Slide 23:

Suppose that $\delta R_1 = \delta R$

→ $\delta R_2 = -\nu \delta R, \; \delta R_3 = -\nu \delta R, \; \delta R_4 = \delta R$

Note: Transverse strain $= (-\nu) \times$ longitudinal strain.

Substitute in $\dfrac{\delta v_0}{v_{ref}} = \dfrac{(R_2 \delta R_1 - R_1 \delta R_2)}{(R_1 + R_2)^2} - \dfrac{(R_4 \delta R_3 - R_3 \delta R_4)}{(R_3 + R_4)^2}$

→ $\quad \dfrac{\delta v_o}{v_{ref}} = 2(1+\nu)\dfrac{\delta R}{4R}$

→ Bridge constant $k = 2(1+\nu)$