Erratum
Multi-component solid solution hardening
Part 1 *Proposed model*

L. A. GYPEN, A. DERUYTTERE
Departement Metaalkunde, Katholieke Universiteit Leuven, Belgium
J. Mater. Sci. **12** (1977) 1028–1033

A correct version of Table I on page 1029 is given below.

TABLE I Ternary solid solution hardening theories

Reference	Binary SSH	Ternary SSH		Comments
–	–	$\Delta\tau = \Delta\tau_1 + \Delta\tau_2$	(5)	
Koppenaal and Kuhlmann-Wilsdorf [5]	$\Delta\tau_i \sim C_i^{1/2}$	$\Delta\tau = (\Delta\tau_1^2 + \Delta\tau_2^2)^{1/2}$	(6)	
Foreman and Makin [6]	$\Delta\tau_i \sim C_i^{1/2}$	$\Delta\tau = \Delta\tau(1)\dfrac{C_1}{C_1+C_2} + \Delta\tau(2)\dfrac{C_2}{C_1+C_2}$	(7)	(*a*)
Foreman and Makin [6]	$\Delta\tau_i \sim C_i^{1/2}$	$\Delta\tau \approx \Delta\tau_1 + \Delta\tau_2$	(8)	(*b*)
		$\Delta\tau \approx (\Delta\tau_1^2 + \Delta\tau_2^2)^{1/2}$	(9)	(*c*)
		$(\Delta\tau_1^2 + \Delta\tau_2^2)^{1/2} < \Delta\tau < \Delta\tau_1 + \Delta\tau_2$	(10)	(*d*)
Ruf and Koss [7]	$\Delta\tau_i = R_i C_i^{1\cdot 0}$	$\Delta\tau = [R_1^2 C_1^2 + (R_1^2 + R_2^2)C_1 C_2 + R_2^2 C_2^2]^{1/2}$	(11)	(*e*)
Labusch [2], Friedrichs and Haasen [8]	$\Delta\tau_i = \dfrac{C f_{0i}^{4/3} w_i^{1/3} C_i^{2/3}}{b(4T)^{1/3}}$	$\Delta\tau^{3/2} = \Delta\tau_1^{3/2} + \Delta\tau_2^{3/2}$	(12)	(*f, g*)
derived from Labusch [2]	$\Delta\tau_i = \dfrac{C f_{0i}^{4/3} w_i^{1/3} C_i^{2/3}}{b(4T)^{1/3}}$	$\Delta\tau = \dfrac{C(f_{01}^2 C_1 + f_{02}^2 C_2)}{b(4T)^{1/3}\left(\dfrac{f_{01}^2 C_1}{w_1} + \dfrac{f_{02}^2 C_2}{w_2}\right)^{1/3}}$	(13)	(*f, h*)
Friedrichs and Haasen [8]	$\Delta\tau_i = \dfrac{f_{0i}^{3/2} C_i^{1/2}}{2b\sqrt{T}}$	$\Delta\tau = \dfrac{C_1 f_{01}^2 + C_2 f_{02}^2}{2b\sqrt{T}(C_1 f_{01} + C_2 f_{02})^{1/2}}$	(14)	(*f*)

Comments
(a) Law of mixtures: $\Delta\tau(i)$ is the strengthening effect when all solute atoms are of type i;
(b) when a few strong obstacles are introduced among many weak ones;
(c) for two fairly weak obstacles;
(d) for two strong obstacles;
(e) for a mixture of medium and weak obstacles;
(f) w_i = interaction width, f_{0i} = maximum interaction force, T = line tension, b = Burgers vector;
(g) $w_1 = w_2 = w$ is assumed;
(h) $w_1 = w_2 = w$ is not assumed.