



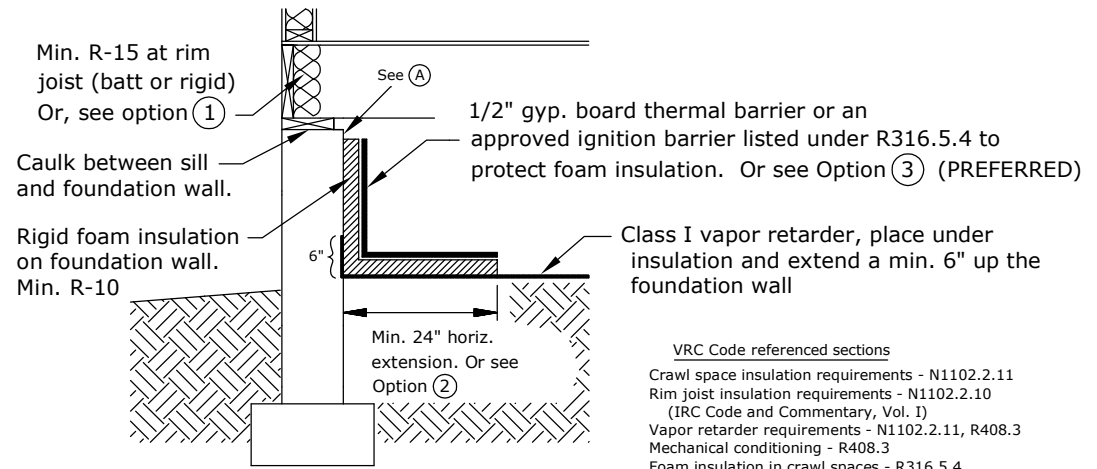
Unvented (conditioned) crawlspaces

If an unvented crawl space will be used, please provide the following information:

- 1) A typical foundation wall section detail to show how the unvented crawl space will be constructed (see Typ. Foundation Detail). Please specify all insulation types to be used, the thickness, R-value, and location of the insulation in the crawl space. Please also show the type of thermal or ignition barrier to be used and vapor retarder.
- 2) Specify which one of the three types of mechanical conditionings will be used, per R408.3.
 - a) Continuously Operated Mechanical Exhaust Ventilation (R408.3.2.2.1)
 - b) Conditioned Air Supply (R408.3.2.2.2) with a transfer grill or return (PREFERRED)
 - c) Use an existing plenum per, M1601.5 (R408.3.2.2.3).

NOTE: FOR ADDITIONS ONLY, NOT FOR NEW HOME CONSTRUCTION

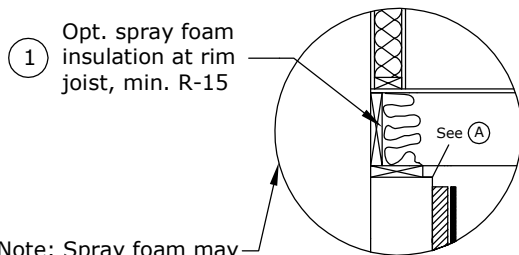
- 3) Provide a ICC-ES report (from www.icc-es.org) for all rigid foam insulation and spray foam insulation to be used. (IMPORTANT)



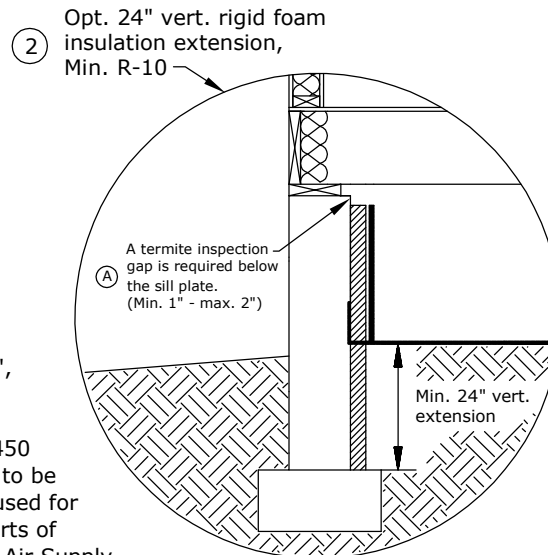
Typ. Foundation Detail

VRC Code referenced sections

- Crawl space insulation requirements - N1102.2.11
- Rim joist insulation requirements - N1102.2.10 (IRC Code and Commentary, Vol. I)
- Vapor retarder requirements - N1102.2.11, R408.3
- Mechanical conditioning - R408.3
- Foam insulation in crawl spaces - R316.5.4
- Foam flame spread and smoke developed index - R316.3
- Foam use on sill plates and headers - R316.5.11
- Foam use without thermal or ignition barrier - R316.6



Note: Spray foam may be left unprotected without a thermal or ignition barrier at the sill plate and joist provided that the 3 conditions listed under R316.5.11 are met: 1) Max. thickness of foam = 3 1/4", 2) The foam has a density in the range of 0.5 to 2.0 pounds per cubic foot, 3) The foam has a flame spread index or 25 or less and a smoke development index of 450 or less. However, many spray foams are not permitted to be used in a crawl space unprotected if the crawl space is used for storage or if the crawl space air is circulated to other parts of the building (which would be the case for a Conditioned Air Supply crawl space (R408.3.2.2.2)). Refer to the foam manufacturer's ICC-ES report to determine the spray foam's applicability.



- ③ Opt. rigid foam insulation without a thermal or ignition barrier

Note: the rigid foam must meet one of the testing requirements listed under R316.6 in order to be installed unprotected. The foam must also be permitted to be used in a crawl space per the manufacturer's independent test report. The following is a list of approved rigid foams that may be used (Note: other products may be acceptable if a ICC-ES report is submitted:

- Dow Thermax (ESR-1659)
- Dow Styrofoam XPS, type IV or X (ESR-2142)
- Kingspan GreenGuard (Dr. J Ter No. 1407-03)
- Kingspan Kooltherm K5, K10, or K20 (Dr. J Ter No. 1601-07)
- Owens Corning Formular 150 or 250 (UL ER8811-01)
- Johns Mansville CI Max (ESR-3398)
- AFM Corporation Bora-foam (UL ER11812-07, ESR-1006)

