

# FILL POWER

## 蓬松度

METHOD NUMBERS, 测试方法: IDFB PART 10-B, EN 12130/PAS 1003, JIS L 1903, GB/T 10288-2003 6.4, GB/T 14272 ANNEX C.3, FZ/T 80001-2002 5., QB/T 1193-2012 ANNEX D, CNS 13982-8 L3253-8, KS K 0820 7.4



Steam Conditioning  
蒸汽还原

### WHAT IS IT?

Fill power is a test designed to determine the approximate insulation value of down and feather fillings. It is a measure of the volume a specific amount of down occupies, when compressed with a specific amount of weight.

### HOW IS IT DONE?

1. Samples are conditioned according to one of the following standardized methods:
  - No conditioning
  - Tumble Dry Conditioning (Europe)
  - Steam Conditioning (IDFB, Japan, USA)
  - Water Rinse (helps determine fill power after laundering)
  - Oven Bake (Chinese)
2. Samples are placed in a climate controlled room for a specific period of time.
3. A specific amount of down is weighed, compressed, and measured for volume according to the test method being performed.

### WHAT DO THE NUMBERS MEAN?

With most standards, fill power is reported with volumetric units. (cubic inches per ounce or cubic cm per gram). Some standards report the volume as a height measurement taken from the fill power device (mm or cm).

The important thing to remember is that the numbers are a representation of volume, and the greater the volume, the better insulating the down will be.

Common values for fill power range from 300 to 900 cubic inches per oz. (75mm-225mm per 30g).

### WHY DO IT?

Fill Power is one of the best performance metrics used to distinguish different qualities of down and feathers. Many products use fill power in marketing efforts. Many label standards have fill power requirements.

### 什么是蓬松度?

蓬松度是一个表示一定重量的羽绒在某一特定压力下占体积数的容积量度。它粗略计算出羽绒的保温值与弹性度。

### 怎么检测?

1. 先将样品置于还原箱, 然后按照以下不同的标准进行还原。
  - 不还原
  - 滚动烘干(欧洲方法)
  - 蒸汽还原(IDFB 方法, 日本方法, 美国方法)
  - 水洗还原(用于确认水洗后的蓬松度值)
  - 烘箱方法(中国方法)
2. 将样品置于一个恒温恒湿的环境中, 并放置一定时间。
3. 蓬松度值是指根据要求的测试方法, 称取一定重量样品在一定压力下, 压一定时间后的读数。

### 数据的含义是什么?

按照大部分的标准来说, 蓬松度值的测量单位是用容积来表示, 最常用的单位是立方英寸每盎司或立方厘米每克。有些标准则是使用测量蓬松度仪器上面的高度读数来表示。通常是以毫米或者厘米为单位。

无论是立方英寸还是毫米, 数据越高表示产品越好, 材料的保暖性越高。

一般来说, 蓬松度值的范围是300至900立方英寸每盎司或者75至225毫米每30克。

### 为什么检测?

蓬松度是为数不多的可以用来区分不同质量羽绒羽毛产品的性能指标之一。许多产品都使用蓬松度这个概念以达到有利于市场营销的目的。许多标签标准对蓬松度也有一定要求。

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IDFL

info@idfl.com

+1 801 467 7611

IDFL EUROPE

europe@idfl.com

+41 52 765 1575

IDFL CHINA

china@idfl.com

+86 571 8273 6561

IDFL TAIWAN

taiwan@idfl.com

+886 2 2259 1178

www.idfl.com