

terms of warmth than a full expedition model that has maybe a kilo of down in it. The highest claimed fill power down I have ever come across was in a PHD Hispar 500g fill with 900 fill power down! Of course, it's impossible to measure this sort of thing yourself, but the bag was really warm and light on test in the Garhwal Himalaya last year. The quality of down that is available has improved with closer contact with Eastern Europe. Not very many years ago 550-600 was pretty much the best, today 700-800 fill power is usually considered to be the top end.

SEASON RATINGS

Season ratings on sleeping bags are pretty pointless. All they tell you is that for example a two season bag is not as warm as a four season one. Great.

OPERATIONAL TEMPERATURES

These are also pretty hopeless as much depends on how warm you are, what the weather is like and how much shelter you have found. Various attempts have been made using mannequins in laboratory settings to try to make some sort of scale, but nobody will agree to use it unless they come out as the best I guess. Your buying decision will likely also be based on weight, bulk, size, intended use and price. Just because it is the warmest, it doesn't make it the most appropriate for you.

North Face Blue Kazoo £160

Shock! Horror!
All sleeping bags rely on the same stuff for their insulation.
...It is called AIR

BAFFLING CONSTRUCTION

In order to maximise the performance of down, there are several ways in which the shells of sleeping bags are constructed. Simply stitching through from the inner to outer is very light but does create cold spots at the stitch lines. Creating baffles which are a piece of mesh or fabric that links the inner to the outer eliminates the problem but is expensive and time consuming. Various different baffle constructions are used from a simple shelf to an angled shelf or baffle or V shaped baffles (such as in the **Mountain Equipment Snowline**) or trapezoidal (as in the **Rab Summit 700-1100g** fill series). Some manufacturers make bags that are in effect one bag inside another with the quilt lines off set to avoid cold spots, **Rab's Polar Expedition** bag being one example. **The North Face Blue Kazoo** bag has 600 fill power down but also uses some synthetic insulation at the hip, feet and head pressure points where down would compress more than the synthetic insulation. Good thinking.

It is also worth checking out whether a sleeping bag has a baffle running down the length of the sides to avoid the down migrating from the top to the bottom of the bag. Another area to check is the foot section. It needs to be baffled to hold the down in place and foot shaped both end on and from the side. Mountain Equipment's Shark's Fin and Bull's Eye foot panels are good designs with perhaps unnecessarily grand names. Cold feet are a misery.

The general rule here is that whilst all these arrangements improve the efficiency of the down, to varying degrees, they add weight to the bag too. It's all about finding the right balance. I'm inclined to go for a simpler shell with better quality down.

Traditionally the shells of sleeping bags have been made from fine weave nylon such as Pertex and sewn together. In the last few years there has been some interesting

Rab Quantum Top Bag £170



innovations involving gluing and welding of the seams. This may be the way of the future. Welding is soft and makes a perfect down proof seal (down can sometimes penetrate through stitch holes). This new method of manufacture saves a bit of weight, but much more significantly allows the outer to be much more moisture and weather proof. Examples of this are: the excellent **Mountain Hardwear Banshee 800** with MH's own Conduit outer covering, which was a real treat to use on a winter trip across the Atlas mountains of Morocco, and the **Crux Torpedo 500** which has an eVent outer cover for max weatherproofing and proved great for bivvying in the Alps in summer 2008.

SYNTHETIC FILLED SLEEPING BAGS

Synthetic filled bags are rather better than most down bags if the filling gets damp. They are often well priced, but they are not as warm for their weight and won't last even as long as Trigger's broom.

As I have said, trapped air is what insulates. The more the better. The design of modern synthetic fibres attempts to create something with a high surface area but low bulk and a soft feel-like down. As well as some clever stuff, there's a lot of marketing hype and pseudo science involved. Some examples are:

- Polarguard is a very long staple fibre as used in the **Mountain Equipment Moonwalker** series. It has been tried and tested for many years and is also very popular in some American brands.

- **The North Face** uses amongst other things a fibre called Climashield Prism another continuous filament fibre for their classic long-established **Cat's Meow** men's and women's range. It has a particularly high resistance to compression and maintains its insulation very well when compared to other synthetic fillings.

- **Marmot's** rugged **Wave** series use a fibre called Spirital the shape of which I'm sure you can guess. It gives a particularly soft comfortable feel. When combined with the excellent shape of Marmot bags, this works well too.

- Another innovation is called Thermic Micro fibre. It is welded on to the inside of the outer shell of sleeping bags eliminating seams and reducing weight. These are used exclusively by **Mountain Hardwear**. Check out their Lamina series.

- **Ajungilak** use a mixture of various shaped fibres in for example their **Denali** bag and due to a clever gluing process are able to fix the insulation to the outer shell with no seams which is both lighter and more waterproof as well.

- Some other fibres such as Hollofil although once popular have proven to be too bulky and not very durable for sleeping bag use compared with modern fibres.

FEATURES ON SLEEPING BAGS

The Hood

A well-shaped hood is essential on a performance sleeping bag even if you have never used it, one day you might really appreciate it. Your head is a large percentage of your body's surface so a lot of heat can be lost. It is however too easy to twist round and breath into or slobber onto the hood if it is drawn in. A hood with a moisture resistant lining is therefore good.

Draw cords

Draw strings should be simple and easy to use. They should have a grip but if it is too big it will get in the way. Draft collars can help to close down arm... drafts but if the closures are too complex they will just get your nerves. Draw strings made of shock cord are likely to thwack you in the face in your struggle to get out.

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Rab Exped Polar Bag 900 £350

Zips

Performance sleeping bags do not really need full length zips unless:

1. You are travelling through a wide temperature range, like going up Kilimanjaro and need to use the bag fully opened low down, but need to be warm higher up.
2. If you have a friend with a compatible zipped bag with whom you would like to zip it (although actually this is a bit of a drafty arrangement as you can't really get the hoods sorted, but probably that doesn't matter)

If you can put your trousers on in a tent you can get in a sleeping bag without a zip. They add weight and cause problems with snagging and breaking. If you have pre warmed it with a water bottle, much of that good work will be undone by undoing the bag. I believe that one of the reasons why most modern bags have them is that they are easier to fit in the factory than a side baffle to stop the down shifting round.

Pockets

Pockets are gimmicks. Whatever you put in them you will roll on and crush or wake yourself up, depending what it is.

Therm-a-rest Ridge Rest
£19.99 - £29.99

Stuff bags

When not in use most manufacturers supply large cotton or mesh bag in which to store your sleeping bag. Hanging it up is also a good option. Do not leave it in the stuff sack.

Compression bags, those with straps that reduce the size can be helpful for packing. Completely waterproof dry bags seem like a good idea but are difficult to use as air gets trapped inside when you try to stuff the bag in.

Incidentally, stuff bags are called stuff bags for a reason. The best way to put it in is to start with the foot and just stuff it. Do not try to roll a bag up as it will potentially rip the baffles and you will never get it small enough to get it in the bag.

Colour

Mostly of course colour is just a matter of personal preference, but it's not a bad idea, all other things being equal to get a bag with a dark or black lining. This can help a lot when you turn it inside out to air it. It will speed drying times.

Therm-a-rest Prolite Plus
£84.99

EXTRAS

There are several ways in which the performance of a sleeping bag can be improved without having to go to the expense of buying an upgrade...

• Top Bag

Adding a top bag will not increase the weight by much but will add warmth. Top Bags were originally designed for use in adventure racing where the weight had to be kept to an absolute minimum. The base of a top bag is usually just a sheet of Pertex nylon and the top is a lightly filled sleeping bag. A good example is the **Rab Top Bag**.

• Over bag

Over bags come in a variety of forms. **PHD** make one from synthetic insulation which could be used a roomy



North Face Cats Meow £120

bag on its own but when combined with a down bag inside gives a warm and moisture resistant system.

• Fleece liners

Fleece liners add psychological comfort because they are cosy, add warmth and help keep the inner of your bag clean.

• Silk Liners

Silk Liners weigh nearly nothing. They are not so cosy but they add warmth and keep the bag clean. I wouldn't bother with cotton, it just gets damp.

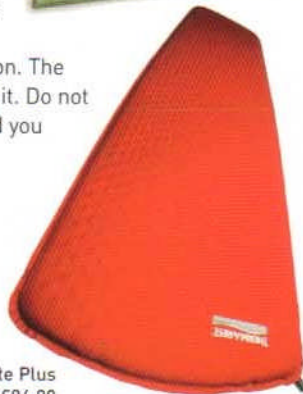
• Cleaning

Theoretically it is possible to wash your sleeping bag at home. You will need to do it in the bath (the weight when full of water might break your washing machine). Mind your back when lifting it out and squeeze it very gently without allowing all the weight to hang on the baffles. You will then need to tease out the clumps and tumble dry it for ages. One of the big driers in a launderette is best. Nikwax make down wash for the purpose.

Detergent will destroy the filling.

Personally, I never bother; you will get medium results and risk damaging your expensive bag. I can recommend nobody better than Franklins of Sheffield. They do a great job for a not-too-bad price.

See address below. ↗



Crux Torpedo
£350

10 TIPS FOR A GOOD NIGHT'S SLEEP

1. Get some good insulation from the ground. If your mat is not enough, if they are dry add spare clothes or even your pack or rope between the mat and you.
2. If your feet are cold, put on fresh socks, zip a breathable jacket around the foot of the sleeping bag, if you have a detachable hood on an insulated jacket make it into a double bootee and put it on your feet and keep wriggling your toes.
3. Eat and drink well and have some liquid available to drink during the night.
4. Whatever the weather try to get as much ventilation in the tent as you can, it will reduce condensation.
5. Try to pitch your tent or bivy in as sheltered but safe a place as possible. Wind blowing on your tent makes it colder.
6. Use a pee bottle (1 litre wide mouthed Nalgene plus, if you are a woman a Shewee). Getting out of your bag and tent loses a lot of heat, will wake you up sharpish and can be dangerous (don't go outside in inner boots only).
7. Try to avoid drying gear off or wearing damp or wet clothing in your sleeping bag. If you want to bring your inner boots into the bag to stop them freezing put them in a plastic or stuff bag.
8. Make the water for your water bottle for the next day the night before and use it as a hot water bottle.
9. Try not to sleep with your head downhill, make a pillow and wear a hat.
10. If you are cold, do something, don't just lie there.

Sleep well.