



Designation: D6458 – 99 (Reapproved 2006)

## Standard Tables of Body Measurements for Boys, Sizes 8 to 14 Slim and 8 to 20 Regular<sup>1</sup>

This proposed definitions standard has no status as an ASTM standard and is published on behalf of the sponsoring committee for information only for a maximum of two years. Comments are solicited and should be addressed to ASTM, 100 Barr Harbor Dr., West Conshohocken, PA 19428. When referencing this document, the word "Proposal" must precede the P designation.

### INTRODUCTION

These tables were developed from body measurements used currently by apparel manufacturers and retail organizations. The measurements were derived originally from the 1970 Voluntary Product Standard PS 36-70 by the U.S. Department of Commerce National Bureau of Standards.<sup>2</sup>

### 1. Scope

1.1 These tables list body measurements of boys, sizes 8 to 14 Slim and 8 to 20 Regular. Although these are body measurements, they can be used as a baseline in designing apparel for boys and students 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 Slim and Regular. Slim subjects are of same stature (height), with a slimmer body, and lower body weight than regular subjects as illustrated by the measurement charts.

1.3 The values stated in either acceptable SI units or inch-pound units shall be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system must be used independently of the other, without combining values in any way.

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 and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

2.1 *ASTM Standards:*<sup>3</sup>

**D123 Terminology Relating to Textiles**

<sup>1</sup> These tables are under the jurisdiction of ASTM Committee D13 on Textiles and are the direct responsibility of Subcommittee D13.55 on Body Measurement for Apparel Sizing.

Current edition approved Jan. 1, 2006. Published February 2006. Originally approved in 1999. Last previous edition approved in 1999 as D6458-99. DOI: 10.1520/D6458-99R06.

<sup>2</sup> U.S. Department of Commerce, *Voluntary Product Standard: Body Measurements for the Sizing of Boys' Apparel*, NIST Publication No. PS 36-70, Washington, DC.

<sup>3</sup> 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.

**D5219 Terminology Relating to Body Dimensions for Apparel Sizing**

2.2 *ISO Standard:*

**ISO 3635 Size Designation of Clothes, Definitions, and Body Measurement Procedures**<sup>4</sup>

### 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 these tables, refer to Terminology **D123**.

### 4. Significance and Use

4.1 The use of the body measurement information in **Tables 1-4** will assist manufacturers in developing patterns and garments that are consistent with the current anthropometric characteristics of the population of interest. These tables should in turn reduce or minimize consumer confusion and dissatisfaction related to apparel sizing. (Also refer to **ISO 3635**.)

### 5. Apparatus

5.1 *Tape Measure*, dimensionally stable and approximately 15 mm (1/2 in.) wide and accurately graduated in 1.6 mm (1/16-in.) increments.

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

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

### 6. Procedure

6.1 *General:*

<sup>4</sup> Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

**TABLE 1 Boys Sizes 8–14 (Slim)**

Body Measurements, SI Units						
Size	8S	9S	10S	11S	12S	14S
Height, cm	127.0	132.1	137.2	142.2	147.3	154.9
Body weight, kg	24.0	26.3	29.5	32.2	34.9	40.8
Girth Measurements, cm						
Chest girth	64.1	66.0	67.9	69.8	71.8	75.6
Waist girth	54.6	55.9	57.1	58.4	59.7	62.2
Hip girth (seat girth)	64.1	66.0	67.9	70.5	73.0	78.1
Neck base girth	30.5	31.1	31.7	32.4	33.0	34.3
Armhole circumference	28.9	29.8	30.8	31.7	33.0	35.2
Upper-arm girth	17.1	17.8	18.4	19.0	19.7	21.0
Elbow girth	20.0	20.6	21.3	21.9	22.5	23.8
Thigh girth	34.0	35.6	37.1	39.1	41.0	44.1
Knee girth	26.0	27.0	27.6	28.6	29.2	30.8
Calf girth	24.1	25.1	25.7	26.7	27.3	28.9
Ankle girth	19.7	20.6	21.6	22.2	22.9	24.1
Total vertical trunk length	110.5	114.3	118.1	121.9	125.7	133.3
Total crotch length	52.4	54.3	56.2	58.1	60.0	63.8
Head circumference	54.6	54.9	55.2	55.6	55.9	56.5
Vertical Measurements, cm						
Cervicale height	105.7	110.5	115.3	120.0	124.8	131.8
Head and neck length	21.3	21.6	21.9	22.2	22.5	23.2
Cervicale to back waist	27.6	28.6	29.5	30.5	31.4	33.3
Front waist length	24.8	25.7	26.7	27.6	28.6	30.5
Scye depth	13.7	14.0	14.6	14.9	15.6	16.5
Waist height	78.7	82.5	86.4	90.2	94.0	99.1
Waist to hip height	15.6	15.9	16.5	16.8	17.5	18.4
Crotch height	56.8	60.0	63.2	66.4	69.5	73.3
Knee height	34.3	35.9	37.5	39.1	40.6	42.5
Ankle height	6.0	6.3	6.3	6.3	6.3	6.7
Width and Length Measurements, cm						
Shoulder length	8.3	8.6	8.9	9.2	9.5	10.2
Shoulder slope	63.5	63.5	63.5	63.5	63.5	63.5
Cross-back width	27.3	27.9	28.6	29.2	29.8	31.1
Cross-chest width	22.9	23.5	24.1	24.8	25.4	26.7
Arm length	44.8	47.0	49.2	51.4	53.7	56.8
Shoulder and arm length	53.0	55.6	58.1	60.6	63.2	67.0
Cervicale to wrist	58.4	61.0	63.5	66.0	68.6	72.4

6.1.1 For all vertical and most horizontal measurements, the subject is to be standing erect without shoes and with feet approximately 15 cm (6 in.) apart.

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 *Height*—Measure from the top of the head to the soles of the feet.

6.2.2 *Body Weight*—Weigh the subject on the scale.

6.2.3 *Chest Girth*—Measure horizontally around the body under the arms and across the center of the breast including the lower portion of the shoulder blades.

6.2.4 *Waist Girth*—Measure horizontally around the body at waist height.

6.2.5 *Hip Girth (Seat Girth)*—Measure horizontally around the body at hip height.

6.2.6 *Neck Base Girth*—Measure around the neck, over the cervicale at the back, and the top of the collar bone at the front.

6.2.7 *Armhole Circumference*—With the arm down, measure the distance from the shoulder joint through the front-break point, the armpit, the back-break point, and back up to the starting point.

6.2.8 *Upper-Arm Girth*—Measure the circumference of the arm midway between the elbow and shoulder joint.

6.2.9 *Elbow Girth*—Measure the circumference of the elbow while the arm is bent at 1.57 rad (90°).

6.2.10 *Thigh Girth*—Measure the circumference of the upper leg close to the crotch.

6.2.11 *Knee Girth*—With the leg straight, measure the knee circumference over the knee cap and parallel to the floor.

6.2.12 *Calf Girth*—Measure the maximum circumference of the lower leg between the knee and the ankle and parallel to the floor.

6.2.13 *Ankle Girth*—Measure the ankle circumference over the inner and outer bony prominence at the lower end of the lower leg.

6.2.14 *Total Vertical Trunk Length*—Measure from a point on the shoulder, midway between the neck and the normal armhole line, to the bottom of the crotch and back up to the shoulder, taking care to avoid constriction at the crotch.

6.2.15 *Total Crotch Length*—Measure from the center front waist level through the crotch to the center back waist level.

6.2.16 *Head Circumference*—Measure the maximum circumference of the head above the ears.

6.2.17 *Cervicale Height*—Measure the plumb line distance from the cervicale to the soles of the feet.