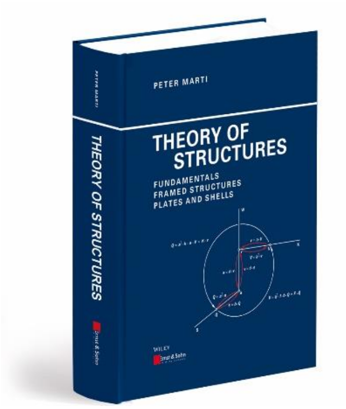

E R R A T A

12.03.2023

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THEORY OF STRUCTURES

FUNDAMENTALS, FRAMED STRUCTURES, PLATES AND SHELLS

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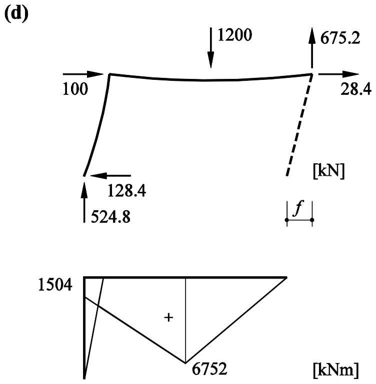
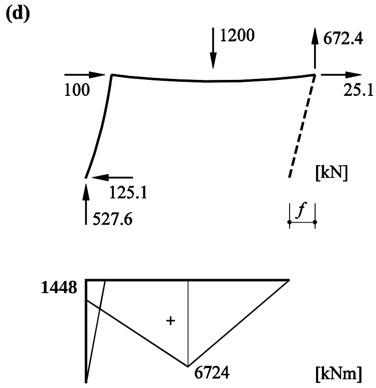
Page	Location	Distance in cm from bottom	Wrong	Correct
Cover	Illustration	12.2	$\boldsymbol{Q} = \boldsymbol{a}^{\mathrm{T}} \bullet \boldsymbol{k} \bullet \boldsymbol{a} \bullet \boldsymbol{V} = \boldsymbol{K} \bullet \boldsymbol{v}$	$\boldsymbol{Q} = \boldsymbol{a}^{\mathrm{T}} \bullet \boldsymbol{k} \bullet \boldsymbol{a} \bullet \boldsymbol{V} = \boldsymbol{K} \bullet \boldsymbol{V}$
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	$\int \frac{S^2}{b^2 I_y^2}\,\mathrm{d}A = \int\limits_{-h/2}^{h/2} \frac{b^2(h^2/4 - z^2)^2}{b^2(bh^3/12)^2}\, b\,\mathrm{d}z = \frac{6}{5bh}$	$\int \frac{S^2}{b^2 I_y^2}\,\mathrm{d}A = \int\limits_{-h/2}^{h/2} \frac{b^2(h^2/4 - z^2)^2}{4b^2(bh^3/12)^2}\, b\,\mathrm{d}z = \frac{6}{5bh}$
205	Example 13.10	7.5	$\frac{\partial u}{\partial x} = (1.186\ \mathrm{m} - 2.4\ \mathrm{m})\vartheta = -1.214\ \mathrm{m} \cdot \vartheta$	$\frac{\partial u}{\partial z} = (1.186\ \mathrm{m} - 2.4\ \mathrm{m})\vartheta = -1.214\ \mathrm{m} \cdot \vartheta$
211	Fig. 13.34(c)	24.0	$\tau_{xs} \cdot t(s)\,\mathrm{d}s$	$\tau_{xs} \cdot t(s)\,\mathrm{d}x$
212	Formula	16.9	$\tau_{xs} \cdot t(s)\,\mathrm{d}s + \int\limits_0^s \mathrm{d}\sigma_x\, t\,\mathrm{d}s = 0$	$\tau_{xs} \cdot t(s)\,\mathrm{d}x + \int\limits_0^s \mathrm{d}\sigma_x\, t\,\mathrm{d}s = 0$
214	Fig. 13.35	16.8	$M_\omega[\mathrm{kNm}^2]$	$M_\omega[\mathrm{MNm}^2]$
334	(18.61)	10.5	$w = \frac{q_1 l^2}{GA_v}\left\{\kappa\frac{x}{l} - \frac{x^3}{3l^3} + \frac{2\cosh(\lambda x) + \kappa\lambda l\sinh[\lambda(l-x)] - 2 - \kappa\lambda l\sinh(\lambda l)}{(\lambda l)^2\cosh(\lambda l)}\right\}$	$w = \frac{q_1 l^2}{2GA_v}\left\{\kappa\frac{x}{l} - \frac{x^3}{3l^3} + \frac{2\cosh(\lambda x) + \kappa\lambda l\sinh[\lambda(l-x)] - 2 - \kappa\lambda l\sinh(\lambda l)}{(\lambda l)^2\cosh(\lambda l)}\right\}$
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	M_b 16.0 14.6 10.3 2.5 −9.6 −27.2 −52.3 −87.7 −137.1 −206.1 MNm	M_b 57.6 56.3 51.9 44.1 32.1 14.5 −10.7 −46.0 −95.5 −164.5 MNm
367	Formula	24.5	$c_1 = \dfrac{\dfrac{Ql}{4} - g\dfrac{\Delta H}{H}\left(\dfrac{l^2}{8} - \dfrac{1}{\lambda^2}\right)}{2(H+\Delta H)}$	$c_1 = \dfrac{\dfrac{Ql}{4} - g\dfrac{\Delta H}{H}\left(\dfrac{l^2}{8} - \dfrac{1}{\lambda^2}\right)}{H+\Delta H}$
367	Example 18.29	19.0	$\lambda = 0.1668\,\mathrm{m}^{-1}$	$\lambda = 0.1896\,\mathrm{m}^{-1}$
426	(21.25)	14.5	$M_z = \dfrac{b^3 f_y \tan^2\alpha}{6}$	$M_z = \dfrac{b^3 f_y \tan\alpha}{6}$
426	$(21.26)_1$	10.7	$\left(\lvert M_z/M_y\rvert \le h/b\right)$	$\left(\lvert M_z/M_y\rvert \le b/h\right)$
426	$(21.26)_2$	9.2	$\left(\lvert M_z/M_y\rvert \ge h/b\right)$	$\left(\lvert M_z/M_y\rvert \ge b/h\right)$
461	Example 22.9	12.6 ff	$f_1 = \ldots = 325\,\mathrm{mm}$ and therefore the subsequent derivations	$f_1 = \ldots = 289\,\mathrm{mm}$ The subsequent derivations have to be adjusted.
462	Example 22.9 Fig. 22.9(d)	16.0 - 21.6		
571	Example 24.21	23.3	$\dfrac{\pi}{3}\gamma^3 + 2\pi\alpha\gamma^2 + 4\alpha^2\gamma - \alpha(\beta - \alpha^2) = 0$	$\dfrac{\pi^2}{3}\gamma^3 + 2\pi\alpha\gamma^2 + 4\alpha^2\gamma - \alpha(\beta - \alpha^2) = 0$