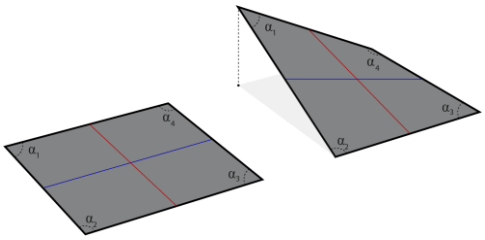
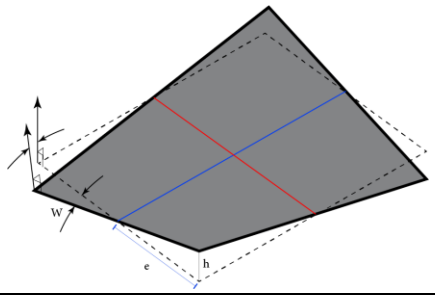
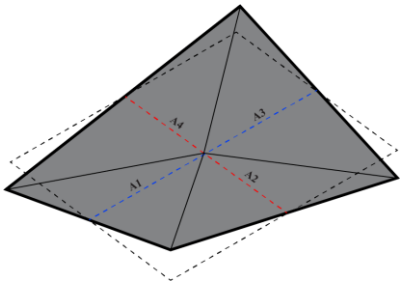
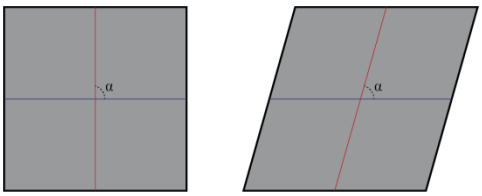
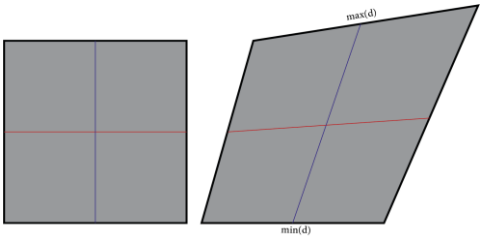
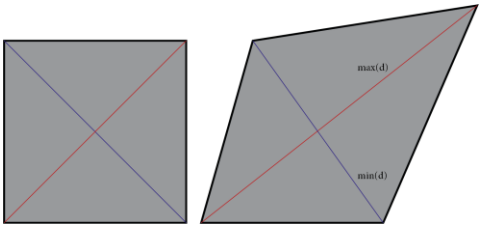
Function Name	Technical Drawings	Mathematical Function	Acceptable Range	Ideal Value
Planarity and Convexity: A panel is flat and convex if and only the difference between the sum of the internal angles and 2π should be zero.		$\delta_{PQ} = \sum \alpha_i - 2$	0 to 0.1	0.0
Warping Angles Ratio: The measure of a quadrilateral element from being planar. Max element corner normal angular deviation from normal of mean plane.		$PQ_{warping} = arc\ sin\ (\frac{h}{e})$	0.9 to 1.0	0.0
Taper Ratio: Maximum ratio of lengths derived from opposite edges.		$PQ_{taper} = 4\ (\frac{A_{min}}{\sum A_i})$	0.3 to 1.0	1.0
Skew Ratio: Maximum |cos α| where α is the angle between edges at quad center.		$PQ_{skew} = 1 - (\frac{\lvert\frac{\pi}{2} - \min(\alpha)\rvert}{\frac{\pi}{2}})$	0 to 0.5	0.0
Element Area: The area on each quad is divided by two.		$PQ_{area} = \frac{max(d) \times min(d)}{2}$	NONE	NONE
Diagonals Aspect Ratio: Maximum distance between diagonals of the quad face divided by the minimum distance of diagonals.		$\eta_{PQ} = \frac{\max(d)}{\min(d)}$	1 to 5.0	1.0