$$\begin{aligned}\omega_\varphi(\tau) &= \varphi_{\sigma_1}\left(\omega(\sigma_1)v_{\sigma_1/\tau}\right) + \varphi_{\sigma_2}\left(\omega(\sigma_2)v_{\sigma_2/\tau}\right) + \varphi_{\sigma_3}\left(\omega(\sigma_3)v_{\sigma_3/\tau}\right) \\ &\quad - \varphi_\tau\left(\omega(\sigma_1)v_{\sigma_1/\tau} + \omega(\sigma_2)v_{\sigma_2/\tau} + \omega(\sigma_3)v_{\sigma_3/\tau}\right) \\ &= \varphi_{\sigma_3}\left(\omega(\sigma_3)v_{\sigma_3/\tau}\right) \\ &= \varphi_{\sigma_3}\left(1(e_x + e_y)\right) = 1\end{aligned}$$