



## *Good Shepherd Wool Insulation*

R.R. #3, Rocky Mountain House, Alberta, CANADA T4T 2A3  
Phone/Fax: (403) 845-6705, Email: Stan@GoodShepherdWool.com  
www.GoodShepherdWool.com

### **The Wool Insulation Advantage**

1. **Safe Choice** - Wool insulation is a natural resource that is environmentally friendly.
2. **Flame Resistant** Wool is naturally flame resistant and complies with the Australian Standards for flame resistance. When tested they found the following results:



The logs are loaded wool-side down and shipped to the building site.

**On a Scale of 0 to 10  
0 being the best.**

- Ignitability 0
- Heat Evolved 0
- Spread of Flame 0
- Smoke Developed 1

3. **Superior Insulator** - Research funded by the Wool Research Development Corporation has shown that wool is a better thermal insulator than other fibers under typical weather conditions because of its ability to absorb and desorb moisture from the air. It can help keep a building cool in summer and warm in winter.

When outside temperatures increase the wool is heated and releases moisture which has a cooling affect on the fiber and the building. This may reduce temperatures by up to 7E °C.

When outside temperatures decrease the wool absorbs moisture which can increase peak temperatures by as much as 4E °C.

4. **Natural Sound Block** - Wool insulation absorbs sound and therefore reduces noise levels considerably.

5. **Healthy Alternative** - Wool is non-carcinogenic (See Reports in the OSHA website on carcinogenic mineral fibers-Good Shepherd Wool Insulation takes no responsibility for the accuracy of the information contained in the linked articles.) and does not cause irritation of the skin, eyes or



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respiratory tract. It can be installed without the use of gloves or protective coating.

6. **Repels Pests** - The additive used to make our wool fire resistant and to repel vermin and insects is [Boron](#), a naturally occurring element found in the earth.

7. **Recyclable** - Our wool may be used for other environmentally friendly applications at the end of its useful life.

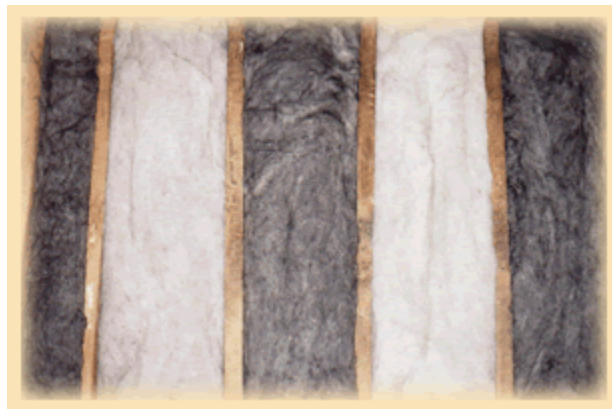
8. **Wool is also a very efficient absorber of indoor air pollutants.** Research has shown that it can absorb and permanently retain high levels of formaldehyde, emitted from some common building materials and furniture and nitrogen dioxide and sulphur dioxide, which are normal by-products of combustion processes (eg, gas stoves and heaters).

### Wool Batts in Frame Homes

Our wool batts are easily cut to size with an Olfa 2" rotary cutter available at most fabric stores or sharp sewing scissors will also do. For off-size spaces they should be cut slightly wider than the space needed between studs so they friction-fit in the space. You may put a staple at the top on each side if needed to hold it in place when fitting them into a wall. They may be used in ceilings walls and floors, and also do a nice job in Timber-framed homes.

We now offer these batts pre-cut to your choice of either 16" or 24" centers and they are in 24' rolls. They come in 2" thicknesses and may be layered to fill walls, floors and roofs. Every inch equals about 3.8R value.

If you choose to not use a plastic vapor barrier you can hold batts in a wall as seen below by using string and a stapler. Be sure to have you building inspector's approval to not use a vapor barrier!





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Above: Insulation of an Old Alberta Barn  
Notice studs are not parallel!





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### **R-Values of Wool Insulation**

In studies performed upon wool insulation in Europe the following R-values were proven to exist for carded wool batts:

<b>mm</b>	<b>Inches</b>	<b>R-Value</b>
60	2.36	R-9
80	3.15	R-12
100	3.94	R-15
120	4.73	R-17
140	5.52	R-20
160	6.3	R-23
180	7.09	R-26
200	7.88	R-29
220	8.67	R-32
240	9.46	R-35
260	10.24	R-38
280	11.03	R-41
300	11.82	R-44

### **Wool Longevity**

I found a carpet from Peru that is made of wool and has been around since 300BC-AD300. There are several wool carpets from Turkey that have been around since the 14th century (go to [www.Google.com](http://www.Google.com) and type "wool museum"). So if untreated wool lasts at least 2,000 years just think about how long our treated wool will last when properly installed in any home!

### **Care Instructions**

1. Wool insulation should not be exposed to sunlight or allowed to remain wet for extended periods; store it under cover and clear of the ground.
2. Wool insulation is lightweight and easy to handle and install. The material can be easily cut to shape and size with a sharp knife or scissors.
3. Take care to use a sharp or new auger when drilling logs with our wool already installed. Wool gains incredible strength when spun. A long-handled pipe wrench will usually free the tool.



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4. Narrow and shallow laterals with tight-fitting notches are the most economical applications for wool rope. Builders using these methods have claimed our wool to be cheaper than fiberglass and emseal in material costs. Builders are finding that the savings in labor costs alone more than pay the extra costs of wool in larger gap construction methods. An even greater savings is achieved by pre-insulating the logs in the yard before moving them to the building site where crane rental costs are very high. The superior holding strength of wool compared to other fibers allows it to be pre-insulated and hauled to the construction site mainly intact.

## **Foreign Certification**

Foreign Certification of Sheep's Wool Insulation

Regarding legal use of wool as insulation in New Zealand, the United Kingdom and Germany:

In New Zealand, Woolbloc, insulation made from sheep's wool, is certified as an effective insulant by the Building Industry Authority.

"Our company, Klober, manufactures a thermal insulation product called Thermafleece produced using wool from British hill sheep. Thermafleece meets all building regulations for installation in the UK."

A Cologne institute ([www.ECO-umweltinstitut.com](http://www.ECO-umweltinstitut.com)) has tested and certified wool insulation products made by German manufacturer, Frity Doppemayer GmbH.

**Good Shepherd Wool Insulation** sells sheep wool batts certified for use in European homes by the European Organization for Technical Approvals with The European Technical Approval #ETA-03/0035. Check with your individual Building Inspector for approval to use this product and give them this information. They would normally not deny you this privilege if properly informed of these approvals.

## **Mildew, Pests & Fire Resistance**

Most log home stains, like Sansin's products for instance, use Boron for the same reasons we do. It is great at repelling vermin, mildew and insects, and causes the wool to be fire resistant. It is also natural as it comes from Borax which is a native found compound using the element Boron. It is also believed to be a nutritionally important mineral to bone health. In areas with Boron deficient soils Boron is added to fertilizers for increased plant growth.

Did you see the commercials in the 60's about the 20 mule team Borax? There it was extracted for use as a water softener and laundry soap, called "Boraxo".





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Tim-bor is a product which uses boron to do similar things.

### **Here is how their company explains how it works:**

Tim-bor is a water soluble inorganic borage salt with insecticidal and fungicidal properties effective against wood-destroying organisms, including:

- Subterranean termites,
- Drywood termites
- Dampwood termites
- Carpenter ants
- PowderPost Beetles
- False PowderPost Beetles
- Furniture and Deathwatch Beetles
- Old House Borers
- Longhorn Beetles
- Ambrosia Beetle

Tim-bor can be applied as a solution, foam or dust for wood treatment against wood destroying organisms and as a solution or dust for general insect control. Tim-bor, applied as a solution or foam to wood, will penetrate into the wood to various depths dependent on the moisture in the wood and the wood species. The active ingredient does not break down, therefore as normal moisture changes occur in the wood, Tim-bor is always available to be drawn deeper into the wood over time, providing long lasting protection. When used as a dust or as a crack and crevice solution, Tim-bor is not repellent to general pests.