$$\iint_\Omega \omega\tilde{\psi}\,dxdy \leq \left(\iint_\Omega \frac{|\omega|^2}{g'(\psi_0)}\,dxdy\right)^{1/2} \left(\iint_\Omega g'(\psi_0)|\tilde{\psi}|^2\,dxdy\right)^{1/2} \leq C \mid \omega \mid_{X_0} \mid \tilde{\psi} \mid_{\tilde{X}_0}$$