

Typographic errors in Layout, Detail and Calculation of Fire Sprinkler Systems, 2nd Edition

The following typos have been found in the Second Edition of the NFSA publication Layout, Detail and Calculation of fire Sprinkler Systems. We sincerely apologize for these mistakes. We hope that you understand that an undertaking of this magnitude was extremely difficult and extreme efforts were made to check and double check what was written. Still a few errors slipped through the process. With 528 pages of materials containing approximately 270,000 words, more than 300 figures and hundreds of equations, the book is still more than 99.9998% accurate.

The following corrections need to be made (in each case we have underlined the actual word or number being changed and described the information around it so that you can find it in your copy of the book):

1. On page 20, at the very bottom of the right hand column, the parenthetical statement in the solution needs to be changed from “(100-x)” to “(30-x)”.
2. On page 49, in the right hand column, about half-way down the page, water is reported to absorb approximately 8000 BTU per pound. This needs to be changed to “approximately 8000 BTU per gallon of water.”
3. On page 54, in the right hand column, about half-way down the page in the discussion of how NFPA committees are formed, there is a sentence that starts, “In many cases, there are waiting lists or people wanting to get on committees . . .” This sentence should read, “In many cases, there are waiting lists of people wanting to get on committees . . .”
4. On page 56, in item 10 of the list, the word “pursued” should be changed to “persuade” so that the end of the sentence reads, “you have an opportunity to persuade members of the NFPA to agree with you.”
5. On page 69, the fourth symbol down on the right hand column (the circle with the smaller filled-in circle inside it) needs to be changed from “Pendent Sprinkler on Sprig” to “Pendent Sprinkler on Drop.”
6. Near the top of page 275, the formula “ $Q = AV = (0.022)(5) = 0.11$ cubic ft per min (ft^3/min)” appears. The minutes need to be changed to seconds so that the formula is, “ $Q = AV = (0.022)(5) = 0.11$ cubic ft per sec (ft^3/sec).” This also means that the word “minute” needs to be changed to “second” several times in the next paragraph as follows,

“While presenting the flow in cubic feet per second is technically correct, it is not something that people in the fire protection industry easily recognize. So, the value should be converted into a more common unit like gallons per minute (gpm). The conversion from cubic feet per second to gpm can be accomplished by dividing by 0.002228 (that’s how many cubic feet per second there are in one gpm). So, 0.11 cubic feet per second is equal to 49.4 gpm ($0.11/0.002228 = 49.4$).”
7. On page 313, the pressure demand of the flow going to the left in question 30-30 is missing. This pressure should be 17 psi.

8. On page 332, the math was done incorrectly for the friction loss in the underground ($C=140$). At the bottom of the left column, the friction loss is reported to be 0.058. In fact, the correct answer is 0.044. Not only should the equation be changed at the bottom of the left column (just above the figure), but the next paragraph needs to be corrected because this has an effect on the friction loss in the next step and the total pressure demand. The corrected paragraph is shown below:

With a friction loss per ft of 0.044 psi and a total equivalent length of pipe and fittings of 95.5 ft, the friction loss in the cement lined ductile iron underground pipe can be calculated as 4.2 psi ($95.5 \times 0.044 = 4.2$). Adding the 4.2 psi friction loss to the 52.3 psi demand at the base of the riser (BOR) yields the final pressure demand of 56.5 psi. See Figure 31-22 for how this information would be represented on hydraulic calculation paper.
9. Also on page 332, figure 31-22 needs to be corrected to show the numbers discussed above for the friction loss in the underground. On the last step in the figure (BOR to CWM), the value in the friction loss column needs to be changed from 0.058 to 0.044. The number for P_f in the Pressure Summary column needs to be changed from 5.5 to 4.2. Finally, the total pressure demand at the bottom of the Pressure Summary needs to be changed from 57.8 to 56.5.
10. On page 333, the same changes need to be made to Figure 31-23 as are discussed above for Figure 31-22. In addition, the last entry in the Notes column needs to be changed to “Final demand rounded to: 510 gpm at 57 psi.”
11. Also on page 333, in the right hand column, the pressure of 57.8 psi needs to be changed to 56.5 and the pressure of 58 psi needs to be changed to 57 psi both times that it is typed (just above the Step 7 heading and just under it).
12. On page 347, in the right hand column, about a third of the way down the page, the churn (net) pressure of the fire pump is described as 70 psi. In order to match the curves in Figures 33-1, 33-2 and 33-3, the churn pressure needs to be changed to 65 psi.
13. On page 367, the formula in the left hand column has two digits reversed. The constant in the formula should be 29.83 instead of 28.93.
14. On page 370, in the left hand column, at the end of item 2(b) within the parenthetical statement, the value of 32 should be changed to 32.5. It should be “(32.5 – 1 = 31.5)”.
15. On page 370, in the left hand column, at the end of item 2(c), the pressure at the end should be changed from 30.2 psi to 31.2 psi and the parenthetical statement should be changed to “(32.5 – 1.3 = 31.2)”.
16. On page 483, in the right hand column in the middle of the page (the last sentence in the paragraph about bags over the sprinklers), the sentence starts, “While the bags to slightly delay the activation of sprinklers . . .” Instead, the sentence should read, “While the bags do slightly delay the activation of sprinklers . . .”
17. The Figures on pages 518 and 519 got reversed. The figure on page 518 is the pump curve and the figure on page 519 is the water supply in the public main at the tap north of the pump house on log 1.85 paper.