

ERRATA

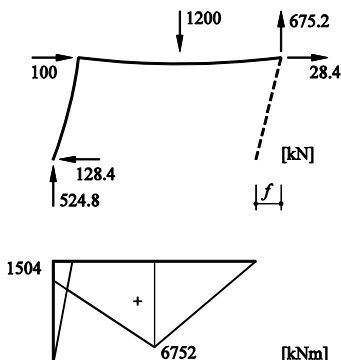
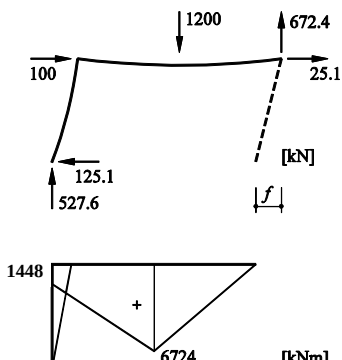
17.01.2022

Peter Marti

THEORY OF STRUCTURES FUNDAMENTALS, FRAMED STRUCTURES, PLATES AND SHELLS

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Page	Location	Distance in cm from bottom	Wrong	Correct
Cover	Illustration	12.2	$Q = a^T \cdot k \cdot a \cdot V = K \cdot v$	$Q = a^T \cdot k \cdot a \cdot V = K \cdot V$
72	(6.11)	6.0	$\begin{Bmatrix} \varepsilon_n \\ \varepsilon_t \\ \frac{1}{2}\gamma_{tn} \end{Bmatrix} = \begin{bmatrix} \cos^2\varphi & \sin^2\varphi & \sin\varphi\cos\varphi \\ \sin^2\varphi & \cos^2\varphi & -\sin\varphi\cos\varphi \\ -\sin\varphi\cos\varphi & \sin\varphi\cos\varphi & \cos^2\varphi - \sin^2\varphi \end{bmatrix} \begin{Bmatrix} \varepsilon_x \\ \varepsilon_y \\ \frac{1}{2}\gamma_{xy} \end{Bmatrix}$	$\begin{Bmatrix} \varepsilon_n \\ \varepsilon_t \\ \frac{1}{2}\gamma_{tn} \end{Bmatrix} = \begin{bmatrix} \cos^2\varphi & \sin^2\varphi & 2\sin\varphi\cos\varphi \\ \sin^2\varphi & \cos^2\varphi & -2\sin\varphi\cos\varphi \\ -\sin\varphi\cos\varphi & \sin\varphi\cos\varphi & \cos^2\varphi - \sin^2\varphi \end{bmatrix} \begin{Bmatrix} \varepsilon_x \\ \varepsilon_y \\ \frac{1}{2}\gamma_{xy} \end{Bmatrix}$
116	(8.53)	23.9	$\sigma_{ij} = 2\mu\varepsilon_{ij} + \lambda\varepsilon_{ij}\varepsilon_{kk}$	$\sigma_{ij} = 2\mu\varepsilon_{ij} + \lambda\delta_{ij}\varepsilon_{kk}$
195	Formula	9.8	$\int \frac{S^2}{b^2 I_y^2} dA = \int_{-h/2}^{h/2} \frac{b^2(h^2/4 - z^2)^2}{b^2(bh^3/12)^2} b dz = \frac{6}{5bh}$	$\int \frac{S^2}{b^2 I_y^2} dA = \int_{-h/2}^{h/2} \frac{b^2(h^2/4 - z^2)^2}{4b^2(bh^3/12)^2} b dz = \frac{6}{5bh}$
211	Fig. 13.34(c)	24.0	$\tau_{xs} \cdot t(s) ds$	$\tau_{xs} \cdot t(s) dx$
212	Formula	16.9	$\tau_{xs} \cdot t(s) ds + \int_0^s d\sigma_x t ds = 0$	$\tau_{xs} \cdot t(s) dx + \int_0^s d\sigma_x t ds = 0$
214	Fig. 13.35	16.8	$M_\omega[\text{kNm}^2]$	$M_\omega[\text{MNm}^2]$
334	(18.61)	10.5	$w = \frac{q_0 l^2}{GA_y} \left\{ \kappa \frac{x}{l} - \frac{x^3}{3l^3} + \frac{2 \cosh(\lambda x) + \kappa \lambda l \sinh[\lambda(l-x)] - 2 - \kappa \lambda l \sinh(\lambda l)}{(\lambda l)^2 \cosh(\lambda l)} \right\}$	$w = \frac{q_0 l^2}{2GA_y} \left\{ \kappa \frac{x}{l} - \frac{x^3}{3l^3} + \frac{2 \cosh(\lambda x) + \kappa \lambda l \sinh[\lambda(l-x)] - 2 - \kappa \lambda l \sinh(\lambda l)}{(\lambda l)^2 \cosh(\lambda l)} \right\}$
337	(18.68) ₄	10.6	$M_b = q_0 l^2 \cdot \left\{ \frac{1}{2(\lambda l)^2} - \frac{\cosh[\lambda(l-x)]}{\lambda l \sinh(\lambda l)} \right\}$	$M_b = q_0 l^2 \cdot \left\{ \frac{1}{(\lambda l)^2} - \frac{\cosh[\lambda(l-x)]}{\lambda l \sinh(\lambda l)} \right\}$
337	Example 18.12	7.8	57.6 m	33.8 m
337	Example 18.12	6.6 - 7.4	The fixity of the shear wall system at the top is relatively low. In the lower part of the wall, M_b and V_b are slightly larger than in the system without outrigger.	To be replaced by: In the lower part of the wall, M_b is slightly smaller and V_b is slightly larger than in the system without outrigger.
338	Fig. 18.39	18.1	M_b as well as the point of inflection at 57.6 m are wrong	See table below for M_b . In addition, the point of inflection is at 33.8 m

338	Tab. 18.3	row 4	<table><tr><th>M_b</th></tr><tr><td>16.0</td></tr><tr><td>14.6</td></tr><tr><td>10.3</td></tr><tr><td>2.5</td></tr><tr><td>−9.6</td></tr><tr><td>−27.2</td></tr><tr><td>−52.3</td></tr><tr><td>−87.7</td></tr><tr><td>−137.1</td></tr><tr><td>−206.1</td></tr><tr><td>MNm</td></tr></table>	M_b	16.0	14.6	10.3	2.5	−9.6	−27.2	−52.3	−87.7	−137.1	−206.1	MNm	<table><tr><th>M_b</th></tr><tr><td>57.6</td></tr><tr><td>56.3</td></tr><tr><td>51.9</td></tr><tr><td>44.1</td></tr><tr><td>32.1</td></tr><tr><td>14.5</td></tr><tr><td>−10.7</td></tr><tr><td>−46.0</td></tr><tr><td>−95.5</td></tr><tr><td>−164.5</td></tr><tr><td>MNm</td></tr></table>	M_b	57.6	56.3	51.9	44.1	32.1	14.5	−10.7	−46.0	−95.5	−164.5	MNm
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367	Formula	24.5	$c_1 = \frac{\frac{Ql}{4} - g \frac{\Delta H}{H} \left(\frac{l^2}{8} - \frac{1}{\lambda^2} \right)}{2(H + \Delta H)}$	$c_1 = \frac{\frac{Ql}{4} - g \frac{\Delta H}{H} \left(\frac{l^2}{8} - \frac{1}{\lambda^2} \right)}{H + \Delta H}$																								
367	Example 18.29	19.0	$\lambda = 0.1668 \text{ m}^{-1}$	$\lambda = 0.1896 \text{ m}^{-1}$																								
426	(21.25)	14.5	$M_z = \frac{b^3 f_y \tan^2 \alpha}{6}$	$M_z = \frac{b^3 f_y \tan \alpha}{6}$																								
426	(21.26) ₁	10.7	$\left(\left M_z / M_y \right \leq h / b \right)$	$\left(\left M_z / M_y \right \leq b / h \right)$																								
426	(21.26) ₂	9.2	$\left(\left M_z / M_y \right \geq h / b \right)$	$\left(\left M_z / M_y \right \geq b / h \right)$																								
461	Example 22.9	12.6 ff	$f_1 = \dots = 325 \text{ mm}$ and therefore the subsequent derivations	$f_1 = \dots = 289 \text{ mm}$ The subsequent derivations have to be adjusted.																								
462	Example 22.9 Fig. 22.9(d)	16.0 - 21.6	(d) 	(d) 																								
571	Example 24.21	23.3	$\frac{\pi}{3} \gamma^3 + 2\pi \alpha \gamma^2 + 4\alpha^2 \gamma - \alpha(\beta - \alpha^2) = 0$	$\frac{\pi^2}{3} \gamma^3 + 2\pi \alpha \gamma^2 + 4\alpha^2 \gamma - \alpha(\beta - \alpha^2) = 0$																								