Revisions and Errata List
AISC Steel Design Guide 34, 1st Edition, 1st printing (Printed Copy)
October 31, 2024

The following list represents corrections made to the first printing (dated 2018) of the first edition of AISC Design Guide 34, *Steel-Framed Stairway Design.*

Page(s)	Item

19 In Table 3-8, under Stairway Requirements, 3rd column from the left, row 11, "Treads (solid/grating)," revise entry to the following:

Solid required (openings up to 1⅛-in. diameter maximum)
(1011.7.1, Exception 2)

22 In the right column, the third equation for W_{open} should be updated to the following:

$$\begin{aligned} W_{open} &= 2(\text{Edge gap}) + 4(\text{Stringer width}) + 2(\text{Inside stringer rail width}) \\ &\quad + 2(\text{Egress width}) + 1(\text{Center gap}) \\ &= 2(\text{½ in.}) + 4(\text{½ in.}) + 2(\text{2 in.}) + 2(\text{44 in.}) + 1(\text{½ in.}) \\ &= 95\text{½ in. or 7 ft 11½ in. clear dimension} \end{aligned}$$

24 In part (c) of the Solution, the equation for W_{open} should be updated to the following:

$$\begin{aligned} W_{open} &= 2(\text{Edge gap}) + 4(\text{Stringer width}) + 2(\text{Inside stringer rail width}) + 2(\text{Egress width}) + 1(\text{Center gap}) \\ &= 2(\text{½ in.}) + 4(\text{½ in.}) + 2(\text{2 in.}) + 2(\text{44 in.}) + 1(\text{½ in.}) \\ &= 95\text{½ in. or 7 ft 11½ in. clear dimension} \end{aligned}$$

79 Revise the first sentence as follows:

From the previous calculations for the guard top rail, the guard post available strength is as follows:

In the calculation box at the top of the page, delete the first two lines. Insert the following below this calculation box.

Available compressive strength

The available compressive strength of the guard post is determined as follows.

Determine the wall limiting width-to-thickness ratio, λ_r, from AISC *Specification* Table B4.1a, Case 9:

$$\begin{aligned} \lambda_r &= 0.11\frac{E}{F_y} \\ &= 0.11\frac{29{,}000 \text{ ksi}}{46 \text{ ksi}} \\ &= 69.3 \end{aligned}$$

Because $D/t < \lambda_r$, the HSS1.900x0.145 is nonslender.

The available strength in axial compression is determined using AISC *Specification* Section E3. The critical stress, F_{cr}, is determined as follows using K=2.

$$\frac{L_c}{r} = \frac{KL}{r}$$
$$= \frac{2(3.5 \text{ ft})(12 \text{ in./ft})}{0.626}$$
$$= 134$$

$$4.71\sqrt{\frac{E}{F_y}} = 4.71\sqrt{\frac{29{,}000 \text{ ksi}}{46 \text{ ksi}}}$$
$$= 118$$

Because $\frac{L_c}{r} > 4.71\sqrt{\frac{E}{F_y}}$, AISC *Specification* Equation E3-3 applies.

$$F_e = \frac{\pi^2 E}{\left(\frac{L_c}{r}\right)^2} \qquad \text{(Spec. Eq. E3-4)}$$
$$= \frac{\pi^2 (29{,}000 \text{ ksi})}{(134)^2}$$
$$= 15.9 \text{ ksi}$$

$$F_{cr} = 0.877 F_e \qquad \text{(Spec. Eq. E3-3)}$$
$$= 0.877(15.9 \text{ ksi})$$
$$= 13.9 \text{ ksi}$$

From AISC *Specification* Section E3, the nominal compressive strength is:

$$P_n = F_{cr} A_g \qquad \text{(Spec. Eq. E3-1)}$$
$$= (13.9 \text{ ksi})(0.749 \text{ in.}^2)$$
$$= 10.4 \text{ kips}$$

From AISC *Specification* Section E1, the available compressive strength of the HSS1.900x0.145 guard post is:

LRFD	ASD
$\phi_c = 0.90$	$\Omega_c = 1.67$
$\phi_c P_n = 0.90(10.4 \text{ kips})$ $= 9.36 \text{ kips} > 0.320 \text{ kip}$ **o.k.**	$\frac{P_n}{\Omega_c} = \frac{10.4 \text{ kips}}{1.67}$ $= 6.22 \text{ kips} > 0.200 \text{ kip}$ **o.k**