

PPI Handbook of Polyethylene Pipe, 1st Edition, 2006

Errata Sheet, August 2007 (version 4)

(Please email any other potential errors to crubeiz@plasticpipe.org)

Page 32. Add to the list of References: ASTM F2164 Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure.

Page 34. Add this note to Table 3: The test phase make up amounts are for pipe testing at 150% of the pipe's rated pressure; for lower pressures calculate makeup water using a ratio.

Page 64. Refer to fig. 14 and add the units for the y-axis: Stress (psi)

Page 81. Refer to Table 3.3: The units in this table are missing and should be: $(\text{ft}^3 - \text{mil}) / (\text{ft}^2\text{-day-atm})$ where:

- ft^3 refers to the volume of permeated gas when measured at the Standard Temperature and Pressure (STP) conditions of 73° F and one atmosphere;
- ft^2 refers to the surface area on the outside of the pipe

Page 88. Delete the existing 2 paragraphs under 'Flammability' and insert this text:

Flammability

High density polyethylene, like most organic compounds, is susceptible to combustion when sufficient heat and oxygen are present. With an auto-ignition point of 750° F (399°C)*, high density polyethylene must be held in prolonged contact with an open flame or other intense heat sources for ignition and subsequent combustion to occur. There are a number of standards for the burn rate of materials. The most widely recognized standard for the burn rate of plastic materials is the Underwriters Laboratories Standard 94 Horizontal Burn Test (UL 94HB). In this test method, high density polyethylene test bars are exposed to a laboratory burner flame until the material ignites. The rate of burning is measured as the rate the flame front proceeds down the length of the test bar. Although it does not self extinguish, the flame front proceeds slowly down the test bar and thus, high density polyethylene is characterized as UL 94HB compliant. In addition, the National Fire Protection Association (NFPA) evaluates the flammability of materials. NFPA 704 rates polyethylene as a 1 on a scale of 0 (non-flammable) to 4 (extremely flammable).

* Ray E. Bolz and George L Tuve. CRC Handbook of Tables for Applied Engineering Science, 2nd Edition. Boca Raton, FL: CRC Press, Inc., 1973, p. 1052.

Page 158. Change the title for Section 1 to read as follows: Design for Pressure and Flow Capacity.

Page 158. Delete '(gravity)' from 1st Paragraph, 6th line; delete 'and gravity flow' from second paragraph, 3rd and 4th lines.

Page 160. Refer to eq. 1-4 and delete 'not' from the definition of F_T to read as follows: F_T = Service Temperature Design Factor, from Table 1-3, 1.0 if the elevated temperature HDB is used.

Page 165. Refer to table 1-4. The units in this table need to be consistent throughout the table and in 'feet'. However, the data in the last row for 'smooth pipe' is in inches (unit not shown) and the Note at the bottom of the table shows an 'inch' unit; to be consistent throughout the table, change the numbers and the unit in the last row and in the Note to 0.000001 feet (i.e. 10^{-5} ft.)

Page 173. Change heading for Table 1-7 to read as follows: Pressure Class (PC) Ratings*, Surge Allowance for Pipe Operating at its Rated Pressure and Corresponding Sudden Velocity Change for PE3408 Pipe. Also, change twice the references in footnote from 'Table 1-8' to 'Table 1-3'. Also, add an additional footnote: "At velocity less than the sudden velocity change, higher surge pressures may be acceptable; see discussion for Working Pressure Rating.

Page 201. Add a note to Table 2-4: The values shown for Soil Pressure include Impact.

Page 210, t = change 'wass' to "wall"

Page 242, eq. 3-3: A_p = change '(/4)' to " $(\pi/4)$ "

Page 323, eq. 12: I = change 'ID²pt' to "ID⁴"

Page 324, eq. 13: I = change '(OD⁴pt – ID⁴pt)' to "(OD⁴ – ID⁴)"

Page 356, eq. 3: change the value of W_{DW} to $0.00545D_o^2 \rho_w$.

Page 391, eq. 1: refer to definition of f and change reference from 'figure 10-1' to "figure 1"

Page 403, eq. 8: change 'OD' to "OD²"

Page 423, eq. 5: replace 'Kg_{SE}' with "k"

Page 449. Change equation for W_b (Net Upward Buoyant Force on Empty Pipe Surrounded by Mud Slurry) to read as follows: $W_b = \pi(OD^2/4)r_w g_b 12 \text{ in/ft} - w_a$

PE 4710, refer to PPI website for additional information (available Nov. 2007)