

EN 13537 – Sleeping Bag Standard

Information for Consumers - 30.12.2004

Disclaimer

This information sheet has been provided by the European Outdoor Group to help inform consumer about the new EN 13537 standard covering sleeping bag temperature ratings. Every effort has been made to ensure that the information contained in this document is correct and up to date at the time of publication, but the EOG does not warrant that this is the case, nor accepts liability, expressly or otherwise, for any action taken by individuals on the basis of this information.

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Introduction

From the 1st of January 2005 a new EN standard comes into effect covering the testing and publication of temperature ratings for Sleeping Bags. The new standard differs from those that have existed previously and this information sheet covers the main provisions of the new standard in a simple and straightforward manner. It is not intended to cover the whole standard in detail and consumers wishing to do more research will find a number of sources at the end of this document.

New Sleeping Bag Labelling

There is a major change to the way sleeping bags are labelled. A new European standard (EN 13537) means that all sleeping bags adhering to the standard will have the temperature ratings set by a standard laboratory test. This means that sleeping bags from different manufacturers will all have comparable temperatures.

All sleeping bags delivered to shops after 1st January 2005 should conform to EN 13537 and reputable Manufacturers are trying to ensure that all 2005 consumer catalogues, websites, hangtags and consumer adverts communicate temperatures to EN 13537. However, consumers should be aware that there will be older stock in the shops and throughout 2005; many shops will have a mixture of old and new labelling. In addition you should know that whilst the standard is being embraced by the industry as quickly as possible, there is no legal requirement for brands to conform as the standard is advisory.

Retailers and manufacturers are working together to ensure that the change is smooth and clear for the consumer and this information sheet has been prepared by the European Outdoor Group as a part of this process.

What is EN 13537?

“EN 13537:2002 Requirements for Sleeping Bags” is the official European Standard for the labelling of sleeping bags. EN13537 applies to all sleeping bags with the exception of sleeping bags for military use and sleeping bags for extreme temperatures (i.e. comfort range below -25°C). The standard was published in 2002 and has now been adopted in most European countries.

The standard is used in the following countries:-

Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, The Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and United Kingdom.

What is new with EN 13537?

The biggest change that consumers will see is the way that temperatures are defined and displayed. EN13537 requires a thermal manikin test which produces four temperature results - upper limit, comfort, lower limit and extreme. These temperatures were worked for normal consumers.

There will be a diagram showing the temperatures on the sleeping bag label. It will be similar to this example.



In this example, a ‘standard’ woman will have a comfortable night’s sleep if the air temperature is between +22°C and +4°C and a standard man will sleep comfortably between +22°C and -1°C.

In catalogues where one temperature value is used prominently, the value is the lowest limit of comfort, in this case, -1°C.

The sleeping bag should provide enough insulation to prevent serious hypothermia down to -18°C but between -1°C and -18°C a strong sensation of cold has to be expected and you should be aware that **there is a risk of health damage** due to hypothermia at the lower temperatures.

How to understand the EN 13537 Temperature Ratings.

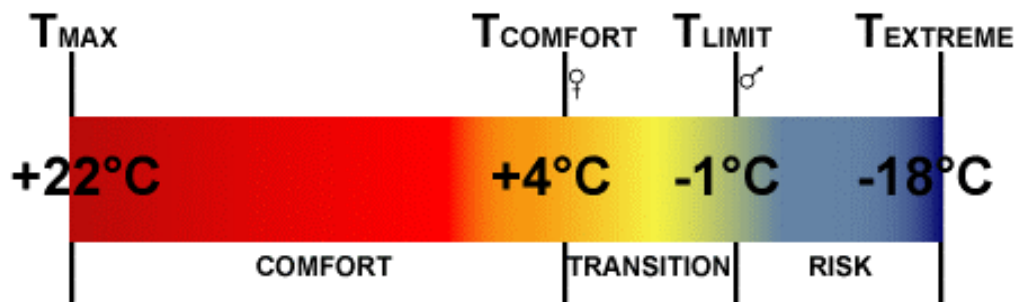
All of the temperature values are based on the air temperature outside the sleeping bag. Weather forecasts usually give two temperatures, the daytime high temperature and the night time low temperature. The night-time low temperature will be the air temperature outside the sleeping bag as you sleep.

The EN 13357 temperature tests use a thermal manikin which is a full size humanoid dummy with heaters and temperature sensors. The manikin is placed inside the sleeping bag and both are placed in a climate chamber. The manikin is heated to simulated body warmth. The air temperature is measured in the climate chamber and on the skin surface of the manikin. From these measurements, the insulation value of the complete sleeping bag is calculated.

The temperature recommendations are defined by EN 13537 based on the measured insulation.

EN13537 produces four temperature results - upper limit, comfort, lower limit and extreme. These give ratings for a standard man weighing 80kg and for a standard woman weighing 60kg.

- The *EN 13537 Upper Limit or Maximum Temperature* is the highest temperature at which a 'standard' adult male is able to have a comfortable night's sleep without excess sweating.
- The *EN 13537 Comfort rating* is based on a 'standard' woman having a comfortable night's sleep.
- The *EN 13537 Lower Limit* is based on the lowest temperature at which as 'standard' adult male is deemed to be able to have a comfortable night's sleep.
- The *EN13537 Extreme* rating is a survival only rating for a 'standard' adult woman. "In the risk range a strong sensation of cold has to be expected and there is a risk of health damage due to hypothermia." **This is an extreme survival rating only and it is not advisable for consumers to rely on this rating for general use. The best guideline temperatures for purchase decisions are the TComfort and TLimit ratings.**



How do I know if a sleeping bag conforms to EN 13537?

If you look at the hangtag, there should be the words EN 13537 or the CE logo. There are some variations of the labelling related to the exact testing that has been performed.

Most sleeping bags on the market will comply with the important parts of EN 13537 but not all will be tested fully and as such will not be able to display the CE mark.



A sleeping bag which fully complies with all aspects of EN 13537 is entitled to display the CE symbol on the product and hangtag. To qualify for the CE symbol the product must have a specific temperature test on an approved thermal manikin and the fabrics and fillings have to pass specified EN textile tests. The standard is not mandatory, so the manufacture can decide not to have the CE mark on the product.

If the label says – “**temperature tested to EN 13537**”, this means that the manufacturer has had the thermal manikin tests done on this sleeping bag to EN 13537 but may not have completed all of the fabric tests according to the European test system. They may, however, have tested the fabrics and insulation to other standards – e.g. ISO or ASTM.

If the label says – “**temperature rating in accordance with EN 13537**”, or similar, this means that the manufacturer has calculated the temperature values for this sleeping bag. Many

manufacturers have tested a small number of sleeping bags and calculated the results for other products in their collections.

If it does not say EN 13537, ask your retailer for advice. The shop staff should have catalogues or data sheets with the EN 13537 ratings for products in their shops and manufacturers are trying to ensure that all 2005 consumer catalogues, websites, hangtags and consumer adverts communicate temperatures to EN 13537. However, consumers should be aware that there will be older stock in the shops and throughout 2005; many shops will have a mixture of old and new labelling.

Most of the sleeping bag ratings before EN 13537 were based on fit well conditioned young men and created from studies on soldiers, outdoor instructors and mountaineers. Therefore, a much greater margin of safety needs to be applied. On average, a sleeping bag which is rated as -1°C lower limit of comfort to EN 13537 would have previously been -6°C to -8°C by older test methods.

Further Reading

If you would like to research more detail on the EN13537 Standard we can suggest you look at the following:

EN Standards - available in English, German, French

- EN 13537:2002 Requirements for Sleeping Bags
- EN 13538:2002- 1 Measurement of Sleeping Bags - Inner dimensions
- EN 13538:2002- 2 Measurement of Sleeping Bags - Thickness
- EN 13538:2002- 3 Measurement of Sleeping Bags - Compression volume

The following document also has much independent information in it, though it is published by one of the Sleeping Bag brands:

"Sleep Well Part 1 - A review of temperature standards for sleeping bags", available as a free download from www.ajungilak.no.