

Spray Foam Insulation

Types: 1/2 pound "open cell" and 0.8 pound "open cell."
1.2 pound "closed cell" and 2 pound "closed cell."

"Open Cell"

Categorized as being "semi rigid." Soft or "spongy" to the touch.
Generally off white or beige in color.

Open cell foam is the ONLY type of foam that can be used on the underside of wooden roof deck\$. Open cell type foams will allow water to penetrate and drip through. This will give early warnings of roof leaks before damage to a roof structure occurs. After water intrusion, the foam will maintain its integrity once it has had a chance to dry out. Heavier foams, such as 2 pound & 1.2 pound are the "closed cell" type. These types will not show any signs of roof leaks because of its "closed cell" structure. A roof leak would be extremely difficult to discover. This could result in major roof structure damage. Also, testing of "closed cell" foams on the underside roof decks have shown that the temperature of shingles are raised on average of 10 to 30 degrees. This could result in premature aging, such as cupping or curling and granule loss.



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HVAC Systems installed in a Sealed Attic Assembly.

An HVAC system installed in a home with a sealed attic assembly and foamed walls is generally smaller compared to a home with conventional insulation. Normally about 30%. Don't be surprised if you inspect a 2500 to 2600 hsf home with a 3 1/2 ton *A/C* unit. If you inspect a home that has a unit installed that would be properly sized if it had conventional insulation, chances are good that unit is oversized. Recommend they have this situation further reviewed by a licensed HVAC contractor that is familiar calculating systems with homes that have foam insulation.

Gas fired Furnaces & Water Heaters.

Standard gas furnaces in the attic are required to be suspended from the rafters. This is required by fire code. If the unit is resting on the attic floor it must be encased in a fire rated closet. '

A combustible air source must be introduced in either situation. Generally you should see some type of small piping (3 to 4 inch dia.) routed from a nearby eave and end next to the front of the heater cover. In an ideal situation, you will see a "direct vent" unit installed. This type unit can be installed in any proper fashion without any additional combustible air source. These type units have a 90% or better efficient rating.

A combustible air source for any type of gas water heater is not required in a sealed attic assembly.

NOTE: Foam must be at least 2 inches from any gas fired appliance exhaust vent piping. The only exception is when a direct vent unit has been installed.

"Sealed Attic Assembly"

Open Cell- 1/2 pound"

"A sealed attic assembly is an attic that is completely sealed with foam. And if done properly, WILL NOT have any outside air infiltration.

By code, this will now be considered as a "semi conditioned" air space. Ventilation of any kind is NOT needed.

Things to look for.

From inside the attic, look for daylight or voids around the perimeter where the roof structure meets the exterior walls. Small voids can generally be filled with can foam. Also, attics over living areas should be sealed with foam from garages either at the garage ceiling or have an actual foam barrier wall that divides these areas. This prevents outside air and garage fumes from entering the living area.

The thickness of foam should be no less 4 1/2 inches thick. An average of 5 to 5.5 inches is the standard. Although this type of foam cures in a bumpy fashion, you should expect to see consistent and relatively even coverage. The ridge line of the roof should be covered thicker and almost hidden.

Look for deep vertical gaps or voids between the foam and rafters. This is a sign that the foam was applied too hot. Gently push or "pat" the foam in several areas to determine if it feels & sounds solid. If you suspect the foam is not solid through to the roof deck, push your finger through and see if there is a void behind the foam. If so, this indicates the foam was applied too cold.

Ceiling or Attic floor

Spray foam applied to the top side of the living area ceiling or attic floor is acceptable as long as it has an average thickness of no less than 4 inches and all ceiling penetrations such as can lights are sealed with fire caulking or some other acceptable sealant. This type of application is not as effective as the sealed attic assembly. Foam must remain a safe distance (generally 1 1/2 to 2 inches) and not touch any part of a can light fixture.