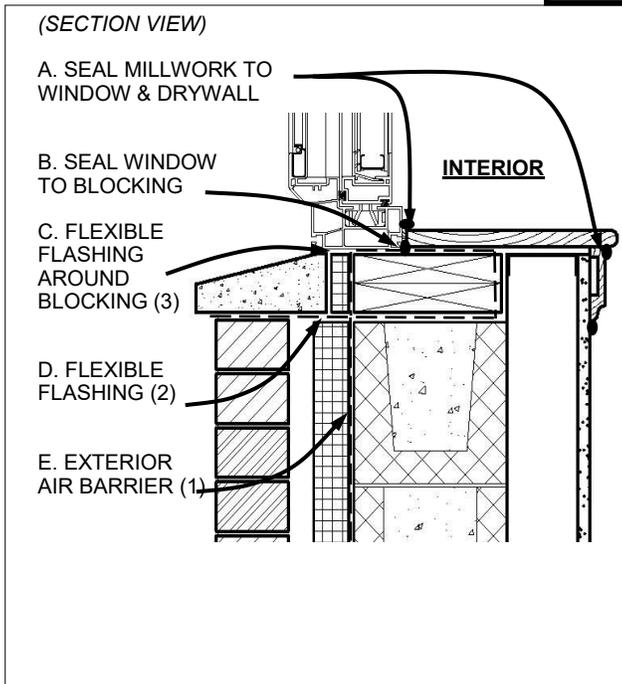
A. Option: self-leveling subfloor (e.g. gypcrete)
- Seal any remaining gaps between self-leveling subfloor and drywall with caulk

Responsibilities:

Drywall: A
Envelope: B

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WINDOW SILL
(HEAD AND JAMB SIMILAR)



Notes:

A. Intent: reduce leakage between wall cavity and apartment

B. Intent: reduce leakage between wall cavity and outdoors

B. Seal any gaps at shims

C, D, E: Sequence of installation shown (1, 2, 3)

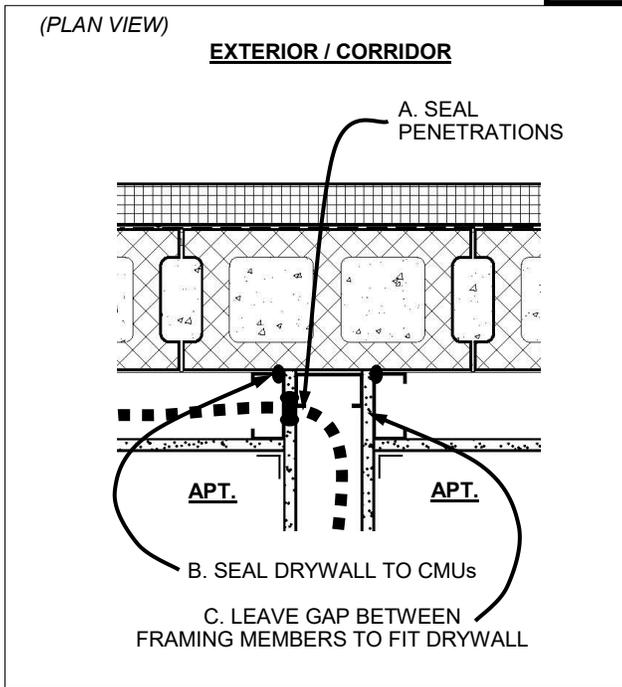
D. Wrap entire window opening with flexible flashing

Responsibilities:

Envelope: B, C, D, E
Paint: A

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DEMISING / INTERIOR WALL AT EXTERIOR / CORRIDOR WALL



Notes:

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

A. Includes ducts, pipes, wires, etc.

B. Size of gap depends on thickness of drywall to be installed

Responsibilities:

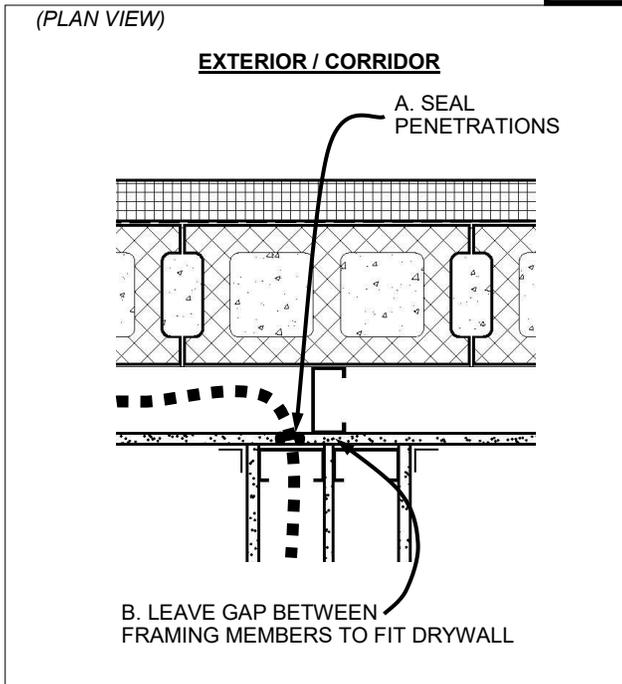
Framing: C

Drywall: B

Mech/Elec/Plumb: A

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ALTERNATE METHOD FOR WALL CAVITY SEPARATION



Notes:

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

A. Includes ducts, pipes, wires, etc.

B. Size of gap depends on thickness of drywall to be installed

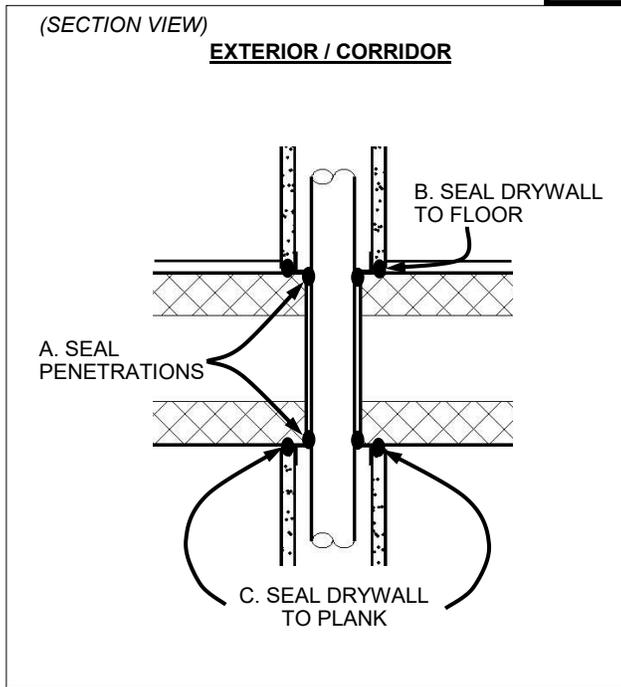
Responsibilities:

Framing: B

Mech/Elec/Plumb: A

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PLANK / SLAB PENETRATIONS



Notes:

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

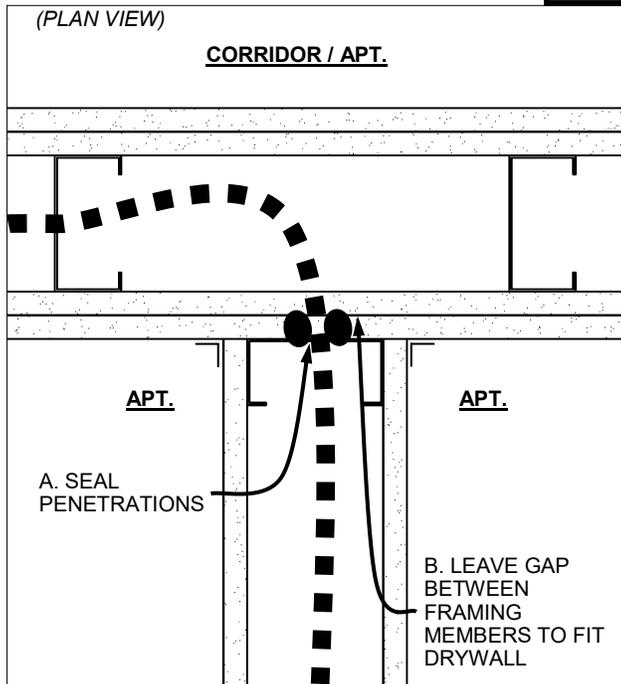
A. Includes ducts, pipes, wires, etc.

Responsibilities:

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

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INTERIOR PARTITION AT DEMISING / CORRIDOR WALL



Notes:

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

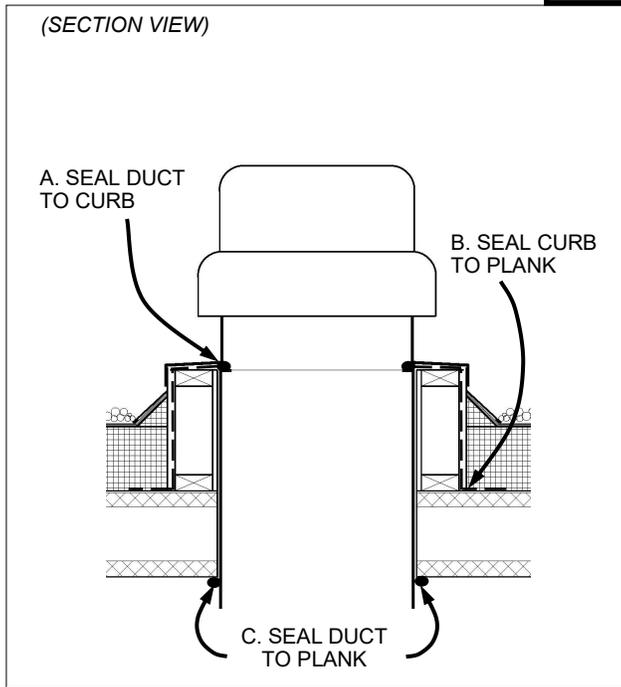
A. Includes ducts, pipes, wires, etc.

Responsibilities:

Framing: B
Mech/Elec/Plumb: A

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ROOF FAN



Notes:

A, B. Intent:

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

C. Intent: Reduce leakage between conditioned & unconditioned space

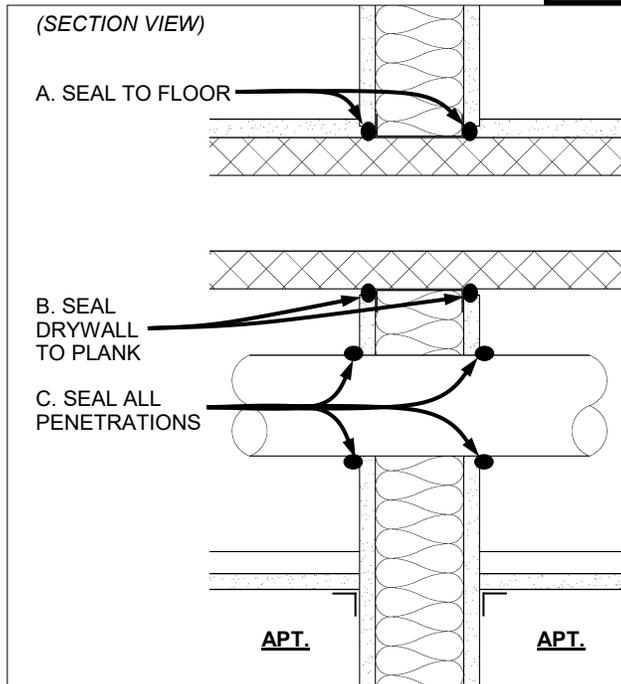
Note: Connect fan to curb tightly (but do not seal permanently to allow removal for maintenance)

Responsibilities:

Roofing: B
Mech/Elec/Plumb: A, C

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DEMISING / CORRIDOR WALL PENETRATIONS



Notes:

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

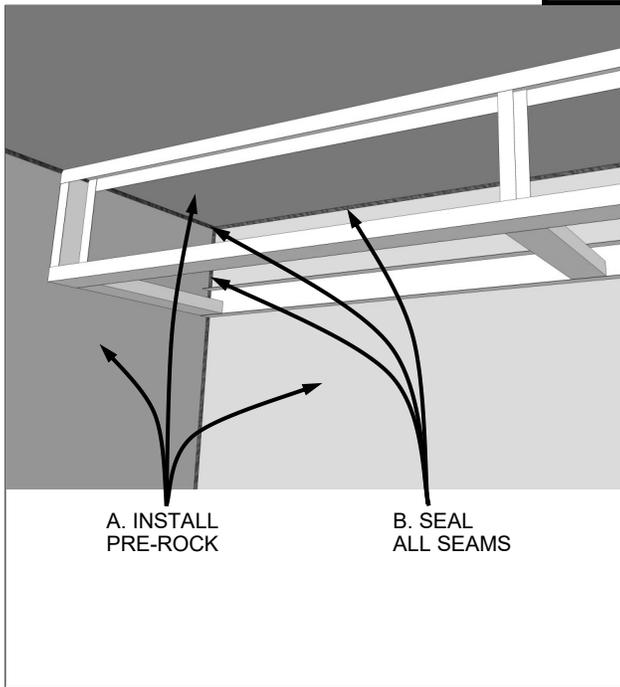
C. Includes ducts, pipes, wires, etc.

Responsibilities:

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

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SOFFIT PRE-ROCK



Notes:

A, B. Intent: reduce leakage through soffit

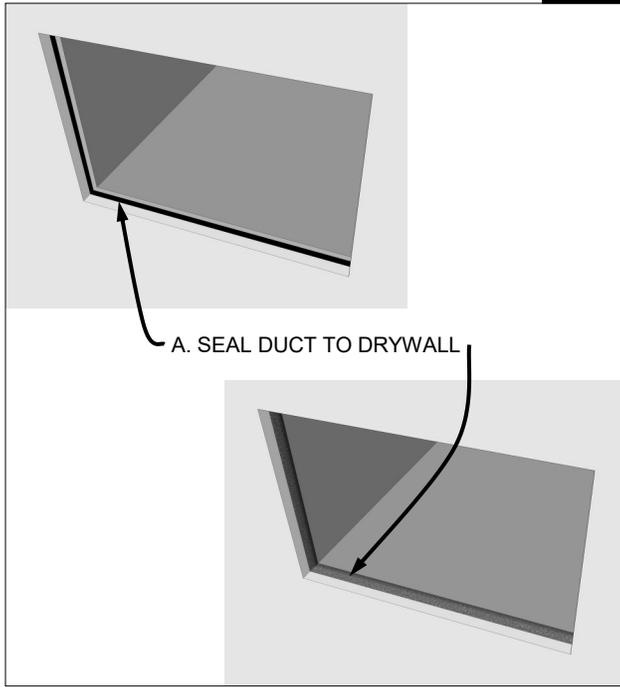
A. Install pre-rock BEFORE framing the soffit

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:

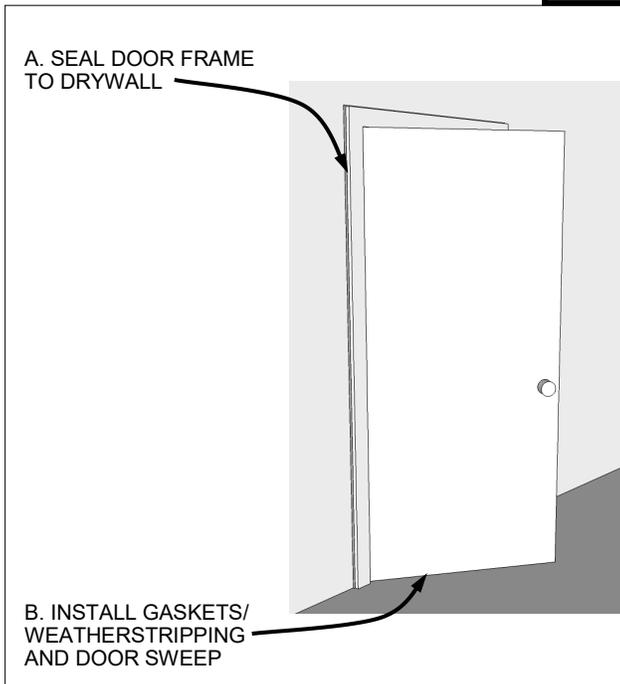
- Heating/cooling ductwork
- Exhaust ductwork
- Exhaust fans
- Dryer vent

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 (e.g. boiler room, trash room, etc.)

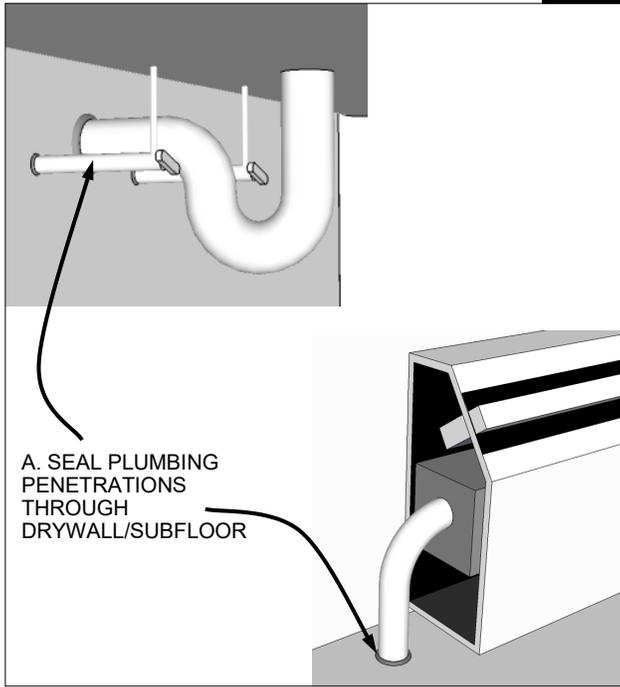
Responsibilities:

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:

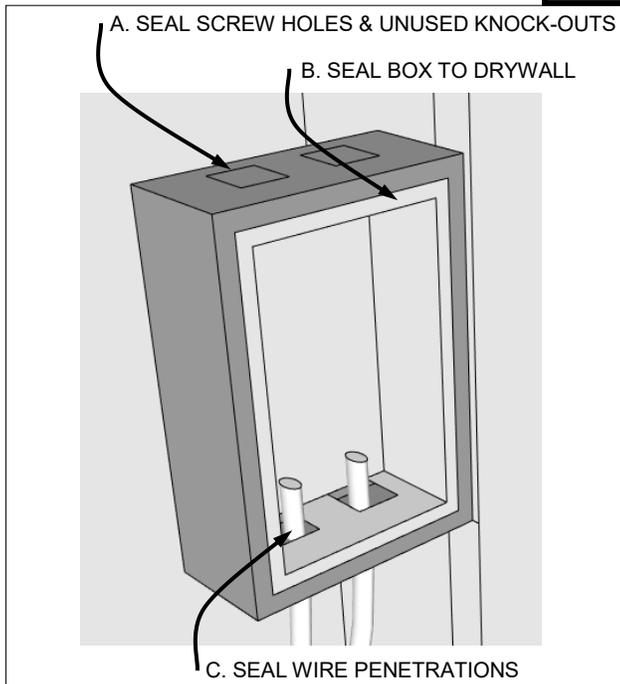
- Sink faucet supplies & drain
- Toilet supply
- Showerhead stub-out
- Heating supply/return
- Gas supply
- Sprinklers

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

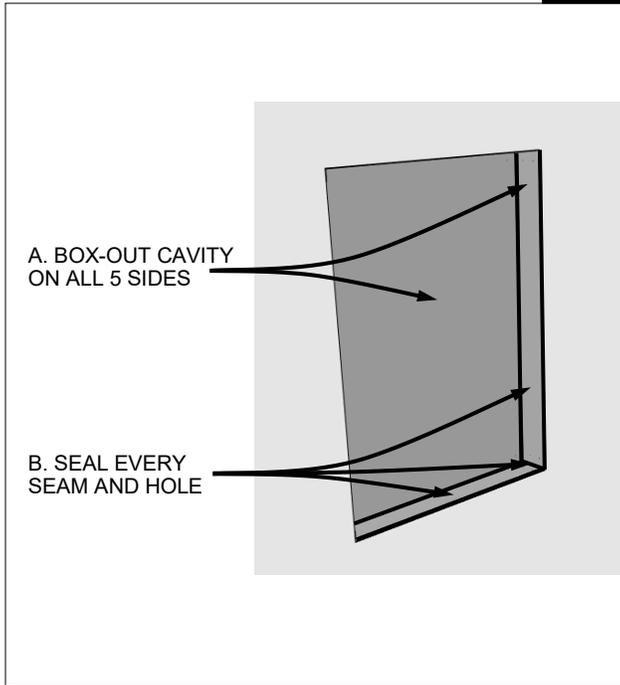
Responsibilities:

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:

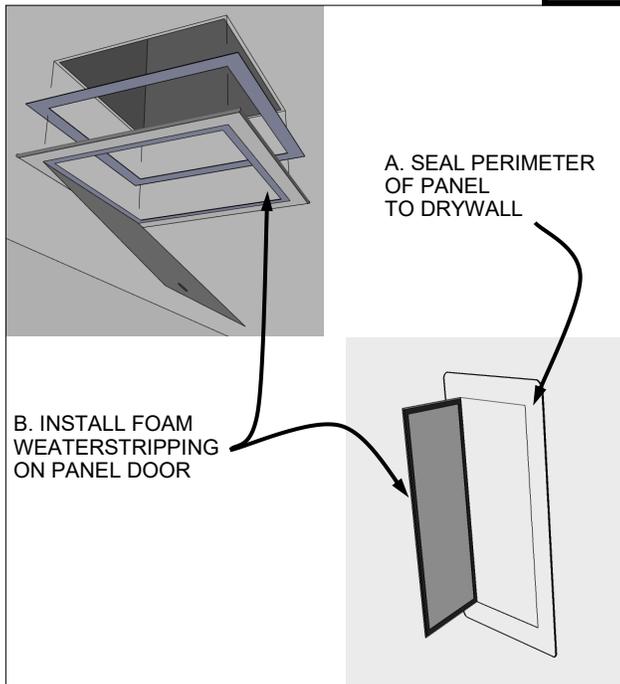
- Medicine cabinet
- Fire extinguisher cabinets
- Mailboxes

Responsibilities:

Drywall: A, B
Framing: A

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UTILITY / ACCESS PANELS



Notes:

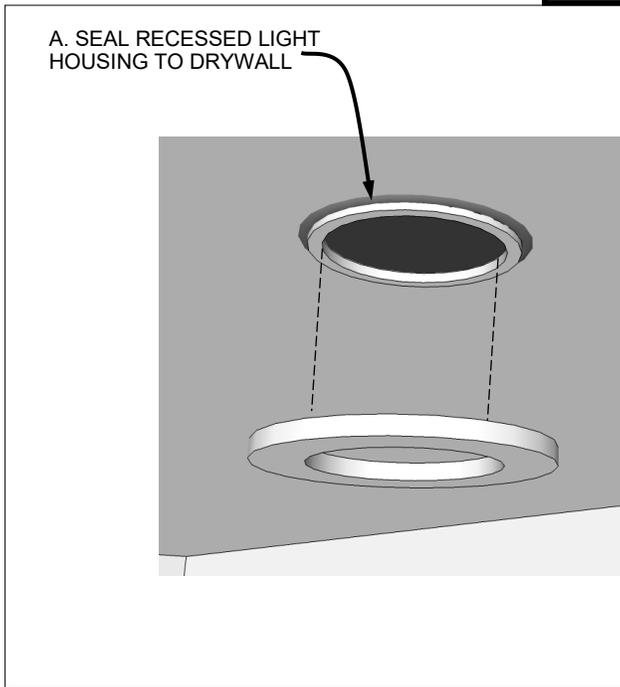
- A, B. Intent: reduce leakage between structural cavities and apartment
- A. Options:
 - Caulk
 - Foam
 - Gasket
- B. Inexpensive, adhesive-backed weather-stripping usually works best

Responsibilities:

Drywall: A
Mech/Elec/Plumb: B

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RECESSED LIGHTING



Notes:

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

- A. Options:
- Caulk
 - Foam
 - Gasket

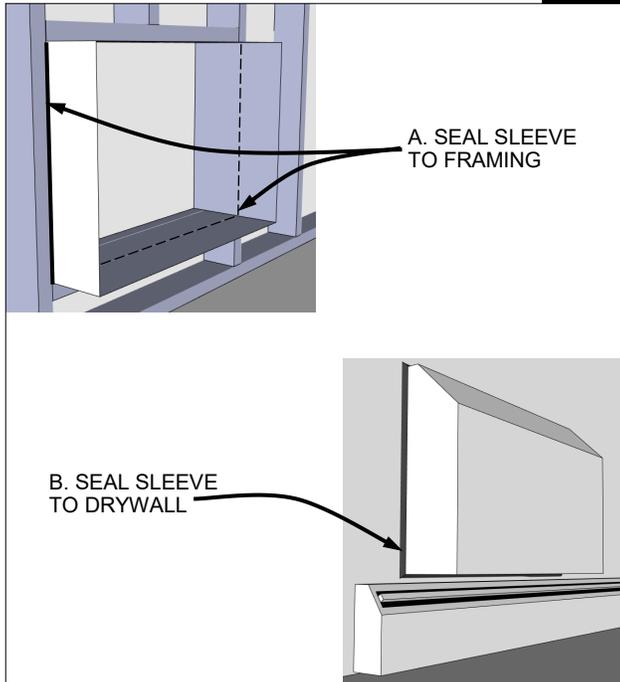
A. Use insulation contact air-tight cans (ICAT)

Responsibilities:

Drywall: A

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PACKAGED HEATING / COOLING EQUIPMENT (PTACs)



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