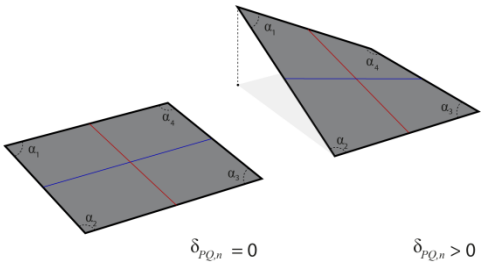
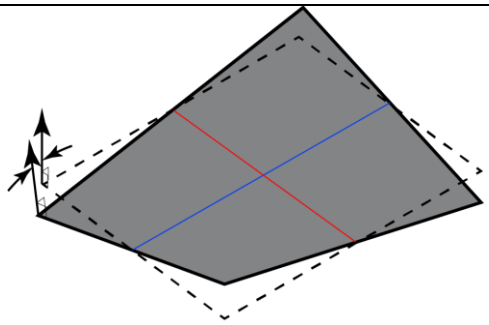
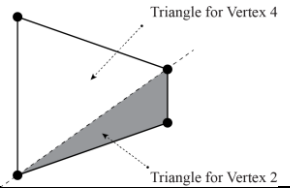
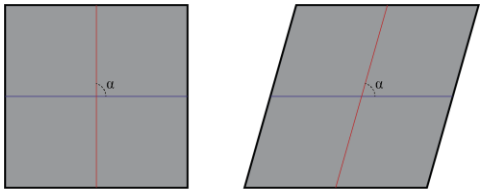
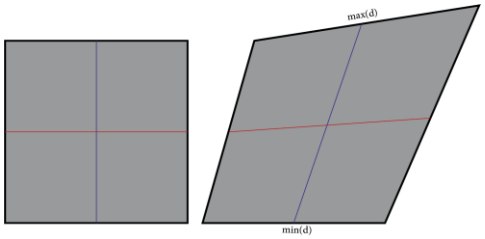
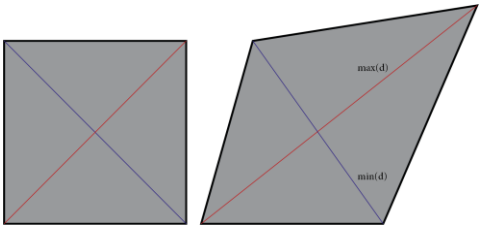
Function Name	Technical Drawings	Mathematical Function	Acceptable Range	Ideal Value
Planarity and Convexity: A panel is flat and convex if and only the difference between the sum of the internal angles and 2π should be zero		$\delta_{PQ} = \sum \alpha_i - 2$	0 to 0.1	0.0
Warping Angles Ratio: Max element corner normal angular deviation from normal of mean plane		$PQ_{warping} = \lvert v_{i,j} \rvert \perp n_{i,j}$	0.9 to 1.0	0.0
Taper Ratio: Maximum ratio of lengths derived from opposite edges		$PQ_{taper} = 2\left(\frac{A_{tri}}{A_{quad}} - 1\right)$	0 to 0.7	0.0
Skew Ratio: Maximum $\lvert\cos\alpha\rvert$ where α is the angle between edges at quad center		$PQ_{skew} = 1 - \left(\frac{\lvert\frac{\pi}{2} - \min(\alpha)\rvert}{\frac{\pi}{2}}\right)$	0 to 0.5	0.0
Element Area: The area on each quad is divided by two		$PQ_{area} = \frac{\max(d)_{PQ} \times \min(d)_{PQ}}{2}$	NONE	NONE
Diagonals Aspect Ratio: Maximum distance between diagonals of the quad face divided by the minimum distance of diagonals		$\eta_{PQ} = \frac{\max(d)_{PQ}}{\min(d)_{PQ}}$	1 to 5.0	1.0