$$[S]=\begin{bmatrix} \frac{1}{E_1} & -\frac{\nu_{12}}{E_1} & -\frac{\nu_{13}}{E_1} & 0 & 0 & 0 \\ -\frac{\nu_{21}}{E_2} & \frac{1}{E_2} & -\frac{\nu_{23}}{E_2} & 0 & 0 & 0 \\ -\frac{\nu_{31}}{E_3} & -\frac{\nu_{32}}{E_3} & \frac{1}{E_3} & 0 & 0 & 0 \\ 0 & 0 & 0 & \frac{1}{G_{23}} & 0 & 0 \\ 0 & 0 & 0 & 0 & \frac{1}{G_{31}} & 0 \\ 0 & 0 & 0 & 0 & 0 & \frac{1}{G_{12}} \end{bmatrix}$$

$$Q_{11}=\frac{E_1}{1-\nu_{21}\nu_{12}},$$

$$Q_{12}=\frac{\nu_{12}E_2}{1-\nu_{21}\nu_{12}},$$

$$Q_{22}=\frac{E_2}{1-\nu_{21}\nu_{12}}, \text{ and}$$

$$Q_{66}=G_{12}.$$

$$H_1\sigma_1 + H_2\sigma_2 + H_6\tau_{12} + H_{11}\,\sigma_1^2 + H_{22}\,\sigma_2^2 + H_{66}\,\tau_{12}^2 + 2H_{12}\sigma_1\sigma_2 < 1$$

$$\bar{Q}_{11}=Q_{11}c^4+Q_{22}s^4+2(Q_{12}+2Q_{66})s^2c^2,$$

$$\bar{Q}_{12}=(Q_{11}+Q_{22}-4Q_{66})s^2c^2+Q_{12}(c^4+s^4),$$

$$\bar{Q}_{22}=Q_{11}s^4+Q_{22}c^4+2(Q_{12}+2Q_{66})s^2c^2,$$

$$\bar{Q}_{16}=(Q_{11}-Q_{12}-2Q_{66})c^3s-(Q_{22}-Q_{12}-2Q_{66})s^3c,$$

$$\bar{Q}_{26}=(Q_{11}-Q_{12}-2Q_{66})cs^3-(Q_{22}-Q_{12}-2Q_{66})c^3s,$$

$$\bar{Q}_{66}=(Q_{11}+Q_{22}-2Q_{12}-2Q_{66})s^2c^2+Q_{66}(s^4+c^4).$$

$$[T]=\begin{bmatrix} c^2 & s^2 & 2sc \\ s^2 & c^2 & -2sc \\ -sc & sc & c^2-s^2 \end{bmatrix},$$

$$\bar{S}_{11}=S_{11}c^4+(2S_{12}+S_{66})s^2c^2+S_{22}s^4,$$

$$\bar{S}_{12}=S_{12}(s^4+c^4)+(S_{11}+S_{22}-S_{66})s^2c^2,$$

$$\bar{S}_{22}=S_{11}s^4+(2S_{12}+S_{66})s^2c^2+S_{22}c^4,$$

$$\bar{S}_{16}=(2S_{11}-2S_{12}-S_{66})sc^3-(2S_{22}-2S_{12}-S_{66})s^3c,$$

$$\bar{S}_{26}=(2S_{11}-2S_{12}-S_{66})s^3c-(2S_{22}-2S_{12}-S_{66})sc^3,$$

$$\bar{S}_{66}=2(2S_{11}+2S_{22}-4S_{12}-S_{66})s^2c^2+S_{66}(s^4+c^4).$$