



SLEEPING BAG TESTING

Sleeping bags (whether down or synthetic filled) have a unique set of testing requirements. IDFL can help evaluate the performance of the bag and the filling materials.

The following are groups of tests that should be considered when evaluating sleeping bags.

Temperature Rating

- **EN 13537** This is the European standard for Temperature Rating.
- **ASTM 1720** This method gives a CLO value which can be used to predict temperature rating.

Net Fill Weight

- **Total Net** The total weight of the filling material is very important to performance.
- **Panel Detail** Net fill by panel will give separate weights for each section of the sleeping bag. A schematic drawing of the bag will be reported with each panel weight listed.

Down (or) Fill-proofness of Fabric (Leakage or migration of Fill Material)

- **Air Perm** This describes breathability of the fabric and helps determine down/fill-proofness.
- **Fillproofness** A physical tumbling of the fabric filled with down/feathers can determine downproofness.

Composition of Synthetic & other non-down Filling

- **Fiber ID** The Filling Fibers are identified via a chemical or microscopic test.

Composition of Down & Feather

- **Content ID** Percentage of down vs. feathers & other components. It is used to determine the label.
- **Specie Id** Specie should be tested especially if the label is "GOOSE."
- **Color Sep** Normally white down is used for light fabrics & grey down is used for dark fabrics.

Cleanliness of Filling (Both Down & other Fill Materials)

- **Oxygen** Oxygen determines amount of organic material on the surface of feathers & down. Oxygen should be 10 or less (4.8 or less if the material is labeled "hypoallergenic").
- **Turbidity** General cleanliness especially dust is measured by turbidity.
- **Odor Test** Evaluation of product and packing materials to determine origin of bad odors in sleeping bag.
- **Staining** Evaluation on the cause of stains on white or pastel sleeping bags.
- **EN Test** Microbiological analysis of filling material gives optional detail on cleanliness.

Fill Power (Lofting) - Normally for Down but can be modified for synthetics)

- **Tumble Dry** The worldwide standard for fill power is the "Tumble Dry Conditioning method."
- **Steam** Because tumble dry does not always give the original or "potential" sleeping bag fill power value, IDFL recommends either Steam or Water Rinse Conditioning for jackets and vests.
- **Complete** IDFL offers a complete fill power package using all 4 conditioning method (30% discount).

Sleeping Bag Testing Packages

1. Complete Test Package	(Temp Rating + Filling Material Test + Net Fill Weight)	€ 695
2. Temperature Rating Only	(EN 13537 or ASTM 1729)	€ 445
3. Filling Material Test Only	(Content ID, Specie, Fill Power, Oxygen, Turbidity)	€ 275
4. Fiber ID of Synthetic Fill	(Microscopic or Chemical Identical of Fill Material)	€ 50-200
5. Net Fill Weight of Filling	(Gross, Shell Weight & Net fill weight)	€ 55
6. Fill or Downproofness Pkg	(Threadcount, Air Permeability, Physical Down/Fill-Proof Test)	€ 95

See **IDFL Sample Submittal Form** for more details and other testing options

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Page 1

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