ERRATA SHEET FOR SECOND PRINTING

Page	Line	Now reads	Should Read
5	Fig. 1.2	Rhombohedral: a=b=c. $\alpha=\beta=\gamma$ = 90	Rhombohedral: a = b = c. a = b = $\gamma \neq$ 90
11	4	like ceramics, they are have	Like ceramics they possess
11		Al3C4	Al4C3
30	14	(1-1)/n	(1 – 1/n)
32	21	in all cases work has to done	in all cases work has to **be** done
38	2	contains one electron and thus	contains one electron and thus the atom can now form four covalent bonds with other atoms.
38	Fig. 2.10	The b label is incorrectly placed	It should be at the same level as a, but between the two diagrams.
48	25	[i.e. Eq. (2.5)]	[i.e. Eq. (2.1)]
59	8	latter results in the a cubic …	latter results in a cubic ….
60		Fig. 3.4 d	Is missing a site – top left - inside the UC
73	Fig. 3.14d	$(AlSi_2O_{10})^{5-}$	$(AlSi_3O_{10})^{5-}$
80	12	Effective ionic radii of the elements	Effective crystal radii of the elements
104	10	$N_s = CN - CN_p/2$	$N_s = [CN - CN_p/2]$ [# of atoms/plane]/[2 x area of plane]
107	14	$Y \approx (mD/r_o)^{m+3}$ (1/n-m)	$Y \approx mD(n-m)/(r_o)^{m+3}$
113	3	$...0.0178T - 2{,}850{,}000T^{2}dT = 70.61\,\mathrm{kJ/mol}$	$...0.0178T - 2{,}850{,}000T^{-2})dT = 72.13\,\mathrm{kJ/m}$
113	4	$\therefore H^{900}_{Al_2O_3} = -1675.7 + 70.61 = -1605.0\ \mathrm{kJ/m}$	$\therefore H^{900}_{Al_2O_3} = -1675.7 + 72.13 = -1603.6\ \mathrm{kJ/m}$
122	25	reactants are in their standard….	reactants and products are in their standard….
124	Eq.5.31	$= -\ 2\Delta G^{I}/zRT$	$= +\ 2\Delta G^{I}/zRT$
125	Eq.5.32	$= -\ \Delta G^{II}/zRT$	$= +\ \Delta G^{II}/zRT$
125	15-27	ΔG_{FeO} at 1000K $= -206.95$ kJmol $\Delta G_{Fe_3O_4} = -792.6$ kJmol $\Delta G_{Fe_2O_3} = -561.8$ kJmol	ΔG°_{FeO} at 1000K $= -206.95$ kJ/mol $\Delta G^\circ_{Fe_3O_4} = -792.6$ kJ/mol $\Delta G^\circ_{Fe_2O_3} = -561.8$ kJ/mol
130	11	$\Delta G^\circ_{MgO} = -492.95\,\mathrm{kg/mol}$	$\Delta G^\circ_{MgO} = -492.95\,\mathrm{kg/mol}$
144	6	missing	vacancies increases with increasing temperatures.
149	2	= 1.957 x 10^{43} defects/mol^2	= 1.957 x 10^{43} mol^{-2}
155	1	App. 7A	APP. 7B
183	27	and 10 K (see Table 6.2)	and 10 R (see Table 6.2)
189	17	v_{drift} is given by λv_{net}	v_{drift} is given by $\lambda\nu_{net}$
192	32	which is the the focus of this ..	which is the focus of this ..
210	3	is simple $\sqrt{K_S}$	is simple $(K_S)^{1/3}$
215	11	$\frac{z}{4}O_2(g) + M^{z+} + ze^{-1} \leftrightarrow MO_{z/2}$	$\frac{z}{4}O_2(g) + M^{z+}_{def} + ze^{-1} \leftrightarrow MO_{z/2}$
225	33	$D_{vac} = D_s/\Lambda$	$D_{vac} = D_{ion}/\Lambda$
226	1	$D_{int} = D_{tr} = D_s$	$D_{int} = D_{tr} = D_{ion}$
235	14	$\sigma_{ion} = 2.4\times10^{-9}$ S/cm, $\sigma_p = 8.45\times10^{-7}$ S/cm, $\sigma_n = 3.4\times10^{-6}$ S/cm.	$\sigma_{ion} = 2.6\times10^{-9}$ S/cm = 2.6×10^{-7} S/m, σ_p = 8×10^{-7} S/cm, $\sigma_n = 3.2\times10^{-6}$ S/cm.
287		The **strain point** is defined as the	The **strain point** is defined as the

		temperature at which η= $10^{-15.5}$ Pa.s …… …… The **annealing point** is the temperature at which η= 10^{-14} Pa.s ……. The **softening point** is the temperature at which the viscosity is η= $10^{-8.6}$ Pa.s. …… Finally the **working point** is the T at which the viscosity is η= 10^{5} Pa.s …	temperature at which η= $10^{-13.5}$ Pa.s …….The **annealing point** is the temperature at which η= 10^{-12} Pa.s and any internal strains are reduced sufficiently within about 15 min. The **softening point** is the temperature at which η= $10^{6.6}$ Pa.s. …. Finally the **working point** is the temperature at which η= 10^{3} Pa.s.
287	Fig. 9.10		y-axis needs to be corrected to match the changes made above.
287	footnote	1 centipoise (cP) = 0.01P; 1P = 0.1P	1 centipoise (cP) = 0.01P; 1P = 0.1 Pa*s
305	11	implying that $\lambda_{gb}/\gamma_{sv} \approx 1.0$	implying that $\gamma_{gb}/\gamma_{sv} \approx 1.0$
351	6	surface tension is 16 J/m^2	surface tension is 1.6 J/m^2
351	31	Answer: 7.2×10^{-5} J	Answer: 7.2×10^{-5} J = 7.2 μJ
405	11	$U_{\text{elas}} = \frac{1}{2}\frac{(1.66\times10^{-29})(100\times10^{6})}{150\times10^{9}}$	$U_{\text{elas}} = \frac{1}{2}\frac{(1.66\times10^{-29})(100\times10^{6})^2}{150\times10^{9}}$
405	26	….. than that over a flat surface	………than that over a stress-free surface
474	5	cos ωt cos ωt	cos ωt sin ωt
478	11	all solids consist …	all atoms consist …
488	25	$k'_{\text{dip}} - 1 = \frac{N_{\text{dip}}\mu_{\text{dip}}^2}{kT\varepsilon_0} = \frac{(ze)^2 N_{\text{dip}}\lambda_s^2}{4kT\varepsilon_0}$	$k'_{\text{dip}} - 1 = \frac{N_{\text{dip}}\mu_{\text{dip}}^2}{3kT\varepsilon_0} = \frac{(ze)^2 N_{\text{dip}}\lambda_s^2}{12kT\varepsilon_0}$ where factor of 3 comes from averaging over all angles. (see Eq. 15.31)
502	13	$k'_{\text{dip}} - 1 = \frac{(ze)^2 N_{\text{dip}}\lambda_s^2}{4kT\varepsilon_0}$	$k'_{\text{dip}} - 1 = \frac{(ze)^2 N_{\text{dip}}\lambda_s^2}{12kT\varepsilon_0}$
523	11	$\chi_{\text{mag}} = \frac{\mu_{\text{ion}}\mu_0 M_{\text{sat}}}{k(T - T_C)} = \frac{C}{T - T_C}$	$\chi_{\text{mag}} = \frac{\mu_{\text{ion}}\mu_0 M_{\text{sat}}}{3k(T - T_C)} = \frac{C}{T - T_C}$ where factor of 3 comes from averaging over all angles. (see Eq. 15.31)
Back cover		1J = 10^{-7} erg	1J = 10^{+7} erg
Back cover	3	8.62×10^{-5} atom K	8.62×10^{-5} eV/atom K