This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

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Standard Tables for Body Measurements for Adult Female Misses Petite Figure Type, Size Range 00P – 20P[1]

This standard is issued under the fixed designation D7878/D7878M; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

INTRODUCTION

These tables were developed from data published by the U.S. Department of Commerce, Caesar Study, and Size USA Study, ASTM Misses Figure Type standard D5585-11, Current USA industry and Studies, Scans and documentation from Alvanon Inc.[2] This standard takes into consideration Misses Petite figure at a standard height of 5 ft 2½ in. (65 % of average USA population) taking into account the decrease and increase in body weight that shift a person from one size to another, while this person does not gain in height. Also included is a definition of body type, Curvy or Straight as applied to waist, high hip, hip/seat, thigh and mid-thigh girths that result in a different body shape (silhouette). Major review and evaluation was done. The incremental growth at different key body points has been addressed and defined, which resulted in identifying increases and decreases at different rates in specific areas; bust, waist, high hip and hip/seat. Additionally to better serve the industry, incremental movement between sizes was reviewed ensuring smooth transition between sizes. To verify the proposed body measurements, a three-dimensional Avatar was created in the Misses Petite size range 00P through 20P (Curvy and Straight) by Alvanon Inc. for a visual reference and is also attached in the documentation.

1. Scope

1.1 These tables list body measurements of adult female misses petite figure type sizes 00P through 20P. Although these are body measurements, they can be used as a baseline in designing apparel for Misses Petite in this size range when considering such factors as fabric type, ease for body movement, styling, and fit.

1.2 These tables list body measurements for the complete range of misses petite sizing.

1.3 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system are not necessarily exact equivalents; therefore, to ensure conformance with the standard, each system shall be used independently of the other, and values from the two systems shall not be combined.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D123 Terminology Relating to Textiles

D5219 Terminology Relating to Body Dimensions for Apparel Sizing

D5585 Tables of Body Measurements for Adult Female Misses Figure Type, Size Range 00–20

[1] These tables are under the jurisdiction of ASTM Committee D13 on Textiles and is the direct responsibility of Subcommittee D13.55 on Body Measurement for Apparel Sizing.

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[2] U.S. Department of Commerce, Voluntary Product Standard: Body Measurements for the Sizing of children's Apparel, NIST Publication No. PS 54-172, Washington DC.

[3] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

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2.2 *ISO Standard:*[4]

ISO 3635 Size Designation of Clothes, Definitions, and Body Measurement Procedures

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions relating to body dimensions, refer to Terminology D5219.

3.1.2 For definitions of other textile terms used in this standard, refer to Terminology D123.

4. Significance and Use

4.1 The use of the body measurement information in Tables 1 and 2 will assist manufacturers in developing patterns and garments that are consistent with the current anthropometric characteristics of the population of interest. This practice should in turn reduce or minimize consumer confusion and dissatisfaction related to apparel sizing. (Also refer to ISO 3635 Size Designation Procedures.)

4.2 Three-dimensional avatars depicting each of the Misses Petite sizes and sub categories Curvy and Straight on certain measures were created by Alvanon, Inc. and included in this standard to assist manufacturers in visualizing the posture, shape, and proportions generated by the measurements charts in the accompanying Tables[5] (Avatar 1-6) (see Figs. 1 and 2).

5. Apparatus

5.1 *Tape Measure,* dimensionally stable and approximately 1.5 cm [½ in.] wide and graduated accurately in cm [1⁄16 in.].

5.2 *Plastic Goniometer,* to measure the radian (degree) of shoulder slope.

5.3 *Scale,* standard, calibrated, body weight type.

5.4 *Metal Ruler.*

6. Procedure

6.1 *General:*

6.1.1 For all vertical and most horizontal measurements, subject is to be standing erect without shoes and with feet approximately 15-cm [6-in.] apart. (for Infant special cases) For all vertical and most horizontal measurements, subject is to be lying down flat with legs extended and foot positioned at 1.57 rad (90°) to the leg.

6.1.2 Take measurements over regular undergarments normally worn.

6.1.3 Take all measurements from the same side of the body for consistency.

6.1.4 Refer to Terminology D5219 for the location of all points to be measured.

6.2 *Body Measurements:*

6.2.1 *Body Weight*—Weight as measured on a calibrated scale taken with the subject in undergarments.

6.2.2 *Head Girth*—Measure the maximum horizontal circumference of the head above the ears.

6.2.3 *Neck Base Girth*—Measure the circumference of the neck, taken over the cervicale at the back and the top of the collarbone at the front.

6.2.4 *Mid-Neck Girth*—Measure the horizontal circumference of the neck, taken approximately 25 mm [1 in.] above the neck base level.

6.2.5 *Shoulder Girth*—Measure the horizontal circumference around the shoulders, taken at the front break-point level with the arms down.

6.2.6 *Chest/Bust Girth*—Measure the horizontal circumference around the body, taken under the arms and across the fullest part of the chest/bust apex including the lower portion of the shoulder blades.

6.2.7 *Under-Bust Girth*—Measure the horizontal circumference around the body under the arms and bust.

6.2.8 *Upper-Chest Girth*—Measure the horizontal circumference around the body, taken under the arms and above the fullest part of the chest/bust including the lower portion of the shoulder blades.

6.2.9 *Waist Girth*—Measure the minimum horizontal circumference around the body at waist height.

6.2.10 *High-Hip Girth*—Measure the maximum horizontal circumference around the body, taken at high hip level approximately 7.5 cm [3 in.] below the waist level including the abdominal extension.

6.2.11 *Hip/Seat Girth*—Measure the maximum horizontal circumference around the body at hip height.

6.2.12 *Thigh Girth*—Measure the maximum horizontal circumference of the upper leg, taken close to the crotch.

6.2.13 *Mid-Thigh Girth*—Measure the maximum horizontal circumference of the upper leg, taken midway between the hip girth level and the midpoint (or crease) of the knee.

6.2.14 *Knee Girth*—Measure the maximum horizontal circumference of the knee, taken over the kneecap with the leg straight.

6.2.15 *Calf Girth*—Measure the maximum horizontal circumference of the lower leg, taken between the knee and the ankle.

6.2.16 *Ankle Girth*—Measure the maximum horizontal circumference of the ankle, taken over the greatest prominence of the anklebones.

6.2.17 *Armscye Girth*—Measure the circumference from the shoulder joint through the front break-point, the armpit, the back break-point and to the starting point, taken with the arms down.

6.2.18 *Upper-Arm Girth*—Measure the maximum circumference of the arm, taken midway between the elbow and the shoulder joints with the arm bent 1.57 rad (90°).

6.2.19 *Elbow Girth*—Measure the maximum circumference of the elbow, taken over the outer prominence of the elbow bone with the arm bent 1.57 rad (90°).

6.2.20 *Wrist Girth*—Measure the maximum circumference of the wrist, taken over the inner and outer prominence of the wrist bones.

[4] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

[5] 2000 CDC Growth Charts for the United States: Methods and Development, National Center for Health Statistics, Vital Health Stat 11 (246), 2002.

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TABLE 1 Misses Petite 00P – 20P Body Measurements, SI Units

Size	00P	0P	2P	4P	6P	8P	10P	12P	14P	16P	18P	20P
Body Weight (Mean), kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Body Weight (Range), kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Girth Measurements, cm												
Head Girth	53.34	53.34	53.98	53.98	54.61	54.61	55.25	55.25	55.88	55.88	56.52	56.52
Neck Base Girth	33.66	34.29	34.93	35.56	36.20	37.15	37.78	38.42	39.37	40.01	40.64	41.59
Mid-Neck Girth	31.43	32.07	32.70	33.34	33.97	34.61	35.24	36.20	37.15	38.10	39.37	40.64
Shoulder Girth	92.08	93.66	95.25	96.84	98.74	100.65	102.55	104.14	106.68	109.86	113.03	116.52
Chest/Bust Girth	79.06	80.65	83.82	86.68	89.54	92.08	94.62	98.43	102.55	107.00	111.76	116.84
Under-Bust Girth	65.41	67.31	69.22	71.12	73.66	76.20	78.74	82.55	86.36	90.81	95.57	100.65
Upper-Chest Girth	80.01	81.28	83.82	86.04	88.27	90.17	92.71	95.89	99.06	102.55	106.68	110.81
WaistGirth—Curvy	61.91	63.82	65.72	67.63	69.85	72.39	74.93	79.38	83.82	88.90	94.62	100.33
Waist Girth—Straight	65.72	67.63	69.53	71.44	73.66	76.20	78.74	83.19	87.63	92.71	98.43	104.14
High-Hip Girth—Curvy	74.93	76.84	79.06	82.87	85.73	88.27	90.81	94.62	98.74	102.87	107.32	112.71
High-Hip Girth—Straight	75.57	77.47	79.69	83.50	86.36	88.90	91.44	95.25	99.38	103.51	107.95	113.35
Hip/Seat Girth—Curvy	86.36	87.95	91.12	94.30	97.16	99.70	102.24	106.05	109.86	114.30	118.75	123.83
Hip/Seat Girth—Straight	84.46	86.04	89.22	92.39	95.25	97.79	100.33	104.14	107.95	112.40	116.84	121.92
Thigh Girth—Curvy	52.07	53.02	53.98	54.93	56.20	57.47	58.74	60.96	63.18	66.68	69.85	73.03
Thigh Girth—Straight	51.12	52.07	53.02	53.98	55.25	56.52	57.79	60.01	62.23	65.41	68.58	71.76
Mid-Thigh Girth—Curvy	46.67	47.63	48.58	49.53	50.80	52.07	53.34	55.56	57.79	60.33	63.18	66.04
Mid-Thigh Girth—Straight	46.04	46.99	47.94	48.90	50.17	51.44	52.71	54.93	57.15	59.69	62.55	65.41
Knee Girth	32.07	32.39	33.02	33.66	34.93	35.88	36.83	38.10	39.37	40.64	41.91	43.18
Calf Girth	30.80	31.12	31.75	32.70	33.66	34.61	35.56	36.83	38.10	39.37	40.64	41.91
Ankle Girth	20.64	20.96	21.27	21.91	22.54	23.18	23.81	24.45	25.08	25.72	26.35	26.99
Armscye Girth	35.24	35.88	36.83	37.78	38.42	39.05	39.69	41.28	42.86	44.45	46.36	48.26
Upper-Arm Girth	24.77	25.40	26.04	26.67	27.31	28.26	29.21	29.85	30.80	31.75	33.02	34.61
Elbow Girth	23.18	23.50	23.81	24.13	24.45	24.77	25.08	25.72	26.35	26.99	27.94	30.16
Wrist Girth	13.02	13.34	13.65	14.61	14.92	15.24	15.56	15.88	16.19	16.51	16.83	17.15
Hand Girth	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trunk Length (total vertical girth)—Curvy	139.70	140.65	141.92	143.19	144.46	145.73	147.00	149.23	151.45	154.31	157.16	160.02
Trunk Length (total vertical girth—Straight	139.38	140.34	141.61	142.88	144.15	145.42	146.69	148.91	151.13	153.99	156.85	159.70
Vertical Measurements, cm												
Height	158.75	158.75	158.75	158.75	158.75	158.75	158.75	158.75	158.75	158.75	158.75	158.75
Head and Neck Length	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50	23.50
Cervicale Height	135.26	135.26	135.26	135.26	135.26	135.26	135.26	135.26	135.26	135.26	135.26	135.26
Cervicale to Crotch—Curvy	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87
Cervicale to Crotch—Straight	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87	62.87
Center Back Waist Length	39.05	39.05	39.05	39.05	39.05	39.05	39.05	39.37	39.69	40.01	40.32	40.64
Center Front Waist Length	33.66	33.97	34.29	34.61	34.93	35.24	35.24	35.56	35.88	36.20	36.51	36.83
Scye Depth	13.97	13.97	14.29	14.61	14.61	14.92	15.24	15.56	15.88	16.19	16.51	16.83
Side Waist Length	20.64	20.64	20.32	20.00	19.69	19.69	19.37	19.05	19.05	18.73	18.73	18.42
Waist to Hip/Seat Height—Curvy	19.37	19.37	19.37	19.37	19.37	19.37	19.69	19.69	19.69	19.69	19.69	19.69
Waist to Hip/Seat Height—Straight	19.00	19.00	19.00	19.00	19.00	19.00	19.37	19.37	19.37	19.37	19.37	19.37
Waist to Knee Height—Curvy	55.88	55.88	55.88	55.88	55.88	55.88	55.88	56.20	56.20	56.20	56.20	56.20
Waist to Hip/Seat Length—Straight	19.37	19.37	19.37	19.37	19.37	19.37	19.37	19.37	19.37	19.37	19.37	19.37
Waist to Knee Height—Curvy	55.88	55.88	55.88	55.88	55.88	55.88	55.88	56.20	56.20	56.20	56.20	56.20
Waist to Knee Height—Straight	55.88	55.88	55.88	55.88	55.88	55.88	55.88	55.88	55.88	55.88	55.88	55.88
Waist Height	97.79	97.79	97.79	97.79	97.79	97.79	97.79	97.79	97.79	97.79	97.79	97.79
Waist Height	97.47	97.47	97.47	97.47	97.47	97.47	97.47	97.47	97.47	97.47	97.47	97.47
High-Hip Height	88.90	88.90	88.90	88.90	88.90	88.90	88.90	88.90	88.90	88.90	88.90	88.90
Hip/Seat Height	78.42	78.42	78.42	78.42	78.42	78.42	78.42	78.42	78.42	78.42	78.42	78.42
Crotch Height	72.39	72.39	72.39	72.39	72.39	72.39	72.39	72.39	72.39	72.39	72.39	72.39
Rise Height	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77	24.77
Knee Height	41.91	41.91	41.91	41.91	41.91	41.91	41.91	41.91	41.91	41.91	41.91	41.91
Ankle Height	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35
Width and Length Measurements, cm												
Crotch Length (total)	59.69	60.33	60.96	61.60	62.23	62.87	63.82	64.77	66.04	67.31	68.58	69.85
Shoulder Length	11.75	11.75	11.75	12.07	12.07	12.38	12.38	12.38	12.38	12.70	13.02	13.02
Shoulder Slope	19.875°	19.75°	19.625°	19.5°	19.375°	19.25°	19.125°	18.875°	18.5°	18.125°	17.75°	17.25°
Shoulder Drop	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13
Across Back Shoulder Width	35.56	35.88	36.51	37.15	37.47	38.10	38.42	38.74	39.37	40.32	41.28	42.23
Across Front Shoulder Width	35.88	36.20	36.83	37.47	38.10	39.05	39.37	39.69	40.32	41.28	42.23	43.18
Upper Back Width	33.02	33.66	34.29	34.93	35.56	36.20	36.51	36.83	37.47	38.42	39.37	40.32
Upper Front Chest Width	30.80	31.43	32.07	32.70	33.34	33.97	34.61	34.93	35.56	36.51	37.47	38.42
Back Width	32.07	32.39	33.02	33.66	34.61	35.24	35.88	36.51	37.15	38.10	39.05	40.32
Front Chest Width	31.75	32.07	33.02	33.97	35.24	35.88	36.83	37.78	39.05	40.01	41.59	43.18
Bust Point to Bust Point	16.83	17.15	17.78	18.42	19.05	19.69	20.32	20.96	21.59	22.23	22.86	23.50
Neck to Bust Point	24.13	24.45	24.77	25.08	25.40	25.72	26.04	26.67	27.31	27.94	28.58	29.21
Bust Point to Bust Point (Halter)	63.50	64.45	65.41	66.36	67.31	68.26	69.22	70.80	72.39	73.98	75.57	77.47
Cervicale to Wrist Length	71.12	71.44	71.76	72.07	72.39	72.71	72.71	72.71	73.03	73.66	73.98	74.61
Shoulder and Arm Length	64.77	64.77	65.41	65.72	65.72	66.04	66.04	66.04	66.04	66.36	66.68	66.99
Arm Length	53.02	53.34	53.34	53.34	53.34	53.66	53.66	53.66	53.66	53.66	53.66	53.98
Hand Length	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hand Width	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Foot Length	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Foot Width	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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