Test Report

尺寸: 195x80x50公分 外布: 7D尼龍布 裡布: 10D尼龍布 填充: 95/5 鵝絨

IDFL # 22-396180

Taiwan Neofelis International Company
28 Apr 2022

Hao Wei Chen
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No.211, Sanjiancuo, Xingang Township
Chiayi 616
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Macro@c2h3-outdoor.com
Normal (8-10 Days)
Arrival Date: 22 Mar 2022
Report Date: 28 Apr 2022

Sample Type: Sleeping Bag
Shipped By: TPO 04005460701078
Label: NA

Sample Identification: 尺寸: 195x80x50公分
外布: 7D尼龍布
裡布: 10D尼龍布
填充: 95/5 鵝絨
蓬鬆度: 850cuin
填充量: 450克(7:3)

Authorized BY:
Taiwan IDFL Laboratory and Institute Limited.

Jackie Tan
General Manager

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General Manager

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Date: 28-Apr-2022

ISO 23537-1 (Thermal Requirements for Sleeping Bags)

Thermal Insulation Data and Temperature Ratings for Sleeping Bags

Bag	Bag Weight	Insulation Value (clo)[a]	ISO 23537 Temperature Ratings[b]					
			T comfort		T limit		T extreme	
			℃	℉	℃	℉	℃	℉
22-396180	1 lb. 7 oz. 0.645 kg	6.72	0	32	-6	21	-23	-10

[a] *The raw mean insulation value was adjusted using the correlation factor developed by testing six reference bags, as required in Annex A of ISO 23537. To convert clo units to SI units of m² · ℃/W, divide by 6.45.*

[b] *Temperature ratings in degrees Celsius and Fahrenheit were calculated to the nearest thousandth of a degree and rounded to the nearest whole number.*

Temperature Predictions - The standard defines four temperatures that designate the range of utility for a sleeping bag system.

Comfort temperature (T comf) : Lower limit of the comfort range down to which a sleeping bag user with a relaxed posture such as lying on the back is globally in thermal equilibrium and not feeling cold (related to standard woman and in standard conditions of use).

Limit temperature (T lim): Lower limit at which a sleeping bag user with a curled-up body posture is globally in thermal equilibrium and not feeling cold (related to standard man and in standard conditions of use). (Note: The temperature is lower because the metabolic rate used in the equation for a man is higher than that used in the equations based on a woman's physiology.)

Extreme temperature (T ext) : Lower extreme temperature where the risk of health damage by hypothermia occurs (related to a

Note: Only one bag sample of each type was provided by the sponsor. The insulation value of each type of sleeping bag was reported as the average of three replications made in a row on one bag sample. Three independent replications are required according to ISO 23537.

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Local Insulation Data by Body Zone

No.	Body Segments (Zones on Simon)	Local Insulation Values(clo)
1	Head	3.83
2	Right Arm	5.11
3	Left Arm	5.66
4	Right Hand	2.69
5	Left Hand	2.73
6	Chest	13.09
7	Back	7.90
8	Right Leg Front	8.49
9	Right Leg Back	8.41
10	Left Leg Front	6.56
11	Left Leg Back	10.56
12	Right Foot	4.85
13	Left Foot	4.16

Note: You cannot add up these resistance values to determine the total insulation value for the sleeping bag. We use the parallel (not the serial) calculation for determining insulation, and we apply a correlation factor. The correlation factor was determined by testing the calibration bags listed in the ISO standard.

Heat moves from body zone to zone within the bag. The local values are also affected by the dressing of the manikin, the auxiliary products used with the bag, and air flow patterns in the chamber. Therefore, caution should be used in the interpretation of local resistance data to redesign a sleeping bag.

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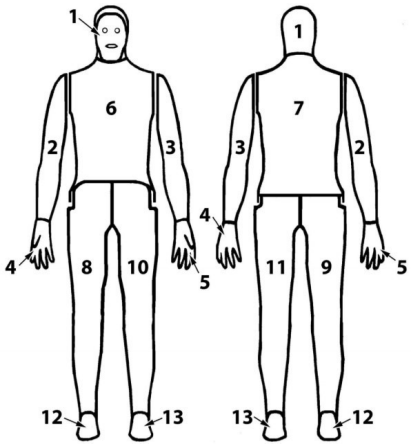
Figure 1. Simon's body segments (13).



To conduct a test, a sleeping bag was tumbled in a dryer for 15 minutes at a temperature less than 30°C (i.e., on the no heat setting). The manikin was dressed in the thermal underwear, socks, and face mask and placed on a pad on top of a wooden board about 0.4 m above the floor. He was positioned so that his head was in the direction of the air flow (i.e., windward). The manikin was placed in the bag, and the hood was drawn around the edge of the face. (See Figures 2, 3, and 4.) Bags without a hood were tested by removing the facemask and drawing the bag up to the neck (Figure 4). Equilibrium was indicated by a steady-state power reading that had not changed more than 1%. Data were collected by computer every 30 seconds for a 30 minute test.

Figure 2. Manikin dressed in the facemask, thermal underwear, and socks on top of the pad and board

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Figure 3. Manikin ISO set up in the test chamber with a sample mummy bag.

Figure 4. Close up views of bags drawn around the head.

Mummy bag drawn around the face which is covered with the facemask.

Bag without a hood drawn up over the shoulders (no drawstring).

Bag without a hood cinched around the neck.

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Figure 5. Simon in the test chamber with the board, pad, clothing, facemask, and bag # 22-396180

Close up of bag hood drawn around the face.

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