

EN 13537 – Sleeping Bag Standard

Information for Brands / Manufacturers

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Introduction

A new European standard for sleeping bags comes into effect on 1st January 2005. This standard has important legal implications for brands, distributors and retailers selling sleeping bags in Europe and although the standard does not come under the provisions of the Personal Protective Equipment Directive, it is advisable that products sold after the 1st January 2005 should comply with the main requirements of the standard.

To provide information on the new standard, a number of EOG members formed a committee to compile information on the following basis:

- EN 13537 Standard for Sleeping Bags – Information for Manufacturers
- EN 13537 Standard for Sleeping Bags – Information for Retailers
- EN 13537 Standard for Sleeping Bags – Information for Consumers

What is EN 13537?

“EN 13537:2002 Requirements for Sleeping Bags” is the official European Standard for the labelling of sleeping bags. It is a complete product standard which defines how to test, measure and label a sleeping bag. 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 main new requirement is a standard test to determine the temperature rating of the sleeping bag and EN13537 requires a thermal manikin test which produces four temperature results - upper limit, comfort, lower limit and extreme.

- The *EN 13537 Upper Limit* is based on the highest temperature at which a ‘standard’ adult male is deemed to be 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.

A sleeping bag which fully complies with 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. In addition, there are requirements on the labelling of the temperatures, weight and dimensions of the sleeping bag. The standard is not mandatory, so the manufacture can decide not to have the CE mark on the product.

When does EN 13537 come into effect?

European standard EN 13537 was approved by CEN in April 2002. It has been ratified by all member countries of the CEN. All sleeping bags delivered after 1st January 2005 should conform to EN 13537.

Which countries require EN 13537?

Members of CEN are 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 the legal position over EN13537?

The standard is not mandatory in a strict legal sense. Though not mandatory, it is the official standard in all European countries. From January 1st 2005, EN 13537 is likely to be the standard that will be used in any legal actions within Europe. Legal action would come under the national laws governing Trading Standards, Product Liability or Advertising Standards.

As the standard is not mandatory, brands have the option to comply or not. However, if they chose not to comply, then they could be challenged by a consumer or a retailer and EN 13537 is most likely to be the benchmark testing in any legal action. A possible scenario would be that a consumer gets cold in the sleeping bag and complains to Trading Standards officers that “the product is not fit for the purpose that it was sold”. In this case, EN 13537 as the main European

standard would be the testing benchmark to determine if the manufacturers labelling was misleading.

From our research on behalf of the EOG, all major brands have chosen to comply with the temperature indications defined by EN 13537 but not all brands have chosen to have 100% compliance with the standard which allows them to use the CE marking on sleeping bags.

To comply with legislation in Europe, (e.g. in England, The Sale of Goods Act) the most important selling information should correspond to the relevant European Standard. The most important information in the case of a sleeping bag is the temperature recommendation, filling content, product weight and dimensions.

With branded goods, if the brand has an office in one of the member countries, then the responsibility rests with the brand. If the brand is from outside Europe and has a distributor in Europe, the responsibility lies with the distributor. If neither the distributor nor the brand is based in Europe, the retailer takes all of the responsibility. With retail own brand products, the retailer bears the responsibility.

Will it become mandatory standard?

No, the standard is not expected to become mandatory in the near future. If sleeping bags are defined in the future by the EU, as safety critical equipment or PPE (Personal Protective Equipment), then the EN 13537 standard would become mandatory. The EOG has been advised that this is unlikely in the foreseeable future. The EOG intends to monitor the situation and advise the industry of any developments in this direction.

What should a manufacturer do to comply?

It is advisable that all 2005 consumer catalogues, websites, hangtags and consumer adverts should communicate temperatures to EN 13537. In catalogues and sales training where one value is used prominently, this should be the lower limit of comfort.

The comfort, limit and extreme value must be shown on the label attached to the product in accordance with the standard. The upper comfort value is optional. A standard warning for the extreme value is on page 7 section 5.1 of the standard EN 13537.

BEST PRACTICE

The absolute best practice is to test all sleeping bags to EN 13537. A sleeping bag which fully complies with EN 13537 is entitled to display the CE symbol on the product and hangtag.

- One item from every adult style is subjected to an EN 13537 thermal manikin test to determine the four values of the temperature ratings. To validate the manikin test, the breathability of the fabrics must be tested to EN 31092 Water Vapour Permeability index and achieve a minimum index value 0.45.
- The temperatures must be labelled in accordance with EN 13537, section 5.1. This specifies a graphic style to display the temperature values and a warning for the extreme temperature.
- All fabrics are tested to the EN standards defined in EN 13537 section 4.
- Feather and down fillings must be labelled according to EN 12934 which specifies the correct way to describe % filling of feather, down, duck or goose.

- Labelling on the product should be in accordance with section 5.2 of EN 13537.

ACCEPTABLE PRACTICE

The minimum level of compliance would be to ensure that any temperature values displayed correspond to EN 13537 even if the displayed figures have been determined by another testing method.

Labelling on the product should be in accordance with section 5.2 of EN 13537.

Should old stock be relabelled?

Best practice would be to re-label all old goods scheduled to be shipped after 1st January 2005.

Acceptable practice would be to have marketing collateral (workbooks, catalogues, website, point-of-purchase, etc) available for retailers and consumers to access.

Testing to EN 13537

Which laboratories can test to EN 13537

The EN 13537 manikin test is available at ITFH France, Hohenstein in Germany and the Thelma Testing House in Norway. It will soon be available at several other institutes and in particular for North American Brands, at The Institute for Environmental Research at Kansas State University.

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The fabric tests are available from many textiles test houses.

How much do EN 13537 Manikin tests cost?

Individual test houses should be contacted to ascertain accurate pricing, but guidelines would be up to €1500 for the full test EN 13537, and from €450 to €950 for the temperature only test.

Which sleeping bags should have a manikin test?

One item from every adult style should be subjected to an EN 13537 thermal manikin test to determine the four values of the temperature ratings.

It is not necessary to test every variation of men's and women's models. There is no requirement to test all sizes or combinations of left and right zippers. For minor production changes – e.g. colours and fabric changes, there is no need to retest so long as the filling type, filling weight and breathability of the fabric remains the same. Children's sleeping bags do not require a manikin test.

Is there a cheaper way to determine the temperature values?

If you wish to display the CE mark, every sleeping bag type (see above) must be tested.

It is possible to supply sleeping bags without any recommended temperature and thus avoid the entire requirement for temperature testing.

Some brands have chosen to make their temperature values "match to EN13537", to avoid any possible claims. As the standard is not mandatory, and the thermal manikin tests are very expensive, there are a number of less expensive options. If alternative testing methods are used and temperatures displayed on the products or in literature as a result, please bear in mind that there is a potential legal liability if the displayed results do not correspond to those determined by the EN tests.

Where products have similar constructions and filling types, it is possible to test two or three bags and to interpolate the results for models in between. This can be done by plotting a graph of thermal resistance against weight of the sleeping bag for a given quality of insulation. Done correctly this will give values that should conform to EN 13537 but a manufacturer doing this can not state that the products have been tested to EN 13537

It is theoretically possible to use other forms of insulation testing and interpret the results to express the temperatures in accordance with EN 13537. Kansas State University has published a paper comparing the American standard manikin test ASTM F1720 – 96 and the EN 13537 manikin test. Similarly, it may be possible to correlate the data from the Leeds University Tog Test and the Thelma manikin test to EN 13537. These correlations can give values that may conform to EN 13537, but a manufacturer doing this can not state that the products have been tested to EN 13537. Please contact the individual test houses for more information on this subject

What about the fabric tests required in EN 13537 Section 4?

Most fabric manufacturers will be able to supply data for the basic mechanical tests (colour fastness, abrasion resistance and tear strength) as these are common with ISO standards used worldwide.

EN ISO 105, tests for colour fastness - (minimums: - rubbing 3-4, wash 4, and perspiration 3-4, light 4-5)

EN ISO 12947 Determination of abrasion resistance - Martindale – (no breakdown after 20,000 rubs)

EN ISO 13937 Textile Tear strength tests – (minimum 10N)

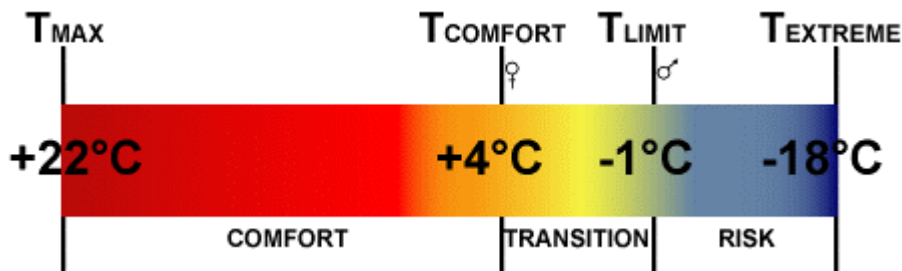
Two of the required tests are not commonly used worldwide and may require specific testing.

EN 12132-1 Down-Proofness - (for down sleeping bags- max 12 penetrations)

Is there a convention for the interpretation of the graphics?

Labelling on the product should be in accordance with section 5.2 of EN 13537. Manufacturers are free to design their own graphical interpretation so long as it contains the details defined in section 5.2. There is no formal convention on the design of the graphics but several brands have adopted the following common approach.

- The Lower limit of Comfort for a man is the key value and if the product has one value printed on the stuff-sack, then this is the value used.



- The upper temperature is in red and on the left hand side of the graphic.
- The extreme temperature is in blue and shown on the right hand side of the graphic.
- Note – a standard warning notice is defined in section 5.2 which must be shown underneath the diagram.

Other points for hang-tag design include

- Body size is defined in the standard in section 4.3.2.1 and is a two size system – size 1 is up to 175 cm tall, size 2 is over 175 cm tall.
- The total weight is without stuff sack and rounded to the nearest 50 grams.

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.