

ERRATA SHEET

Applied Occupational Ergonomics – A Textbook, 3rd Edition (2011)
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Case Study 3.2.: Evaluating Population Accommodation (REVISED - June 2011)

Using Table 3.2, we can also estimate the percentage of the population accommodated by an existing design parameter. Assume that we wish to determine the population percentile who can adequately reach materials on a given storage shelf.

Given:

- Shelf height = 2060 mm (81.1 inches)
- Average (standard deviation) standing vertical grip reach (from Table 3.1, Dimension #34)
= 1925(73) mm (females) and 2080(80) mm (males)

Assume: Correction for shoes for standing grip reach to be 25 mm (males)

Solution:

Adding the correction for shoes to the average standing vertical grip reach yields the following values

Females: $1925 + 25 \text{ mm} = 1950 \text{ mm}$

Males = $2080 + 25 \text{ mm} = 2105 \text{ mm}$

Use equation 3.1 from above to yield density estimates:

$$Z = \frac{x - \mu}{\sigma}$$

Females

$$Z = \frac{2060 - 1950}{73}$$

$$Z = +1.507$$

Males

$$Z = \frac{2060 - 2105}{80}$$

$$Z = -0.563$$

Pg 115. 8.4. Low-back Disorders (REVISED – July 2011)

On paragraph 3, line 3 – the abbreviation “WBV” stands for Whole Body Vibration

Pg 199. Example 12.1 (REVISED – July 2011)

In the equation

$$T_1 = \frac{8}{2 \exp\left[\left(\frac{110-90}{5}\right)\right]} = 1.74$$

Replace 110 by 101 as shown below

$$T_1 = \frac{8}{2 \exp\left[\left(\frac{101-90}{5}\right)\right]} = 1.74$$