
IDFL NEWS

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Oxygen Number

The Oxygen Number test provides valuable information that many of our clients might use to prevent potential problems with feather and down fill material.

What is the Oxygen Number Test?

Raw feather and down contain blood, soil, vegetable and other matter. This matter is removed by a series of washings and rinsings.

In 1928, H.F. Knight described a method for determining the cleanliness of feathers. He measured the amount of potassium permanganate required to cause a pink color to persist in a water extract of the down and feathers.

The states of New York and California evaluated various methods during the 1940's. The current titration method requiring a visual determination of color was adopted by many state and federal agencies. Howard Winslow later revised the method using a colorimeter and recorder.

George Cohen determined that a high correlation exists between the two testing methods and different laboratories.

Description of Oxygen Test Method

A brief description of the method follows. IDFL will send detailed instructions upon request.

1. Mix 10 grams of feathers with

- 1 liter distilled water.
2. Agitate jar until material is fully saturated with water.
 3. Place jar on a 90 rpm washing wheel for 15 minutes.
 4. Strain water through a 200 mesh screen into a 100 ml aliquot and add 3 drops of 6/N Sulphuric Acid.
 5. Potassium permanganate is added 2 drops at a time until a faint pink color persists in the aliquot for 1 minute.
 6. Mls of Potassium permanga-

What is the standard for oxygen number?

Many different standards exist for maximum oxygen number:

USA FTC standard.	Not more than 20.
USA Military standard.	Not more than 8.

Some companies have strict internal standards (usually 10 or lower). Some countries have considered adopted a standard of maximum 10-15 for oxygen number.

This table shows the percentage of finished products which fall within ranges of oxygen number values. Results were compiled by IDFL's Salt Lake City laboratory.

<u>Finished Product</u>	<u>% of samples in Oxygen Number range</u>				
	<u>3 - 5</u>	<u>6-10</u>	<u>11-15</u>	<u>16-20</u>	<u>20+</u>
Comforters	55%	13%	12%	14%	6%
Jackets/Parkas	85%	10%	4%	1%	-
Pillows	40%	37%	13%	7%	3%
Sleeping Bag	90%	10%	-	-	-

nate used x 80 determines oxygen number.

News from the International Down & Feather Bureau in Frankfurt, Germany.

The International Down and Feather Bureau (IDFB) based in Frankfurt, Germany just concluded its annual summer meeting. This year's meeting was held in Vienna Austria.

Organization.

Mr. Gerald Hanauer of Pacific Coast Feather serves as president of IDFB. Mr. Stephen Palmer of United Feather heads the Technical Committee. Other officers come from countries around the world. Wilford Lieber was appointed "Expert Advisor on Testing Matters" in 1988.

Recognized Laboratories.

The Bureau publishes a list of independent testing laboratories which must annually meet strict requirements. IDFL in Salt Lake City has been a recognized and approved laboratory since the beginning of this program.

Current Projects.

The Bureau is working on several projects including a feasibility study of the Infra-Red analysis of specie and an accurate definition of damaged/chopped feathers.

Technical Handbook.

IDFL and IDFB have cooperated in preparing a technical manual which contains all of the test methods approved by the International Bureau and 50 color photos of down & feathers and testing equipment. An order form for this manual is enclosed.

Contact Person.

If you have questions about the International Down & Feather Bureau, please contact:

Mr. Wilhelm Jaxtheimer
International Down &
Feather Bureau
Röderweg 31
D-63739 Aschaffenburg
Germany

Tel: (49) 6021 91267
Fax: (49) 6021 96922

Current Trends and Problems

IDFL tests materials from many different sources. We notice from time to time common problems in samples received for testing.

Specie Problems.

We have noticed during the first part of the year a higher than normal number of goose samples with more than 10% duck. Buyers need to make sure that the labeled goose material is, in fact, goose.

Cleanliness (Oxygen Number)

Cleanliness can be determined by oxygen number. The US standard requires down/feather material to contain less than a 20.0 oxygen number. We are finding

some finished products with oxygen numbers near or over 20.

Odor Problems.

We are currently receiving more than the usual complaints about odor in comforters, pillows and featherbeds. Some of the odor problems are related to climate, shipping and storage. Sometimes the odor problem would be resolved by additional washing and rinsing of the processed feathers-/down.

Finished products that are shipped or stored in tightly closed plastic bags will have an odor upon opening. Such products should be aired upon opening. During periods of hot, humid weather detectable odor may also increase. Products stored in a cool dry location will fare better.

A high fat and oil content and/or a high oxygen number will create odor problems that may not dissipate. The cleaner the product, the less chance for odor problems. To eliminate potential odor problems, the oxygen number should be as low as possible.

IDFL Information.

For current pricing on testing, training and consulting contact:

International Down and Feather Testing Laboratory
1455 South 1100 East
Salt Lake City, UT 84105 USA

Tel: (801) 467-7611
Fax: (801) 467-7711