

**ERRATA AND ADDITIONS FOR "ENGINEERING NOISE CONTROL"**  
**3rd Edn., 1st printing.**  
**October 16, 2013**

p xi, Change “Noise Reduction Index (NRI)” to “Noise Reduction Coefficient (NRC)”

p xv, change “FWHA” to “FHWA”

p xviii In line 19, change “Noise Reduction Index” to “Noise Reduction Coefficient”

p16, In line 3, change the equation to  $(1/hf)\sqrt{E/\rho} > 2$

p16, line 10, change  $D_p = 1.346E$  to  $D_p = 1.099E$

p16, Change Eq. (1.3) to

$$D_C = \frac{D_F}{1 + \frac{D_F}{E_W} \left( \frac{2R}{t} + \frac{\rho_w}{\rho} v^2 \right)}$$

p18, In Eq. (1.5), change “332” to “331”

p27, Change Eq. 1.40a to  $\varphi = \frac{f(k(ct \pm r))}{r}$

p29, 3 lines above Eq, (1.50), change “1.36” to “1.41”

p34, Change the reference just above Eq. (1.69) to “Fahy, 1995”

p34, First line under Eq. (1.67), change “1.65” to “1.64”

p41, 4 lines above Section 1.10.1, replace “pet” with “per”

p45, 2 lines under Eq. (1.89) and in Eq. (1.90), remove the subscript, “*t*” from  $p_t$ .

p51, Table 1.3, line 3, replace “*U*” with “*u*”

p51, Table 1.3, line 5, replace “ $Z_d$ ” with “ $Z_A$ ”

p51, Heading 1.12.2, replace “*Z*” with “ $Z_s$ ”

p72, line immediately below the figure, add “is the” after the word, “ordinate”

p76, Line 13, change “sound” to “sounds”

p87, 2 lines above Example 2.1, the text should read, “Figure 2.10(b) is an alternative representation of Figure 2.10(a)”

p111, line 4, change “1252” to “61252”.

p134, 3<sup>rd</sup> line, replace  $H$  with  $H'$

p142, The number “3” and “0.3” should be replaced by “3.01” and “0.301” respectively in Equations (4.37) to (4.41) inclusive

p143, Replace equation 4.43 and the 2 lines preceding it with:  
The daily noise dose ( $DND$ ), or “noise exposure”, is defined as equal to 8 hours divided by the allowed exposure time,  $T_a$  with  $L_B$  set equal to 90. That is:

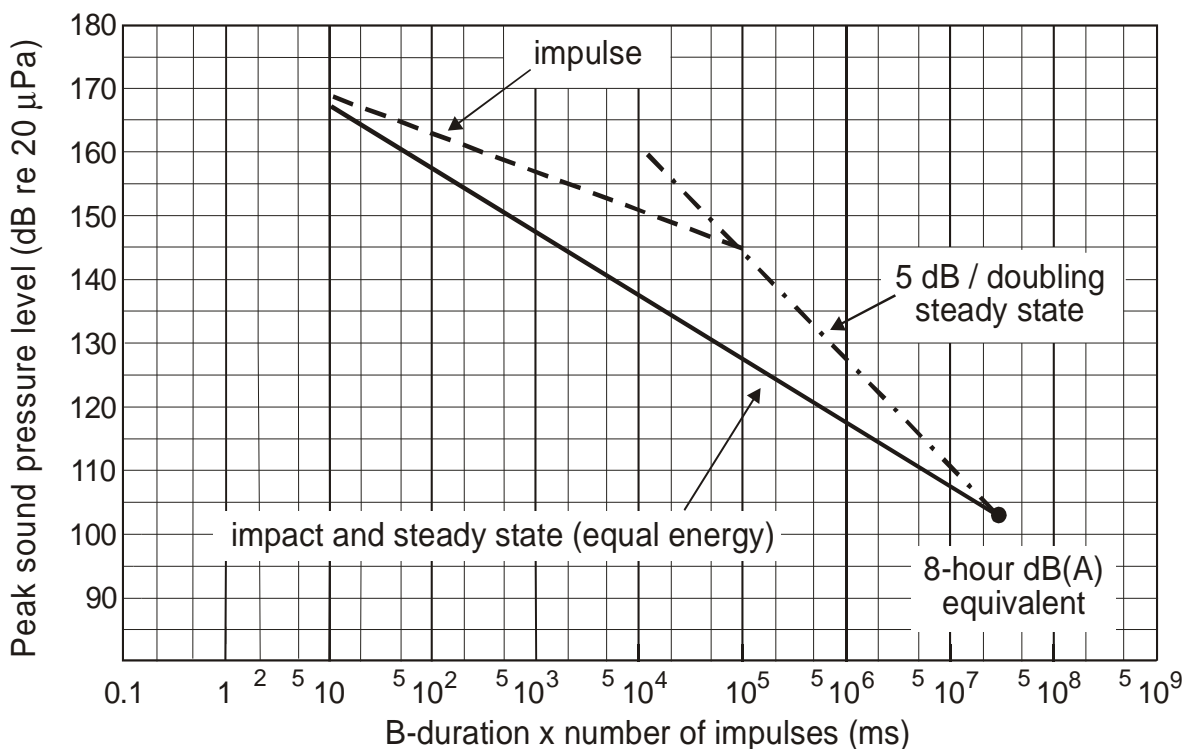
$$M_f = j(k_f/\omega - \omega m_f)^{-1}$$

p143, Replace the sentence following equation (4.42) with: “If the number of hours of exposure is different to 8, then to find the actual allowed exposure time to the given noise environment, the “8” in Equation (4.42) is replaced by the actual number of hours of exposure.”

p144, 3<sup>rd</sup> equation down should be:

$$T_a = 8 \times 2^{-(91.2 - 90.0)/3} = 8/2^{0.39} = 6.1 \text{ hours}$$

p147, Replace Figure 4.6 with the more accurate figure below.



p147, 4 lines under Figure 4.6, change “1414” to “1474”.

p149, 5<sup>th</sup> and 6<sup>th</sup> lines from the top, change “645” to “60645” in four places.

p150, 13 lines from the bottom, change Figure 4.6 to Figure 4.7.

- p153, First line after the headings in Table 4.6, change “0.06” to “0.6”.
- p157, Fig 4.9 caption, add “MAF” = minimum audible field.
- p160, On y-axis, change label from “dB re 20 mPa” to “dB re 20  $\mu$ Pa”
- p165, First paragraph in section 4.9, replace “1995” with “1995, 1999”.
- p176, Line above Eq. (5.6), change “ $r$ ” to “ $r = a$ ”
- p176, In Eq (5.6), change “ $r$ ” to “ $a$ ”
- p177, In Eq. (5.7), change “ $r$ ” to “ $a$ ”
- p179, 2 lines under figure 5.2, replace “(x,y)” with “O” and label the observer as O in Figure 5.2
- p192, 2 lines above Eq. (5.71), add “each of which has a radius of  $a_i$ ” immediately after “sources”
- p192, 2 lines above Eq. (5.72), change “ $a$ ” to “ $a_i$ ”
- p192, Line above Eq. (5.72), change “ $ka$ ” to “ $ka_i$ ”
- p192, In Eq. (5.72), change “ $a$ ” to “ $a_i$ ” in 5 places
- p192 Eq. 5.71 and below, change  $Q$  to  $\bar{Q}$  in 4 places
- p192 last line add "amplitude" immediately after "velocity"
- p193 Eq 5.73 and below change  $Q$  to  $\bar{Q}$  in 2 places
- p225, In Table 5.3 caption, change “Sutherland et al., 1974” to “Sutherland and Bass, 1979”
- p226, 13 lines above Eq. (5.171), change “2613” to “9613”.
- p226, Paragraph beginning “Note that ISO” only applies to overall A-Weighted calculations and should be deleted here. The paragraph following this one should also be deleted as the meteorological effects should not be taken into account in two separate places - either they should be included in the barrier calculations or calculated separately but not both.
- p229, Interchange the 63 Hz and 2000 Hz labels on the curves in Fig. 5.19.
- p232, Eq. 5.181, change “-0.09” to “-0.9”
- p236, In Eq. (5.188) change “10.3” to “10.0”

- p241, Table 5.9,  $-3.0 < v < +0.5$  should be replaced with  $-3.0 < v < -0.5$
- p244, ISO 9613-2 procedures for calculating ground effects and shielding effects are based on an assumption of downwind propagation from the sound source to the receiver. Thus the only correction term (Equation (5.193)) that is offered by ISO for meteorological effects is a term to reduce the A-weighted calculated sound pressure level for long time averages of several months to a year. Thus section 5.11.12.4 should be deleted and replaced with the paragraph above.
- p251, In Figure 6.1, in the centre on the right hand side replace  $\gamma = 1/\kappa$  with  $\gamma = \kappa$
- p253, 2 lines above section 6.6, change “1989” to “1995”.
- p259, The equation numbered “6.12” should be numbered “6.11”
- p264, The equation numbered “6.25” should be numbered “6.24”
- p264, 2 lines below Eq. 6.20, replace  $S_1$  with  $1/S_1$
- p264, 3 lines below Eq. 6.20, replace  $S_2$  with  $1/S_2$
- p267, The first equation should be numbered “6.26”
- p267, In Fig 6.3, there are two curves labelled "4". The lower curve should be labelled "5"
- p292, 3 lines above Eq. 7.52, change  $\langle p_k^2(t) \rangle$  to  $\langle p_k^2(0) \rangle$  and add “at time  $t=0$ ” after “mode  $k$ ”
- p292, 2 lines above Eq. 7.52, change  $\langle p_k^2(t) \rangle$  to  $\langle p_k^2(0) \rangle$
- p292, In Eq. 7.52, change  $\langle p_k^2(t) \rangle$  to  $\langle p_k^2(0) \rangle$
- p293, 3 lines above Eq. 7.55, change  $p_k$  to  $p_k(0)$
- p293 6 lines from the bottom, there should be a minus sign before  $\log_e$
- p294, 5 lines from the bottom, change (2000) to (2001)
- p294, Eq. (7.59), replace  $\frac{0.16V}{S}$  with  $\frac{0.16V}{S^2}$
- p295, Eq. (7.64), multiply each of the three terms in brackets by -1
- p295, 2 lines beneath Eq. (7.62), add “energy” before “reflection”
- p295, 2 lines above Equation (7.64), change “2001” to “2000”
- p296, lines 2 and 3, change “ $S_x, S_x$  and  $S_x$ ” to “ $S_x, S_y$  and  $S_z$ ”
- p301, In each of the top two lines of the table, add “(m<sup>2</sup>)” after  $S\bar{\alpha}$

p303, Section 7.7.2, change “NRI” to “NRC” in three places and change “Noise Reduction Index” to “Noise Reduction Coefficient” in two places. Also change Eq. 7.76 to:

$$NRC = \frac{(\bar{\alpha}_{250} + \bar{\alpha}_{500} + \bar{\alpha}_{1000} + \bar{\alpha}_{2000})}{4} \quad (7.76)$$

p303, 2 lines from bottom, change “20 mm” to “20 μm”

p304, Caption of Figure 7.6, line 1, change “porous surface” to “rigidly backed porous material” and in the last line, change “L” to  $\ell$

p310, Immediately following Equation (7.88), add the following: “Note that for square, clamped-edge panels, the fundamental resonance frequency is 1.83 times that calculated using Equation (8.21). For panels with aspect ratios of 1.5, 2, 3, 6, 8 and 10 the factors are 1.89, 1.99, 2.11, 2.23, 2.25 and 2.26 respectively.”

p310, Equation 7.85 should be:  $\xi_c = \left(\frac{f}{f_c}\right)^{1/2}$

p311, End of second full paragraph, change “Elbert” to “Elfert”

p329, Eq. (7.122), replace  $T_{60u}$  with  $\frac{1}{T_{60u}}$

p330, 10<sup>th</sup> line, change “2000” to “2001”

p339, 12<sup>th</sup> line from the bottom, change “1973” to “1988”

p343, 5 lines above the figure, change “ASTM E90-66T” to “ASTM E413-87”

p347, replace the line immediately above section 8.2.4 and the last word in the line above that with “contour value at 2000 Hz is increased by 1 dB.” and add “Note that *IIC*, *R<sub>w</sub>*, and *STC* values are all reported as integers.”

p352, 3 lines under Equation (8.36), change “below” to “above”.

p353, change x-axis label to  $f(\text{Hz})$  (log scale)”

p354, 2<sup>nd</sup> and 3<sup>rd</sup> lines from the bottom, replace “8.37” with “8.38”

p355, 2<sup>nd</sup> line after Eq. 8.44, replace  $f_{c2}/2$  with  $f_{c1}/2$

p355, 3<sup>rd</sup> line, replace “8.37” with “8.38”

p359, In Eq. 8.50, replace  $10 \log_{10} m_1$  with  $20 \log_{10} m_1$

p360, change x-axis label to “frequency (Hz) (log scale)”

p360, on the x-axis of the figure, change " $0.5 f_{c2}$ " to " $0.5 f_{c1}$ "

p360, first line of item (b) in the caption, change to "Line-point support ( $f_{c2}$  is the critical frequency of the point supported panel)"

p360, Under "Point B", item (a), replace " $30\log_{10}f_{c2}$ " with " $20\log_{10}f_{c1} + 10\log_{10}f_{c2}$ "

p360, Under "Point B", items (b) and (c), replace " $40\log_{10}f_{c2}$ " with " $20\log_{10}f_{c1} + 20\log_{10}f_{c2}$ "

p360, Eq (a) under "Point C", add the term, " $20 \log_{10} (f_{c2} / f_{c1})$ " to the RHS of the equation

p360, last Eqn., change  $f_1$  to  $f_t$

p361, replace Eq. 8.55 with:

$$D = \begin{cases} \frac{2}{h} & \text{if } f < 0.9 \times f_{c1} \\ \frac{\pi f_{c1}}{8f\eta_1\eta_2} \sqrt{\frac{f_{c2}}{f}} & \text{if } f > 0.9 \times f_{c1} \end{cases}$$

$$h = \left[ 1 - \left( \frac{f}{f_{c1}} \right)^2 \right]^2 \left[ 1 - \left( \frac{f}{f_{c2}} \right)^2 \right]^2$$

p363, 6 lines from the bottom of the page, change the equation to:

$$20 + 20\log_{10}(2500/100) - 6 = 42.0 \text{ dB}$$

p363, 4 lines from the bottom of the page, change "77" to "78" and "61" to "60" in 2 places

p363, last line, change "61" to "60" and "52" to "51"

p365, Section 8.2.6.2, 5 lines down, replace the sentence beginning with "Alternatively" with the following: "This mechanism can be considered to approximately double the loss factor of the base panels. Alternatively, the panels could be connected together with a layer of visco-elastic material to give a loss factor of about 0.2."

p365, Section 8.2.6.2, 9 lines down, after the words "(0.3 to 0.6 m)", add the words, "or connected with a layer of visco-elastic material or even nailed together".

p371, In the 500 Hz column, 7<sup>th</sup> number from the bottom, replace S1" with "51"

p379, 2 lines above "Example 8.4", change "Example 8.7" to "Example 8.8"

p380, replace the example table with the following table.

	Octave band centre frequency (Hz)							
	63	125	250	500	1000	2000	4000	8000
$TL$ from Table 8.2	30	36	37	40	46	54	57	59
$\bar{\alpha}_w$ from Table 7.1	0.013	0.013	0.015	0.02	0.03	0.04	0.05	0.06
$\bar{\alpha}_f$ from Table 7.1	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03
$S_i \bar{\alpha}$ (m)	0.463	0.463	0.525	0.68	1.05	1.36	1.67	2.04
$S_E/S_i \bar{\alpha}_i$	67	67	59	45.6	29.5	22.8	18.6	15.2
$10\log_{10}(S_E/S_i \bar{\alpha}_i)$	18	18	18	17	15	14	13	12
$NR$ (dB)	12	18	19	23	31	40	44	47

p381, 3<sup>rd</sup> line down, Equation (8.75) should be (8.65), 6 lines down Equation (8.76) should be (8.66) and 8 lines down, Equation (8.6), should be (8.65).

p381, 4<sup>th</sup> Eq. in section 3, “30.5/30” should be “30.5/31”

p391, At the end of the paragraph above the figure, add the following sentences. “When paths involving the ground reflected wave on the source side are considered, the straight line distance,  $d$ , used in Equation (8.85) is the distance between the image source and the receiver. The same reasoning applies to paths involving ground reflections on the receiver side.”

p394, 3 lines following Eq. 8.98, replace “barrier” with “barrier”.

p395, replace the four equations for  $A_b$  with the following in the same order

$$A_b = 15.8 + 20\log_{10}[5.8/4.5] = 18.0 \text{ dB}; A_R = 1.3 \text{ dB}; A_b + A_R = 19.3 \text{ dB}$$

$$A_b + A_R = 19.3 \text{ dB}$$

$$A_b = 19.8 + 20\log_{10}[7.2/4] = 24.9 \text{ dB}; A_R = 2.6 \text{ dB}; A_b + A_R = 27.5 \text{ dB}$$

$$A_b = 19.5 + 20\log_{10}[7.5/4.5] = 23.9 \text{ dB}; A_R = 5 \text{ dB}; A_b + A_R = 28.9 \text{ dB}$$

p395, 6 lines from the bottom, replace “4.6” with “4.7”

p395, Solution, item 1, last line, change “5.18” to “5.20”.

p396, replace the two equations for  $A_b$  with the following in the same order.

$$A_b = 12.0 + 20\log_{10}[4.5/4] = 13.0 \text{ dB}$$

$$A_b = 19.8 + 20\log_{10}[7.2/4] = 24.9 \text{ dB}$$

p396, Item 3, lines 2 and 3, change the numbers to 19.3 dB, 19.3 dB, 27.5 dB, 28.9 dB, 28.9 dB, 13 dB, 24.9 dB and 24.9 dB

p396, Item 3, line 4, change “5.18” to “5.20”.

p396, Item 3, line 4, change “10 dB” to “12 dB”

p399, Figure 8.19, replace  $r$  with  $R$

p399, Replace Eq. (8.100) with:

$$l'_s = R \theta \cos \alpha$$

$$h'_s = H_b - R \theta \sin \alpha$$

$$\alpha = \frac{1}{2}(\pi - \theta) - \beta$$

$$\beta = \cos^{-1}(H_b/A)$$

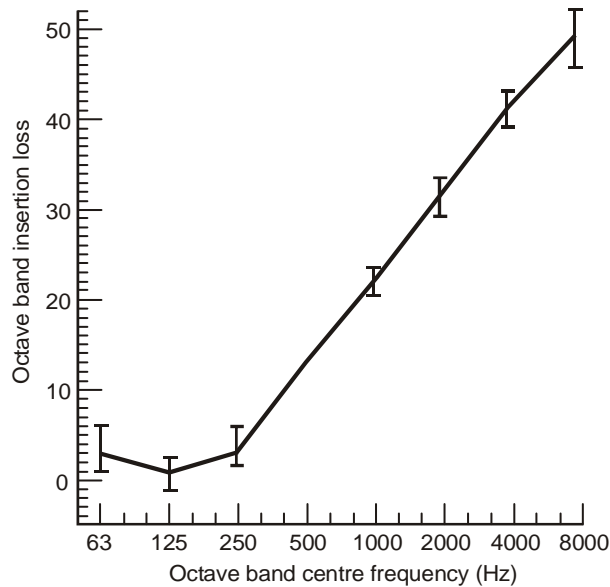
$$\theta = \pm \cos^{-1}[1 - (A^2/2R^2)], \quad |R| > A/2$$

p400, 1<sup>st</sup> paragraph, change "Figure 8.12" to "Figure 8.14"

p401, Eq. (8.107) should be:

$$N = \pm \frac{2}{\lambda} \left\{ \left[ \left[ (X_S^2 + (h_b - Z_S)^2)^{1/2} + (X_R^2 + (h_b - Z_R)^2)^{1/2} + b \right]^2 + Y^2 \right]^{1/2} - d \right\}$$

p404, Figure 8.21 is missing (see following figure)



**Figure 8.21** Typical pipe lagging insertion loss for 50 mm glass-fibre, density 70-90 kg/m<sup>3</sup>, covered with a lead / aluminium jacket of surface density, 6 kg/m<sup>2</sup>. The I symbols represent variations in measured values for three pipe diameters (75 mm, 150 mm and 360 mm).



p405, Replace Equations (8.116), (8.117) and (8.119) with the following:

$$X_c = [41.6(m/h)^{1/2} \xi_c (1 - 1/\xi_c)^{-1/4}] \quad (8.116)$$

$$C_c = 0.232 \xi_c \ell / h \quad (8.117)$$

$$X_m = [226(m/h)^{1/2} \xi_c (1 - \xi_c^2)] - [258h / (\ell \xi_c)] \quad (8.119)$$

curve no	$\frac{\sigma}{\rho h}$
1	0.01
2	0.1
3	0.5
4	1

p415, lines 6 and 7 under Eq 9.16, replace with, “the end correction. In this case,  $\xi = 0$ . For a”

p417, replace the text between Eqs. (9.25) and (9.26) with:

“An alternative expression for the effective length, which may give slightly better results than Equation (9.25), for grazing flow across the holes, and which only applies for flow speeds such that  $u_t / (\omega d) > 0.03$ , is (Dickey and Selamet, 2001)”

p429, Move Equation (9.52) up one line and remove the “:” after “by”.

p432, Item 5, line 1, Replace "Equation (8.48)" with "Equation (9.52)"

p439, line following Equation (9.81), replace  $\mu$  with  $f_m$

p444, In Table 9.2, "19" should be "-19"

p453, 454, Replace the legend in the figures with

p459, Figure 9.21, x-axis label, change “S” to “A” and in the caption add “open” immediately before “duct”.

p461, In the equation in the centre of the page, change “6” to “5”

p461, 4 lines below the equation in the middle of the page, change “5.5” to “7”

p461, 8 lines below the equation in the middle of the page, change “12.5” to “13”

p462, line 1, change “1.2” to “1.0”

p462, Figure 9.23 caption, last line, change “1992” to “1987”

p464, Replace Table 9.5 with the following:

	Octave band centre frequency (Hz)
Duct	

diameter (mm)	63	125	250	500	1000	2000
150	18(20)	13(14)	8(9)	4(5)	1(2)	0(1)
200	16(18)	11(12)	6(7)	2(3)	1(1)	0(0)
250	14(16)	9(11)	5(6)	2(2)	1(1)	0(0)
300	13(14)	8(9)	4(5)	1(2)	0(1)	0(0)
400	10(12)	6(7)	2(3)	1(1)	0(0)	0(0)
510	9(10)	5(6)	2(2)	1(1)	0(0)	0(0)
610	8(9)	4(5)	1(2)	0(1)	0(0)	0(0)
710	7(8)	3(4)	1(1)	0(0)	0(0)	0(0)
810	6(7)	2(3)	1(1)	0(0)	0(0)	0(0)
910	5(6)	2(3)	1(1)	0(0)	0(0)	0(0)
1220	4(5)	1(2)	0(1)	0(0)	0(0)	0(0)
1830	2(3)	1(1)	0(0)	0(0)	0(0)	0(0)

p470, Figure 9.27, caption, and Eq. (9.115), replace " $D$ " with " $d$ "

p471, Eq. (9.116) and (9.117) and 2 lines below Fig. 9.28, replace " $D$ " with " $d$ "

p476, 3<sup>rd</sup> and 6<sup>th</sup> line of the first paragraph, change "1979" to "1978"

p478, line above Equation (10.14), change "1979" to "1978"

p479, Figure 10.2, replace the lowest y-axis label (currently 0) with 0.02

p483, In Equation (10.18) and 2 lines above it, replace “e” with “q” to avoid confusion with the distance,  $e$ , between spring supports.

p484, In Figure 10.6, the force should be shown as acting on mass  $m_2$ , not mass  $m_1$ .

p485 In Eqs. (10.25a,b), the left hand side should be squared.

p487, line above Equation (10.31), change “1986” to “1988”

p487, Equation (10.45) should be:

$$M_f = j(k_f/\omega - \omega m_f)^{-1}$$

p495, Equation (10.42), remove the symbol "d" from the right hand side.

P496, Equation (10.48), replace "d" with  $|F|/k_1$

p496, Equation (10.47), the numerator on the RHS should be  $3(m_2/m_1)^3$

p498, 8 lines from the top of the page, change “1979” to “1978”

p513, Table 11.2, 3<sup>rd</sup> line in 2000 Hz column should be “25”

p513, Table 11.2, the 8000 Hz column should be replaced with 13, 15, 18, 27, 35, 35, 26, 32, 32, 34, 42 and 44 respectively and the BFI column for the two tubeaxial entries should be “ 7 ”

p513, Remove the paragraph containing Equation (11.2) and remove "(11.2)" in the second to bottom line.

p514, last Equation, label (11.2)

p515, Example 11.1 table, replace “30” with “36”

p517, Equation (11.10), change to:  $L_w = 72 + 13.5 \log_{10} kW$  (dB re  $10^{-12}$  W)

p526, last line, change “8.8” to “8.3”

p528, replace the values in the table with the following.

0	72	77	80	81	80	76	69	63
60	74	79	82	83	82	78	71	65
120	61	66	69	70	69	65	58	52
180	55	60	63	64	63	59	52	46

p535, 4 lines above Eq.(11.33), and 2 lines after Eq. (11.34), change “534” to “60534”.

p536, 4 lines from the bottom, change “534” to “60534”.

- p541, Following Eq. 11.64, insert the statement, “If the second term in brackets of Equation (11.64) exceeds 0.3, it is set equal to 0.3”.
- p542, line 3, change “534” to “60534”.
- p542, Immediately before Equation (11.67), add the following: “Note that the final spectrum levels must all be adjusted by adding or subtracting a constant decibel number so that when A-weighted and added together, the result is identical to the A-weighted overall levels from Equations (11.65) and (11.66).”
- p543, 1 line and 4 lines above Eq. (11.70), change “534” to “60534”.
- p544, Equation 11.73, second term on the right should have the “ $\log_{10}$ ” removed and “17.27” replaced with “17.37”, so it reads “- 17.37(.....)”
- p544, Replace the last paragraph with, “The octave band external sound pressure levels may be calculated using Equations (11.73) and (11.76) with octave band sound power levels used in Equation (11.76) instead of overall sound power levels.”
- p552, The constant in Equation (11.89) should be “55”, not “53”.
- p558, Replace the paragraph following Table 11.29 with the following:  
 “The road surface or condition correction is taken as zero for either sealed roads at speeds above 75 km/hr or gravel roads. For speeds below 75 km/hr on impervious sealed roads, the correction is -1 dB. For pervious road surfaces, the correction is -3.5 dB. For concrete roads with deep random grooves greater than 5 mm in width, the correction is,  $C_{cond} = 4 - 0.03P$  where  $P$  is the percentage of heavy vehicles.”
- p559, Replace the nine lines following Eq. 11.102 with the following:  
 “Low barriers such as twin beam metal crash barriers can have less effect than soft ground. So if these are used with any proportion,  $P_d$ , of soft ground, their effect should be calculated by looking at the lower noise level (or the most negative correction) resulting from the following two calculations:
- Soft ground correction ( $0 < P_d < 1.0$ ), excluding the barrier correction; and
  - hard-ground correction ( $P_d = 0$ ) plus the barrier correction.”
- p560, Remove the sentence beginning 12 lines from the bottom of the page, “Note that the two values for  $\beta$  must add up to  $180^\circ$ ”
- p561, In the heading and first line, change “FWHA” to “FHWA”
- p561, 6 lines from the bottom, add “Menge, et al.,” before “1998”.
- p562, 4 lines under Equation (11.108), add “Menge, et al.,” before “1998”.
- p563, 5<sup>th</sup> line in first paragraph, and 3 lines under Equation (11.109), replace “1995” with “U.K. DOT, 1995a”.

p563, 3 lines under Equation (11.111), replace “1995” with “U.K. DOT, 1995a,b”.

p563, p564, Replace the last two lines of page 563 and the top three lines of page 564 with the following:

“Note that different vehicle types must be considered as separate trains. For any specific train type consisting of  $N$  identical units, the quantity  $SEL_{ref}$  is calculated by adding  $10\log_{10}N$  to  $SEL_v$ . In addition the track correction,  $C_2$  from Table 11.32 must also be added so that:

$$SEL_{ref} = SEL_v + 10 \log_{10}N + C_2$$

p564, The second entry of "Freight vehicles, tread braked, 2 axles" should actually be "Freight vehicles, disc braked, 4 axles"

p565, Lines 1 and 3, change SEL to  $SEL_{ref}$ .

p565, table 11.32, add  $C_2$ , after “Correction” in the column 2 label.

p567, In Equation (11.121), remove the minus sign

p568, Add equation numbers, 11.122 and 11.123 to the equations at the top of the page.

p580, 10 lines above Equation (12.1), change “1985” to “1986”.

p609, line 2 in the table for fresh water, change “988” to “998”.

p609, line in the table for iron, Young’s Modulus = 206, density = 7,600,  $\sqrt{E/\rho} = 4910$ ,  $\eta = 0.0005$  and  $\nu = 0.27$ .

p609, line in the table for Nylon, move the “6.6” next to “nylon” and Young’s Modulus = 2, density = 1,140,  $\sqrt{E/\rho} = 1,320$ .

p609, line in table for lead, loss factor = 0.015

p609, line in table for concrete, loss factor = 0.005 - 0.02

p610, the last column of numbers is the density and the 2<sup>nd</sup> last column is Young’s modulus.

p617, In figure captions, change “C.6” to “C.5” and “C.5” to “C.6”.

p621, Change number of Eq. 1.36 to C.24.

p622, In Equation (C.29), replace  $Z_N$  with  $Z_N/\rho c$

p623, In Equation (C.30), replace  $\theta$  with  $\beta$  in three places.

p645, Missing references.

Allard, J.F. and Champoux, Y. (1989). In situ two-microphone technique for the

- measurement of acoustic surface impedance of materials. *Noise Control Engineering Journal*, **32**, 15-23.
- Barron, M. (1993). *Auditorium acoustics and architectural design*. E&FN Spon: London.
- p646, Missing references.
- Beranek, L. L. (ed.) (1988). *Noise and Vibration Control*. Revised edition. Washington D.C: Institute of Noise Control Engineering.
- Beranek, L.L. (1996). *Concert and Opera Halls. How They Sound*. Acoustical Society of America: New York.
- Berglund, B., Lindvall, T. and Schwela, D.H. (1995). *Community Noise*. Stockholm: Stockholm University and Karolinska Institute.
- Berglund, B., Lindvall, T. and Schwela, D.H. Eds. (1999). *Guidelines for Community Noise*. Geneva: World Health Organization.
- p647, Missing references.
- Bragg, S.L. (1963). Combustion noise. *Journal of the Institute of Fuel*, Jan., 12–16.
- Broner, N. and Leventhall, H.G. (1983). A criterion for predicting the annoyance due to lower level low frequency noise. *Journal of Low Frequency Noise and Vibration*, **2**, 160–168.
- p648, Missing references.
- Cazzolato, B.S. (1999). *Sensing systems for active control of sound transmission into cavities*. PhD thesis, Adelaide University, South Australia.
- Cazzolato, B.S. and Hansen, C.H. (1999). Structural radiation mode sensing for active control of sound radiation into enclosed spaces. *Journal of the Acoustical Society of America*, **106**, 3732–3735.
- Chapkis, R.L. (1980). Impact of technical differences between methods of INM and NOISEMAP. In *Proceedings of Internoise '80*, pp. 831–834.
- Chapkis, R.L., Blankenship, G.L. and Marsh, A.H. (1981). Comparison of aircraft noise-contour prediction programs. *Journal of Aircraft*. **18**, 926 – 933.
- p649, Missing references.
- Davy, J.L. (1993). The sound transmission of cavity walls due to studs. In *Proceedings of Internoise '93*, pp. 975–978.
- Davy, J.L. (1998). Problems in the theoretical prediction of sound insulation. In *Proceedings of Internoise '98*, Paper #44.
- Davy, J.L. (2000). The regulation of sound insulation in Australia. In *Proceedings of Acoustics 2000*. Australian Acoustical Society Conference, Western Australia, November 15-17, pp. 155-160.
- Delaney, M.E., Harland, D.G., Hood, R.A. and Scholes, W.E. (1976). The prediction of noise levels  $L_{10}$  due to road traffic. *Journal of Sound and Vibration*, **48**, 305-25.

- p650, Missing references.
- Dutilleaux, G., Vigran, T.E. and Kristiansen, U.R. (2001). An in situ transfer function technique for the assessment of acoustic absorption of materials in buildings. *Applied Acoustics*, **62**, 555-572.
- Edge, P.M. Jr. and Cawthorn, J.M. (1976). *Selected methods for quantification of community exposure to aircraft noise*, NASA TN D-7977.
- Fahy, F.J. (2001). *Foundations of Engineering Acoustics*. London: Academic Press.
- Fahy, F.J. and Walker, J.G. (1998). *Fundamentals of Noise and Vibration*. London: E&FN Spon.
- FHWA (1995). *Highway Traffic Noise Analysis and Abatement Guide*. U.S. Dept. of Transportation, Federal Highway Administration, Washington, D.C.
- Fitzroy, D. (1959). Reverberation formula which seems to be more accurate with nonuniform distribution of absorption. *Journal of the Acoustical Society of America*, **31**, 893-97.
- Fleming, G.G., Burstein, J., Rapoza, A.S., Senzig, D.A. and Gulding, J.M. (2000). Ground effects in FAA's integrated noise model. *Noise Control Engineering Journal*, **48**, 16–24.
- p652, Missing references.
- Hidaka, T., Nishihara, N. and Beranek, L.L. (2001). Relation of acoustical parameters with and without audiences in concert halls and a simple method for simulating the occupied state. *Journal of the Acoustical Society of America*, **109**, 1028–1041.
- Add Nosal, E-M. to the authors of the Hodgson (2002) paper.
- Howard, C.Q., Cazzolato, B.S. and Hansen, C.H. (2000). Exhaust stack silencer design using finite element analysis. *Noise Control Engineering Journal*, **48**, 113-120.
- p653, Missing reference
- Jean, Ph., Rondeau, J.-F. and van Maercke, D. (2001). Numerical models for noise prediction near airports. In *Proceedings of the 8<sup>th</sup> International Congress on Sound and Vibration*, Hong Kong, 2-6 July, pp. 2929–2936.
- p654, the reference, “Landau, L.D. and Lifsltitz, E.W.” should be “Landau, L.D. and Lifshitz, E.W.”
- p654, Missing references.
- Kuo, S.M. and Morgan, D.R. (1996). *Active noise control systems*. New York: John Wiley.
- Kurze, U.J. and Anderson, G.S. (1971). Sound attenuation by barriers. *Applied Acoustics*, **4**, 35–53.
- Larson, K.M.S. (1994). The present and future of aircraft noise models: a user's perspective. In *Proceedings of Noise-Con '94*, pp969 – 974.
- Lee, J-W., Hansen, C.H., Cazzolato, B. and Li, X. (2001). Active vibration control to reduce the low frequency vibration transmission through an existing passive isolation system. In *Proceedings of the 8<sup>th</sup> International Congress on Sound and Vibration*,

Hong Kong, 2-6 July.

Li, K.M. (1993). On the validity of the heuristic ray–trace–based modification to the Weyl–Van der Pol formula. *Journal of the Acoustical Society of America*, **93**, 1727–1735.

Li, K.M. (1994). A high frequency approximation of sound propagation in a stratified moving atmosphere above a porous ground surface. *Journal of the Acoustical Society of America*, **95**, 1840–1852.

Li, K.M., Taherzadeh, S. and Attenborough, K. (1998). An improved ray–tracing algorithm for predicting sound propagation outdoors. *Journal of the Acoustical Society of America*, **104**, 2077–2083.

p655, Missing references.

Maidanik, G. (1962). Response of ribbed panels to reverberant acoustic fields. *Journal of the Acoustical Society of America*, **34**, 809–826.

Menge, C.W., Rossano, C.F., Anderson, G.S. and Bajdek, C.J. (1998). *FHWA Traffic Noise Model, Version 1.0, Technical Manual*. U.S. Dept. Transportation, Washington, D.C.

p656, Missing references.

Neubauer, R.O. (2000). Estimation of reverberation times in non-rectangular rooms with non-uniformly distributed absorption using a modified Fitzroy equation. *7<sup>th</sup> International Congress on Sound and Vibration*, Garmisch-Partenkirchen, Germany, July, pp. 1709–1716.

Neubauer, R.O. (2001). Existing reverberation time formulae - a comparison with computer simulated reverberation times. In *Proceedings of the 8<sup>th</sup> International Congress on Sound and Vibration*, Hong Kong, July, 805-812.

Nilsson, A. (2001). Wave propagation and sound transmission in sandwich composite plates. In *Proceedings of the Eighth International Congress on Sound and Vibration*, Hong Kong, July, pp. 61–70.

p657, Missing references.

Parkins, J.W. (1998). *Active minimization of energy density in a three–dimensional enclosure*. PhD thesis, Pennsylvania State University, USA.

Passchier-Vermeer, W. (1968). *Hearing Loss Due to Exposure to Steady State Broadband Noise*. Report No. 36. Institute for Public Health Eng., The Netherlands.

Passchier-Vermeer, W. (1977). *Hearing Levels of Non-Noise Exposed Subjects and of Subjects Exposed to Constant Noise During Working Hours*. Report B367, Research Institute for Environmental Hygiene, The Netherlands.

Plovsing, B. (1999). Outdoor sound propagation over complex ground. In *Proceedings of the Sixth International Congress on Sound and Vibration*, Copenhagen, Denmark, 685–694.



- p658, Missing references.  
 Price, A.J. and Crocker, M.J. (1969). Sound transmission through double panels using Statistical energy analysis. *Journal of the Acoustical Society of America*, **47**, 154–158.  
 Raney, J.P. and Cawthorn, J.M. (1998). Aircraft noise, Chapter 47 in *Handbook of Acoustical Measurements and Noise Control*, 3<sup>rd</sup> edn. reprint, edited by C.M. Harris, Acoustical Society of America, New York.  
 Raspet, R., L'Esperance, A. and Daigle, G.A. (1995). The effect of realistic ground impedance on the accuracy of ray tracing. *Journal of the Acoustical Society of America*, **97**, 683–693.
- p659, Missing references.  
 Sandberg, U. (2001). *Noise Emissions of Road Vehicles: Effect of Regulations*. Final Report 01-1 of the I-INCE Working Party on Noise Emissions of Road Vehicles. International Institute of Noise Control Engineering.  
 Saunders, R.E., Samuels, S.E., Leach, R. and Hall, A. (1983). *An Evaluation of the U.K. DoE Traffic Noise Prediction Method*. Research Report ARR No. 122. Australian Road Research Board, Vermont South, VIC., Australia.  
 Sendra, J.J. (1999). *Computational Acoustics in Architecture*. Southampton: WIT Press.
- p659, In the Shepherd reference, change “1985” to “1986”
- p660, Missing references.  
 Soom, A. and Lee, M. (1983). Optimal design of linear and nonlinear vibration absorbers for damped systems. *Journal of Vibration, Acoustics, Stress and Reliability in Design*, **105**, 112–119.  
 Steele, C. (2001). A critical review of some traffic noise prediction models. *Applied Acoustics*, **62**, 271-287.  
 Sutton, O.G. (1953). *Micrometeorology*. New York: McGraw-Hill.  
 Tadeu, A.J.B. and Mateus, D.M.R. (2001). Sound transmission through single, double and triple glazing. Experimental evaluation. *Applied Acoustics*, **62**, 307–325.  
 Takagi, K. and Yamamoto, K. Calculation methods for road traffic noise propagation proposed by ASJ. In *Proceedings of Internoise '94*. Yokohama, Japan, pp.289–294.
- p660, Tse reference, change “1979” to “1978”.
- p661, Missing references.  
 U.K. DOT (1988). *Calculation of Road Traffic Noise*. Department of Transport. London: HMSO.  
 U.K. DOT (1995a). *Calculation of Railway Noise*. Department of Transport. London: HMSO.  
 U.K. DOT (1995b). *Calculation of Railway Noise. Supplement 1*. Department of Transport. London: HMSO.  
 Watters, B.G., Labate, S. and Beranek, L.L. (1955). Acoustical behavior of some engine test cell structures. *Journal of the Acoustical Society of America*, **27**, 449–456.

Wiener, F.M. and Keast, D.D. (1959). Experimental study of the propagation of sound over ground. *Journal of the Acoustical Society of America*, **31**, 724.

Yoshioka, H. (2000). Evaluation and prediction of airport noise in Japan. *Journal of the Acoustical Society of Japan (E)*, 21, 341–344.

Zaporozhets, O.I. and Tokarev, V.I. (1998). Aircraft noise modelling for environmental assessment around airports. *Applied Acoustics*, **55**, 99–127.

p661, In the Zinoviev reference, replace “In print” with “ **269**, 535-548.”

p663, after last line, add, “ANSI S3.6 – 1997. Specification for Audiometers.”

p667, line 1, replace “E90-99” with “E90-02”.

p715, Change “Noise Reduction Index” to “Noise Reduction Coefficient”.