



Clothing and Jackets

ASTM F2732 – Dry manikin: insulation (clo) and temperature ratings for cold weather clothing

- Option A: Adult clothing
Using ASTM F2732 base ensemble.
Using another base ensemble. Please list garments below and provide them:

- Option B: Adult work clothing (ISEA 201)
Cleaning method and level
Durability class

- Option C: Children's clothing
Using ASTM F2732 base ensemble.
Using another base ensemble. Please list garments below and provide them:

Garments with hoods will need to be cut so that they can fit around the hook in the manikin's head. Choose option:

- Test jackets with hoods up (hoods will be cut and pinned back together).
Test jackets with hoods down or detached.

Note: Insulation values will be higher (and temperature ratings lower) if the hood is covering the head.

- ASTM F1291 – Dry manikin: insulation (clo)
ASTM F2370 – Sweating manikin: evaporative resistance (m^2 Pa/W)

Additional Options:

- Report clo value results for all manikin zones covered by the test garment (i.e., jacket).

Sample Notes:

- Send garments that fit the manikin (see dimensions on page 3)
Provide a list of garments that are worn with the test garment and indicate whether you will be providing them or the lab should provide them.
If each ensemble is different, list all garments in each ensemble under sample identification section; number the ensembles.
Provide dressing details (which layers are tucked into which layers, etc.)

Loose Fillings

IDFL 51-1 (ASTM D1518 -Modified) - Hot plate: insulation (clo)

Option 1-A: Still air condition with box hood over plate. (Loose filling is placed in a mesh frame of fixed volume)

- Use fill density: g / m^2
Use expected IDFB Steam fill power density: in^2/30g
Test fill power to use as the fill density: (extra testing cost)

According to below Standard:

- IDFB steam EN 12130 (TD) China Oven
China steam(QB) Japan Down Power Korea Steam
Other

- Card sample before testing (for synthetics only)

Sample Notes:

For this test, fill density can be given as mass per unit volume or area. Fill density may also be given in the form of an equivalent fill power. The mesh frame size is 18.5x18.5x0.75 inches internal.

Bedding

- BS 5335-1 – Synthetic Filled Duvets (TOG) (Minimum finished size: 135cm x 200cm)

- BS 5335-2 – Down/Feather Filled Duvets (TOG) (Minimum finished size: 135cm x 200cm)

- ASTM F1720 Modified – Dry manikin: insulation (clo)
Modification to Option 2: thermal manikin on a mattress in an environmental chamber. Describe items to be used in bedding system and indicate whether you are sending them or whether we should use the lab's auxiliary products:

Mattress:
Pad:
Sheets:
Clothing:
Pillow:
Other:

Gloves

(Size 9 - Men's)

- BS 6526 – Domestic Oven Gloves
EN 511:2006 (E) 5.5 – Resistance to Convective Cold
ISO 5085-1 – Resistance to Conductive Cold

Footwear

(Left foot, size 10 1/2 shoe; 11 boot - Men's)

- ASTM F1291 – Dry manikin: insulation (clo)

Sample Notes:

- Indicate whether a sock will be worn with the footwear
Boots that do not open down the front may have to be cut to get them on the foot.

Laundering Options:

- Test sample BEFORE and AFTER laundering (no.) of cycles
Perform Test ONLY AFTER laundering (no.) of cycles

Mark Care Laundering Instructions here:

- Follow the Care label attached to product.
Dry Clean
Machine Wash
Normal Cycle
Gentle Cycle
Water Temperature: c°
Tumble Dry
Heat Setting: c°
Air Dry

Additional Instructions:

**Sleeping Bag Manikin Measurements**

Measurement Location	Measurement	
	cm	in
Arm length from shoulder tip to wrist	58.4	23
Chest circumference at fullest part	91.4	36
Waist circumference	73.7	29
Full hip circumference	91.4	36
Circumference of torso and arms at shoulders (51 in. from feet)	122.6	48.25
Circumference of torso and arms at elbow level (40 in. from feet)	122.6	48.25
Circumference of torso and arms at hand level (30 in. from feet)	123.2	48.5
Width at knees (19 in. from feet)	30.5	12
Width at feet	29.2	11.5
Height	176.0	69.3

Clothing Manikin Measurements

Measurement Location	Measurement	
	cm	in
Head circumference at brow	59.7	23.5
Neck circumference at base of neck	43.2	17
Shoulder length at neck base to shoulder tip	15.2	6
Arm length from shoulder tip to wrist (35.6 cm or 14 in. to elbow)	61	24
Front length from neck base to natural waist	43.2	17
Back shoulder width from shoulder tip to shoulder tip	44.4	17.5
Chest circumference at arm pit level	90.8	35.75
Natural waist circumference	75.6	29.75
Hip circumference at 17.8 cm (7 in.) below waist (widest point)	92.7	36.5
Full upper leg circumference at 36.8 cm (14.5 in.) from waist	52.7	20.75
Full arm circumference at 17.8 cm (7 in.) from shoulder tip	31.1	12.25
Inseam length of top of shoe (from crotch to ankle)	78.7	31
Crotch depth (L square measurement)	30.5	12
Foot length (taken on bottom of foot)	26.7	10.5
Height	177.2	69.75