3-4)

We could possibly consider this to be two series capacitors of areas A and spacings d/2. Then,

$$C^{-1} = C_1^{-1} + C_2^{-1} = \frac{(d/2)}{\kappa_1 \varepsilon_o A} + \frac{(d/2)}{\kappa_2 \varepsilon_o A} = \frac{(\kappa_1 + \kappa_2)d}{\kappa_1 \kappa_2 2\varepsilon_o A} \quad ,$$

And

$$C = \frac{2\kappa_1 \kappa_2}{(\kappa_1 + \kappa_2)} \frac{\varepsilon_o A}{d} \quad .$$

Note that if the dielectric constants become equal, this reverts to the expected $C = \kappa\varepsilon_o A/d$.