



Designation: D 4910 – 99

Standard Tables of Body Measurements for Infants, Sizes 0 to 24¹

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INTRODUCTION

These tables are developed from data published by the U.S. Department of Commerce. These data were based on original research conducted by the U.S. Department of Agriculture² in the 1930's. This standard takes into consideration children's growth patterns reflected in the 1980 charts for the National Center for Health Statistics³ and the 1977 Anthropometric Study of U.S. Infants and Children conducted by the University of Michigan.⁴ All sudden shifts of proportion have been eliminated so as to reflect the gradual growth and development of the infant. To verify the proposed body measurements, a limited sampling of children was measured and fitted with garments made as directed in these tables.

1. Scope

1.1 These tables list body measurements of infants from size 0 to 24. Although these measurements are body measurements, they can be used as a baseline in designing apparel for infants in this age range when taking into account such factors as fabric type, ease for body movement, styling, and fit.

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

1.3 *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:*

D 123 Terminology Relating to Textiles⁵

D 5219 Terminology Relating to Body Dimensions for Apparel Sizing⁶

2.2 *ISO Standard:*

ISO Size Designation of Clothes, Definitions, and Body Measurement Procedures⁷

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions relating to body dimensions, refer to Terminology **D 5219**.

3.1.2 For definitions of other textile terms, used in these tables, refer to Terminology **D 123**.

4. Significance and Use

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

5. Apparatus

5.1 Tape measure that is dimensionally stable and approximately 15 mm ($\frac{1}{2}$ in.) wide and accurately graduated in millimetre ($\frac{1}{16}$ in.) increments.

5.2 *Scale*, standard calibrated, body weight type for infants.

¹ These tables are under the jurisdiction of ASTM Committee D-13 on Textiles and are the direct responsibility of Subcommittee D13.55 on Body Measurement for Apparel Sizing.

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² O'Brien, Ruth, et al., *Body Measurement to American Boys and Girls for Garment and Pattern Construction*, U.S. Department of Agriculture, Miscellaneous Publication No. 366, July 1941.

³ Available from National Center for Health Statistics.

⁴ Snyder, Lawrence, *Anthropometry of Infants, Children, and Youth to Age 18*, University of Michigan, May 1977.

⁵ *Annual Book of ASTM Standards*, Vol 07.01.

⁶ *Annual Book of ASTM Standards*, Vol 07.02.

⁷ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

TABLE 1 Infants 0 to 24—Body Measurements Without Clothing, (Inch-Pound Units)

Size	0 to 3	3 to 6	6 to 9	9 to 12	12 to 18	18 to 24
Height, Inches	Up to 23½	24 to 26½	27 to 27½	28 to 30½	31 to 32½	33 to 34½
Weight, Pounds	Up to 12.0	12.5 to 16.0	16.5 to 18.0	18.5 to 20.0	20.5 to 24.0	24.5 to 27.6
All Table Data is in Inches ^A						
Chest	16½	17½	18	18½	19½	20½
Waist	18	18½	18¾	19	19½	20
Hip/Seat	17	18	18½	19	20	21
Vertical Trunk	25	27	28	29	31	33
Head Circumference	16.5	17	17.5	18.25	19	20
Neck Base	8½	8½ ^{1/16}	8¾	9¼	9¾	10
Armscye	6	6¾	6½ ^{1/16}	7¼	7¾	8½
Upper Arm	6½	6¾	6½	6¾	6¾	6¾
Elbow	5¾	6	6½	6¼	6½	6¾
Wrist	...	...	...	...	...	...
Thigh	9¼	9¾	10¾ ^{1/16}	10½	11½	11¾
Shoulder Length	2¼ ^{1/16}	2¾	2¾	2½ ^{1/16}	3	3¼ ^{1/16}
Across Shoulder	6¼	6½	6¾	8¾	9	9¼
Total Crotch Length	12½	12¼	12¼ ^{1/16}	13¾	14½	15¾
Arm Length	6¾	7¾	8½	8½	10¾	11¾
Cervical to Wrist	10¾	12¼	12¼ ^{1/16}	13½	14¾	16½
Cervical to Knee	12¼	14	14¾	15¾	17½	18¼
Cervical Height	17¼	20	21¾	22¾	25½	28¼
Head and Neck Length	5¾	6	6½	6¼	6½	6¾
Cervical to Back Waist	6	6½	6¾	7	7½	8
Front Waist Length	6¾	6¼	6½	6¾	7¼	7¾
Scye Depth	3½	3¾	3¾	4	4¼	4½
Waist Height	11¼	13½	14¾	15¾	16	20¼
Waist to Knee	6¼	7½	8½	8¾	10	11¼
Hip Height	8¾	10¾	11¾	12¾	14¾	16¾
Crotch Height	7½	9¼	10½	11	12¾	14½
Knee Height	5	6	6½	7	8	9
Ankle Height	...	...	...	...	...	...
Foot Length	...	...	...	...	...	...
Foot Width	...	...	...	...	...	...

^A These measurements are for the nude body. No allowance has been given for clothing or diapers. Add approximately 3 in. to the vertical trunk measurement to accommodate the diaper.

6. Procedure

6.1 General:

6.1.1 For all vertical measurements, subject should be lying down on its back, on a flat surface, with legs extended.

6.1.2 For all horizontal measurements, hold subject in a vertical position.

6.1.3 Measurements for infant body are taken over nude body.

6.2 Body Measurements:

6.2.1 *Height*—Measure from the top of the head to the soles of the feet while subject is lying down flat with legs extended.

6.2.2 *Weight*—Weigh the nude infant on an calibrated infant scale.

6.2.3 *Chest*—Measure horizontally around the body under the arms and across the nipples so as to include the lower portion of the shoulder blades.

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

6.2.5 *Hip/Seat*—Measure horizontally around the body at hip height.

6.2.6 *Vertical Trunk*—Measure from (1) a point on the shoulder, midway between the neck and the normal armhole line to (2) the bottom of the crotch and back up to the shoulder taking care to avoid constriction at the crotch. The measurement should be made over the nude body.

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

6.2.8 *Neck Base*—Measure around the neck touching the cervical at the back and the upper borders of the collar bone at the front following the points that would be made by a fine-linked chain pressed over these points.

6.2.9 *Armscye*—With the arm hanging down, measure the distance from the shoulder joint through the front break point, the armpit, the back break point, and the starting point.

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

6.2.11 *Elbow*—Measure the circumference of the elbow while the arm is straight.

6.2.12 *Wrist*—Measure the circumference of the wrist over the inner and outer prominence at the lower end of the forearm.

6.2.13 *Thigh*—Measure the circumference of the upper part of the leg (close to the crotch).

6.2.14 *Shoulder Length*—Measure from the widest point of the neck base measurement at the shoulder to the armpit or armhole girth point of the shoulder.

6.2.15 *Across Shoulder*—Measure across the back from the top of one shoulder joint to the top of the other shoulder joint.

6.2.16 *Total Crotch Length*—Measure the distance from (1) waist level at the center front through the crotch and to (2) the waist level at the center back.

6.2.17 *Arm Length*—With the arm bent 90° at the elbow, measure from (1) the top of the shoulder along the outside or posterior surface of the arm over the elbow to (2) the prominent wrist bone at the back of the hand near the little finger.