Updated 4/2024

**KSU Submission Form for Sleeping Bag Manikin Tests**

Please email this form in Word format to [merediths@ksu.edu](mailto:merediths@ksu.edu) each time you send bags for testing.

**1. Company information.** We will email the report and invoice to the contact listed below.

|  |  |
| --- | --- |
| Company name and address: | Contact name:  Email:  Phone: |

If another company is paying for the test and/or you want the invoice sent to another person, please indicate it here.

**2. Purchase order number for testing:**  List it here or send a PO document (optional).

**Dry manikin test to measure the insulation value of sleeping bags @ $600 = $**

**Hourly charge for GRA to capture and process thermal images @ $39 = $**

**Total = $**

**3. Select a test type:** ($600 per bag type).

A. ASTM F 1720 Option #1 with bag on nude manikin.

B. ASTM F 1720 Option #2 with auxiliary products. This method is often selected as the basis for military tests or predicting temperature ratings with KSU models. Describe items below and indicate whether you are sending them or whether we should use IER auxiliary products.

Pad:

Garments:

Bivy:

C. ISO 23537-1:2016; bag is tested with thermal underwear, socks, a 1.5 inch self-inflating foam pad on an elevated board (provided by IER); temperature ratings are included. A facemask is also used with mummy bags, but it is not used with bags that do not have a hood; the head is exposed in those tests. Note: To provide more heat flux for measurements this test is routinely performed at an ambient temperature below 5°C, which is lower than the temperature specified in ISO 23537.

**Replications.** Choice B or C is required by ISO 23537 (i.e., independent replications).

A. 3 replications of the test in a row (1 hour apart) on **1 bag sample** (fastest method)

B. 3 independent replications on **1 bag sample** (bag is taken off the manikin between tests)

C. 3 independent replications on **3 identical bag samples** of the same type

**Thermal imaging.** Do you want us to provide thermal images of the bag on the manikin?

($39 per bag)  yes  no

**Local insulation values.** Do you want us to provide insulation data for the 13 body zones on the manikin in addition to the insulation value for the whole body?  yes  no

**Bag weight.** Do you want us to measure and report bag weight?  yes  no

**4. Bag letter or number codes:** Give the codes, style names, and descriptions for the report here.

**5. Return shipping information:** We will use the address above unless you give us other instructions. Please indicate if you want us to use overnight shipping.

|  |  |
| --- | --- |
| UPS Account #:  Federal Express Account #:  DHL account #:  Donate bags to a charitable organization | Shipping address if different from above: |

**6. Export Controls Compliance**

(a) Is the company or the individual named above contracting, working, or acting for or on behalf of a national government?  Yes  No

(b) If you answered ‘Yes’ to 6 (a), briefly describe the nature of the relationship with the national government \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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