

## ABOUT WIGGY PRODUCTS

By Jerry Wigutow

**WIGGY'S GUARANTEE:** Our Guarantee is for a lifetime of use. If a seam opens, the zipper breaks or the Lamilite insulation deteriorates (such as losing its loft or separating, clumping in one place or another), Wiggy's will repair or replace your bag at no charge to you.

At this time, I know of no sleeping bag manufacturer that would even consider such a guarantee. The reason is simple: they already know the insulation they use will deteriorate. If you have ever compared information from the different sleeping bag and extreme cold weather garment manufacturers, you will see that they have never guaranteed the insulation they use, nor do they now.

I will explain why only Wiggy's can make such a guarantee. The single most important component of any insulated product, be it a sleeping bag, parka, bib, snowsuit, booties or mittens, is the insulation inserted into these products. All insulated Wiggy's products have only one insulator, LAMILITE. Lamilite is the best material developed thus far, for use as insulation for sleeping bags or outerwear. I believe that our sleeping bags and extreme cold weather outerwear are so good that to purchase any other brand is a waste of money. To purchase a sleeping bag with any less quality could not only mean a very unpleasant camping trip, it could also mean your life. I say "your life" because I believe a sleeping bag is the most important piece of equipment you take into the field.

The functional difference that truly sets the Wiggy's Bag apart from the rest is its insulation! Lamilite possesses an extraordinary quality that helps contain the flow of heat that your own body generates. The key to Lamilite is its ability to allow the body's own thermostat to function efficiently.

Lamilite is lofty insulation. The more loft surrounding your body, the more difficult it is for your body heat to escape.

Lamilite is lightweight. The lighter the weight of the insulation the lighter the weight of the finished product be it a sleeping bag or garment.

Lamilite is very soft. Put on a Lamilite parka and you will automatically think it is a down filled parka. The same holds true for our sleeping bags. They surround the body much the way a down bag does, filling in or draping closed around the body. This eliminates heat loss from convection. Conductive heat loss is reduced significantly. The fiber used for Lamilite is not densely packed into our products (as will be explained later) therefore, the loss of heat via conduction is minimized.

Lamilite is more than the fill put into our sleeping bags; it is a combination of nylon fabric and fiberfill, two components that aid each other. The first part is visible. It is the 70-denier nylon commonly known as single ply taffeta. The 70 denier refers to the thickness of the yarn. The actual weave is 86 yarns in one direction and 104 yarns in the other, per square inch. The thickness of yarn is the optimum thickness to absorb body heat and quickly warm to your body temperature. The faster this warming occurs, the slower the rate of conductive heat loss from your body. The spaces between yarns in this construction allow the moisture your body produces to easily escape. It is irrelevant how dry a climate may be, your body gives off moisture. Therefore, it is important to allow this moisture easy exit. Water is extremely efficient at absorbing heat, so you always want to stay as dry as possible.

Our exclusive processing of the fiberfill laminates the nylon. The Lamilite is an unbounded, silicone-coated continuous filament fiber. This is inside and cannot be seen. The silicone coating gives the fiber two very desirable properties. The first is "antistatic" which allows the fibers to perpetually repel each other regardless of how tightly the fibers are packed against each other (such as compacting in a stuff sack). The loft always returns after removing our sleeping bag from the stuff sack. As an example, one of our Ultima Thule sleeping bags was compacted under 20 tons of pressure. It was blister packed in two poly bags the size of 14 1/2" x 9 1/2" x 2 3/4". After four days it was opened and in one hour, without assistance, 90% of its loft returned. A Lamilite insulated sleeping bag is the only synthetic bag ever put through this test that returned to its original loft. Not even a down bag will return to almost original, actually the down bags deteriorate when vacuum packed. It is for this reason that I guarantee my sleeping bags will never lose their loft. The Alaska National Guard, as part of their survival gear, uses the Ultima Thule. The bags are left in the vacuum package until needed. In 1994 the U.S. Navy authorized an Ultima Thule, vacuum packed, as the official survival bag carried by aircraft and ships. In addition, they determined that it actually performed at -35? F. The second benefit of the silicone treatment is in making the fiber HYDROPHOBIC. Hydrophobic comes from the word "hydrophobia," or fear of water. Water simply does not attach itself to the fiber. This is extremely important for the moisture leaving your body, passing through the spaces between the yarns and easily moving through the fiber. Also, it is extremely important for the moisture not to condense in the insulation. If this occurs when temperatures are below freezing, frost buildup can severely reduce the thickness of your insulation, as occurs with down, or the moisture simply freezes as in any other sleeping bag and adds weight.

Refer to the Steger Expedition to the North Pole in July 1986. They used 15 pound chopped staple fiberfill insulated bags that accumulated 35 pounds of ice. The fiberfill used in those bags was Quallofil, a fiber produced by DuPont Co. Even though the fiber is silicone treated, the fact that it was so densely packed in by the quilting prevented any flow of moisture while in a vapor state.

Lamilite insulation is very drape-able. It is important the insulation of a sleeping bag drape around your body. The closer the insulation hugs your body, the less convective air movement occurs. The fiber pushes down on your body and the nylon lining touches your body. If the nylon did not touch your body, the heat from your body would be heating the air space directly above you and a convective air current would be generated. But with the nylon touching your body, it absorbs your heat quickly until it reaches your temperature. This heating action then slows, thereby reducing conductive heat loss.

Lamilite is also easily laundered. In fact, Wiggy's is the only company that wants you to wash its products when they get dirty. When you go camping, you get dirty and so does your sleeping bag. After awhile, the dirt works its way into the insulation and combines with your body oil. This in turn causes the insulation to compact down or reduce loft, hence, loss of insulation. Therefore, it is important to wash your Wiggy's bag after each camping trip. Keeping the fiber clean will allow it to retain its original loft. The following are our simple laundering instructions. They are sewn into every bag.

**CARE INSTRUCTIONS:** All of Wiggy's bags are machine washable (top load or front load). Use gentle cycle. The water temperature and laundry detergent are your choice. Wiggy's bags are machine dryable. When drying your bag in the dryer, use low heat. At the present, I know of no other sleeping bag manufacturer who guarantees that you can launder your sleeping bag.

The last, but by no means the least, important feature of our sleeping bag is the zipper. We use a #10 YKK molded tooth zipper. If your zipper fails to work when you are out in the field, it is irrelevant how good the rest of your sleeping bag is. I have been using the YKK #10 tooth zipper for 20 years, and I have yet to have a bag returned due to zipper failure. We also manufacture snowsuits and parkas used throughout the state of Alaska. The only zipper I will use for these garments is the #10 because it proved to work at -100 degrees F. I believe Wiggy's Bags are so durable that if all you ever do is sleep in them and wash them when they are dirty, eventually you will hand them down to your grandchildren. Therefore, do not be fooled by the "hype" offered about other insulations.

Thus far, I have mentioned two methods of heat loss: convective and conductive. There have been a variety of explanations given for the way we lose heat but, as pertains to sleeping bags, none have been quite satisfactory or accurate. The major misinformation deals with radiant heat loss. Radiation is the action or condition of sending out rays. All bodies in our world, including the human body, do so. Therefore, we want to retain and not lose the radiant heat we produce. In recent years, several manufacturers have made efforts to produce an insulating material that would contain, absorb, or reduce radiant heat loss. Their reasoning eludes me since the amount of total body heat lost through radiation is only supposed to be about 5%. To fully understand why the effort is a waste of time, one must recognize that the radiant heat we produce does not represent a loss but rather a positive.

I grew up in Brooklyn, N.Y., and had the pleasure of visiting the amusement area Coney Island. One of my favorite places to visit was not the rides, but Nathan's, famous for their hot dogs. There were not tables, just counter space. During the winter months, you were exposed to the elements, which could be brutal since you were at the ocean. In order to keep their customers from freezing, Nathan's installed radiant heaters around the perimeter. As soon as you stepped under the line of sight of these heaters, you began to feel warm. Radiant heaters heat objects, not air, and I was one of those objects. Thus, when you get into a sleeping bag, the lining of the sleeping bag absorbs the radiant heat you produce since it is the first object that the rays hit. The air between your body and the lining of the bag is completely unaffected by the radiant heat, just like the air at Nathan's - but I was affected in a positive way. The closer the lining of your sleeping bag is to you, and our lining actually lays on you, the more rapidly the radiant heat you are producing works to your benefit.

Convective heat loss is heated air moving or convective air currents moving away from the body producing the heat. While growing up in a house with radiators heated with steam, you could see the heated air rising from the radiator, especially in the sunlight. The air moving away from the radiator is convective air movement, and unless stifled, will continue moving until it cools at a distance from the source of heat. If the insulation of your Wiggy's Bag is touching you, the loss of heat via convection is almost entirely eliminated. Conductive heat loss, in my opinion, can be the most serious. The simplest explanation of conductive heat movement can be demonstrated by using a skillet with a metal handle. When you heat the skillet, eventually the heat will travel into the handle or is conducted into the handle. One method of reducing this form of heat movement is by changing the shape of the handle to a spring shape. This can be seen on potbelly stoves. Although the handle is steel, it does not hold the heat as a solid steel handle does. The same principle is in effect when you see the shape of the continuous filament fiber, which has a "vvv" shape. Since the insulation is not compacted (as quilting will do), the conductive heat loss is significantly reduced as we saw demonstrated by the spring shaped handle of the potbelly stove.