$$\tau_{rr} = 2\mu\left(\frac{\partial v_r}{\partial r}\right) + [(\kappa - \tfrac{2}{3}\mu)\nabla \cdot \mathbf{v}]$$

$$\tau_{\theta\theta} = 2\mu\left(\frac{1}{r}\frac{\partial v_\theta}{\partial \theta} + \frac{v_r}{r}\right) + [(\kappa - \tfrac{2}{3}\mu)\nabla \cdot \mathbf{v}]$$

$$\tau_{zz} = 2\mu\left(\frac{\partial v_z}{\partial z}\right) + [(\kappa - \tfrac{2}{3}\mu)\nabla \cdot \mathbf{v}]$$

$$\tau_{r\theta} = \tau_{\theta r} = \mu\left[r\frac{\partial}{\partial r}\left(\frac{v_\theta}{r}\right) + \frac{1}{r}\frac{\partial v_r}{\partial \theta}\right]$$

$$\tau_{\theta z} = \tau_{z\theta} = \mu\left(\frac{\partial v_\theta}{\partial z} + \frac{1}{r}\frac{\partial v_z}{\partial \theta}\right)$$

$$\tau_{zr} = \tau_{rz} = \mu\left(\frac{\partial v_z}{\partial r} + \frac{\partial v_r}{\partial z}\right)$$

$$\nabla \cdot \mathbf{v} = \frac{1}{r}\frac{\partial}{\partial r}(rv_r) + \frac{1}{r}\frac{\partial v_\theta}{\partial \theta} + \frac{\partial v_z}{\partial z}$$