



## SEALITE™

### ARCHITECTURAL SPECIFICATIONS & INSTALLATION INSTRUCTIONS

#### PART 1 - GENERAL

##### 1.01 SUMMARY

NCFI's Sealite™ provides building envelopes with seamless insulation which substantially reduces air infiltration. Sealite is applied in studwall cavities, between floor joist, ceiling rafters and roof rafters at the thickness to achieve the desired R value for a total insulation/air barrier package. Air infiltration is substantially reduced due to the sealing characteristics of the spray foam system and eliminates the need for air barrier building wrap. Sealite can be applied to most construction materials including wood, drywall, masonry block, and metal.

##### 1.02 QUALITY ASSURANCE

Sealite must be installed by a qualified spray polyurethane foam applicator who is familiar with the operation and maintenance of his equipment and who is familiar with the properties of the NCFI Spray System which is being applied.

##### 1.03 MATERIAL DELIVERY AND STORAGE

- A. Materials shall be delivered in their original, tightly sealed containers.
- B. Store above 35°F. Prior to use, keep the temperature of the chemicals above 70°F for several days. Cold chemicals can cause poor mixing, pump cavitations or other process problems due to higher viscosity at lower temperatures. Storage temperatures should not exceed 85°F. Do not store in direct sunlight. Keep drums tightly closed when not in use and under dry gas pressure of 2-3 psi after they have been opened. Cool storage of the resin extends shelf life. Exposure to temperatures above 85°F will shorten the expected shelf life. Under proper storage conditions, shelf life of NCFI Spray System 12-002 used with Sealite is three months.

#### 1.04 SEQUENCE AND SCHEDULING

The spray polyurethane foam used in the Sealite™ system is applied after the perimeter wall is in place, windows and doors installed, and rough-in plumbing and electrical inspections are complete.

1.05 VAPOR BARRIER: Install vapor barriers as required by local code.

#### 1.06 SAFETY

**HANDLING OF LIQUID COMPONENTS:** Use caution in removing bungs from 55-gallon drums. Loosen  $\frac{3}{4}$ -inch bung and let gas escape before completely removing. Avoid breathing of vapors. In case of chemical contact with eyes, flush with water for at least 15 minutes and get medical attention. For further information refer to "Working with MDI and Polymeric MDI: What You Should Know," Reference No. AX 205, published by Center for the Polyurethanes Industry, 1300 Wilson Boulevard, Arlington, VA 22209, [www.polyurethane.org](http://www.polyurethane.org).

**15-MINUTE THERMAL BARRIER:** Federal, state, and local building codes vary. All require that spray-applied polyurethane foam insulation be covered with an approved 15-minute fire rated thermal barrier. One typically approved material is  $\frac{1}{2}$ -inch gypsum wallboard (sheetrock) applied over the spray polyurethane foam insulation. However, always check with local officials for recommendations and approvals.

**PART 2 - PRODUCTS**

**2.01 POLYURETHANE FOAM**

The polyurethane foam used shall be NCFI Chemical System 12-002. Typical physical properties of foam made with this System are:

<b>Property</b>	<b>NCFI 12-002</b>
Core Density (Nominal)	0.5 lb/ft <sup>3</sup>
Permeance at 3½" Thickness	4.4 perms
Thermal Conductivity (k)*	0.27 Btu·in/hr·ft <sup>2</sup> ·°F
Flame Spread (4" thick)**	≤ 25
Smoke Developed**	< 450

**R\* Values**

<b>Thickness</b>	<b>R-Value</b>	<b>Thickness</b>	<b>R-Value</b>
1"	4.1	5"	18
2"	7.5	6"	22
3"	11	7"	25
3.5"	13	8"	29
4"	14	12"	43

\*As with all insulating materials, the k Factor and R Value will vary with age and use conditions.

\*\*These numerical flame spread ratings and smoke developed numbers are not intended to reflect hazards presented by this or any other material under actual fire conditions. For proper use refer to the appropriate building code.

**2.02 ACCESSORIES**

- A. Joint Filler Foam: Hilti CF 124 Filler Foam or equivalent
- B. Caulk: Sikaflex 1a: Single component polyurethane or equivalent

## PART 3 - EXECUTION

### 3.01 SURFACE PREPARATION

All surfaces to be sprayed with NCFI polyurethane foam must be dry, clean, and secure. Remove sawdust and other debris from areas to be sprayed by blowing with compressed air or vacuuming with a shop vacuum. Check surfaces with NCFI MDP strips to verify dryness. All metal to which foam is to be applied must be free of oil, grease, rust, etc. Primers should be used where necessary.

Mask off all areas not to receive spray foam with masking tape and plastic sheeting. Apply release agent to stud facing to facilitate removal of foam.

### 3.02 FOAM APPLICATION

Sealite™ (NCFI Spray System 12-002) is a fast rise foam system. The foam is applied in one pass to completely fill the stud wall cavity. Additional passes can be applied if necessary to achieve the desired thickness. Use a spray technique whereby the stud faces are thinly sprayed with foam chemicals to assure adhesion to the studs. The resulting foam pass would be “U” shaped with rapid gun sweeps across the stud faces.

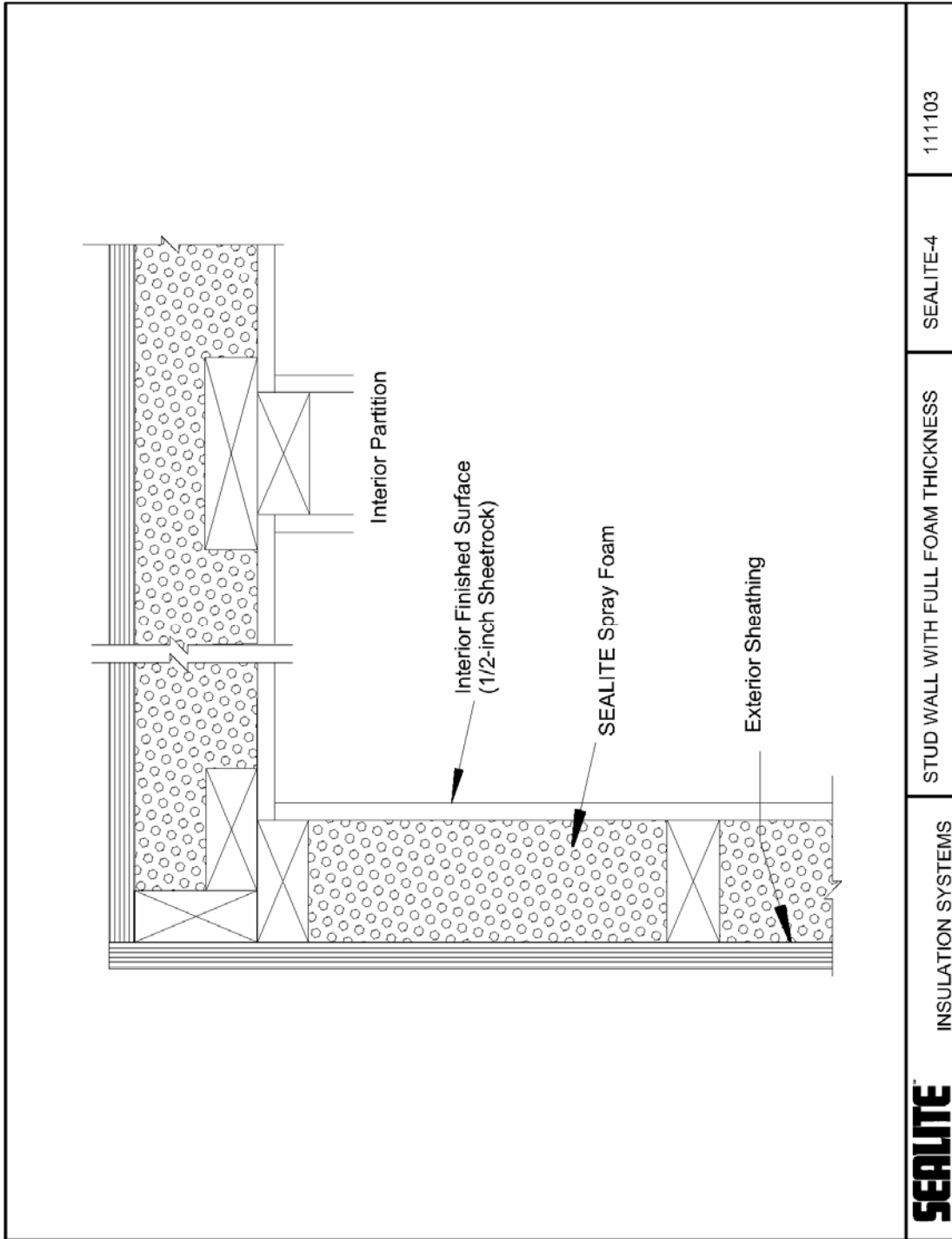
Where Sealite is applied between joists (below a floor or above a ceiling), apply sufficient foam thickness to achieve the desired R-value (the cavity does not need to be completely filled).

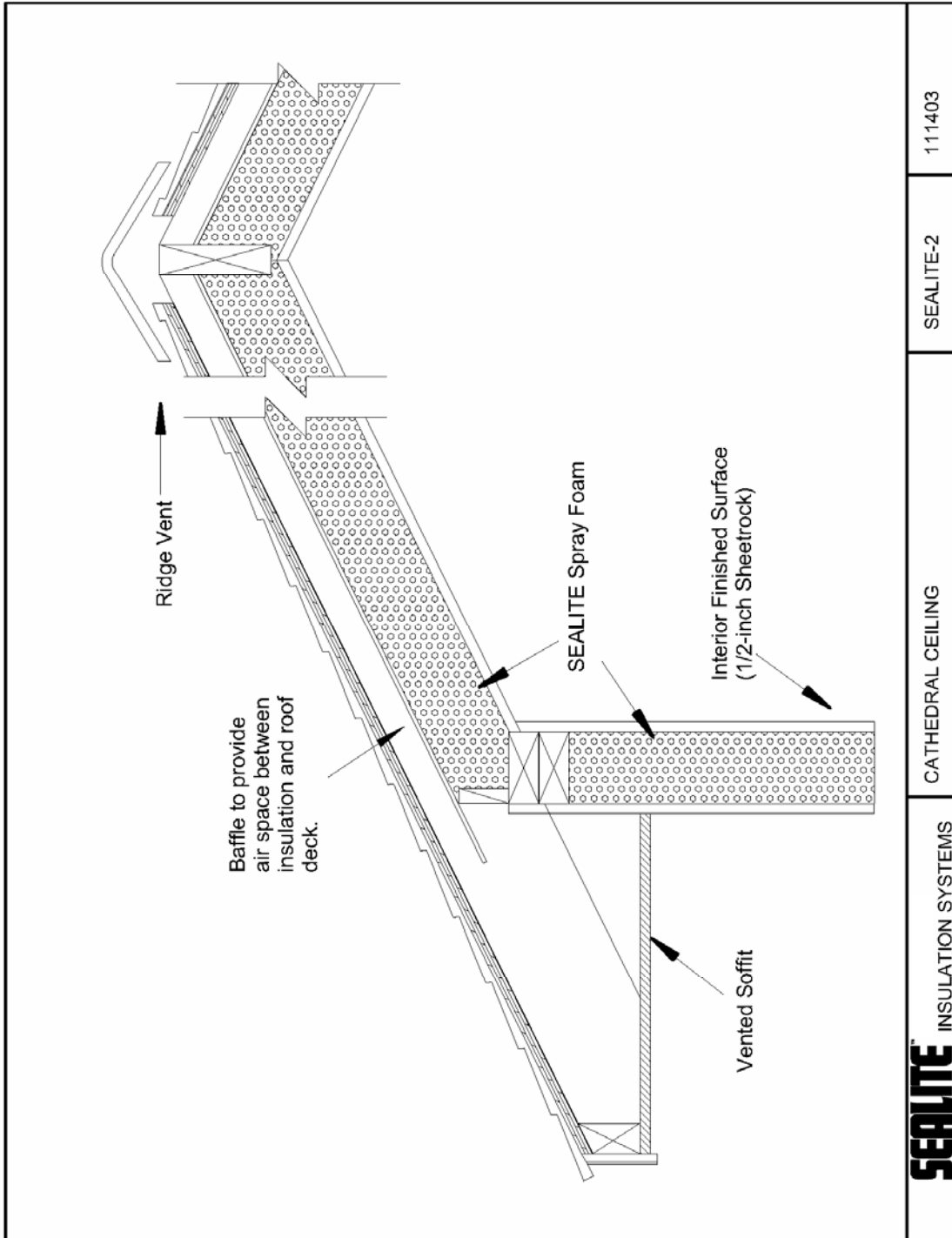
### 3.03 ACCESSORY APPLICATION

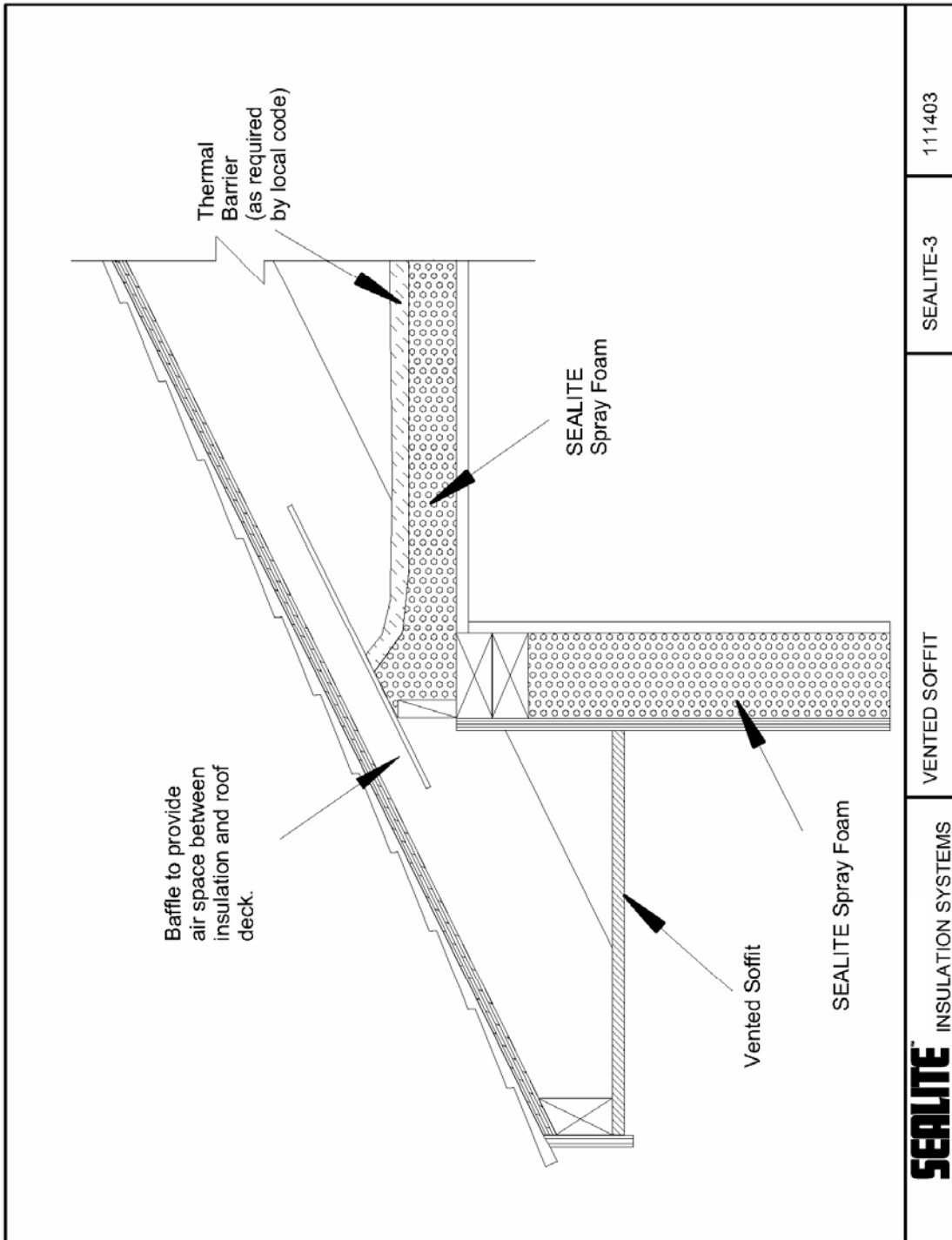
Joint Filler Foam and Caulk: Use joint filler foam and/or caulk to seal around windows, doors, chimneys, electrical raceways, sill plates, multiple studs, etc. **Caution: Joint filler foam can tighten window frames and door jambs to the point that they will not open or close properly. Care must be used in these areas to avoid distortion of these members.**

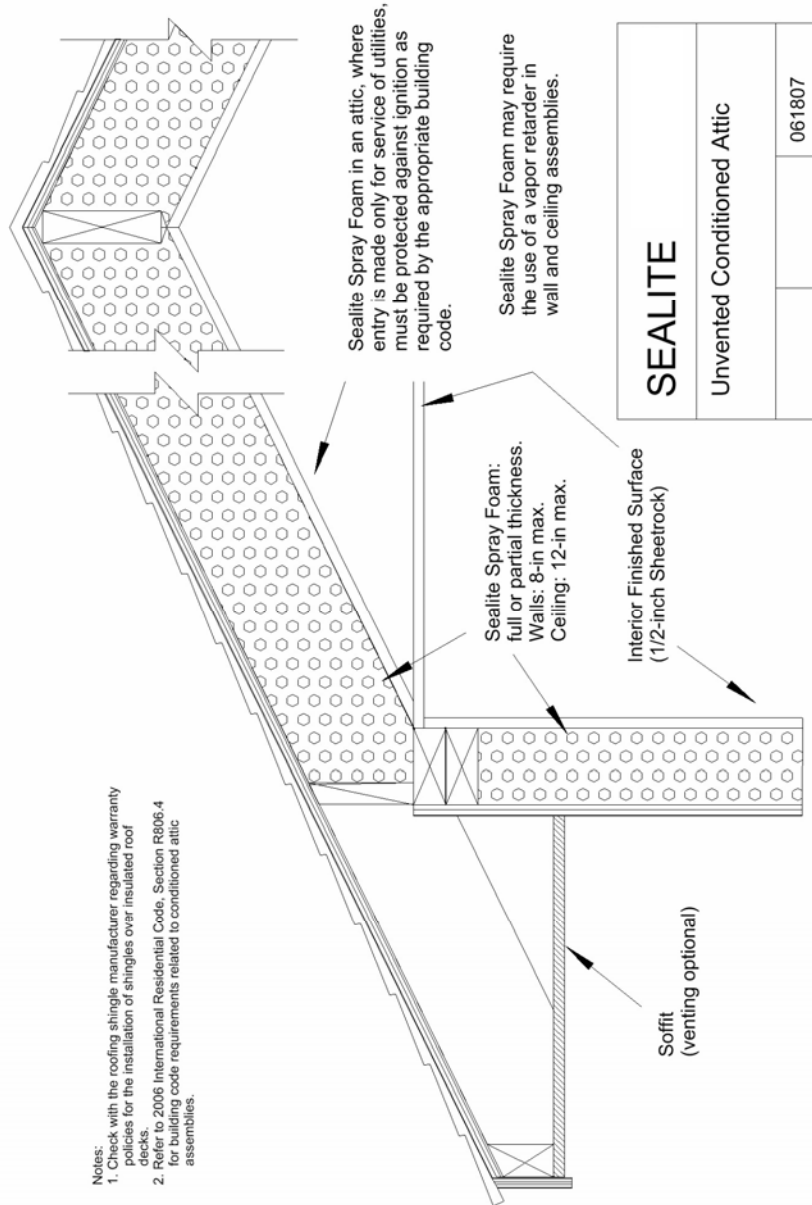
### 3.04 CLEAN UP

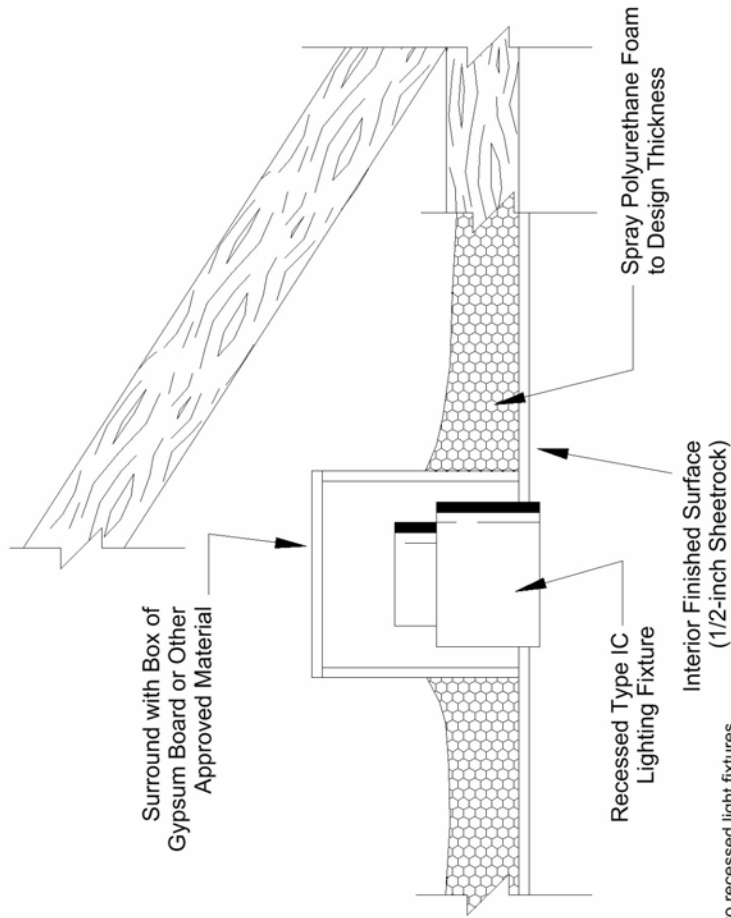
Clean off all overspray and overfill from the interior stud facings. Where stud cavities have been overfilled, shave off the foam face to provide a surface flush with the stud for drywall installation. Remove all masking materials.











**Recessed Lights and Fixtures**

Avoid applying spray foam directly to recessed light fixtures or other fixtures that could generate heat. Typically, these fixtures are first "boxed in" with 1/2" gypsum board (a thermal barrier). The spray foam is terminated at the barrier box. See the typical detail at right.

**Recessed Lighting Fixtures**