



Naturally better insulation.

Feb 8, 2001

Regarding: Recommended Procedures for Insulating Cathedral Ceilings
By Trained, Professional Insulation Installers

This letter is designed to explain our recommended application procedures for insulating cathedral ceilings with Applegate Cellulose Insulation. We recommend that cathedral ceilings be completely filled with our insulation. This is based, first, on our personal experience with this type of application over the last three decades. During that time, our contracting company (a separate entity) insulated approximately 16,000 homes in Michigan. We used this application method exclusively with great success.

Second, it should be noted that questions of ventilation, moisture retarders, and related moisture issues have been comprehensively re-thought in recent years. ASHRAE and other groups have performed research on these and a host of other moisture issues. The results are in direct conflict with traditional construction practices. In other words, some of what has been done over the years just "because that is the way it has always been done" is unnecessary and unwise.

Third, if a different insulation material were installed in the cathedral ceiling, it may be advisable to leave an air space above the insulation. I cannot speak for products manufactured by other companies, and neither can they speak for ours. Our recommendation for the installation of our product is not to have an air space above the material in a cathedral ceiling application. If our insulation is installed with an air space in a cathedral ceiling, the party requiring this method of installation assumes future liability since this is contrary to our recommendations.

Fourth, recent building research has shown that cathedral ceilings filled with non-permeable cellulose insulation do not require ventilation. Joseph W. Lstiburek reports in his book Building Science that:

"Roofs with no ventilation and non-permeable insulation...are free of condensation problems."

Later in the same book, Lstiburek summarizes why the type of application we recommend works:

"In fact, the cathedral ceiling in this case, is nothing more than a well insulated exterior wall with insulating sheathing which is sloped."

He reminds us that all exterior walls are filled with insulation and no one suggests ventilating them – and that cathedral ceilings are simply exterior walls built at an angle!

Blessed is the nation whose God is the Lord. Psalms 33:12

www.applegateinsulation.com

Table with 5 columns: Address, Location, Phone 1, Phone 2, Fax. Rows include Stonecypher Street, State Rt. 1241 N., Jackson Street, Highview Drive, Box 205, Box 489 in various states like Georgia, Kentucky, Louisiana, Michigan, Minnesota, and Pennsylvania.

Other building research supports this conclusion. At the *ASHRAE/DOE/BETEC Thermal Envelopes Conference*, a group of building scientists and contractors led by Bill Rose of the University of Illinois Building Research Center concluded that

“unvented cathedral ceilings provide better thermal performance and better moisture protection than conventional vented cathedral ceilings”.

Please also note the attached section from Standard Practice for Installing Cellulose Building Insulation. In paragraph 8.1.2 *Enclosed Ceiling Cavities*, it states that “Installations of this type must be made by pneumatic means and the cavity should be completely filled.”

I hope that I have answered any questions about this application technique. Please contact me if you have questions or comments (517-521-3545).

Sincerely,

Dave Mowry

Enclosures (20 total pages):

- “ASHRAE Drops Ventilation for Crawlspace, Eases Requirements for Attics”, EDU Oct. 1997 (2 pages)
- “Standard practice for installing cellulose building insulation” (1 page)
- “How to Insulate Cathedral Ceilings . . . Properly”, Aaron Applegate (4 pages)
- “More Data on Shingle Overheating with Unvented Roofs”, EDU March 1991 (1 page)
- “Computer Simulations Look Good for Cathedralized Attics”, EDU Sept. 1998 (5 pages)
- “Problems with Vented Cathedral Ceilings”, EDU Dec. 1992 (1 pages)
- “Unventing Attics in Cold Climates”, Home Energy Nov/Dec 1999 (2 pages)
- “Elk Roofing Shingles Warranted over Applegate Dense Pack”, Elk Roofing May 2000 (3 pages)
- “Certainteed Guarantees Asphalt Shingles Over Unventilated Roofs”, EDU March 1996 (1 pages)