What is the center of rigidity for a semi-rigid diaphragm?

**Answer:** Center of rigidity is only applicable to rigid diaphragms because in-plane slab deformation is variable across laterally loaded semi-rigid diaphragms. During computation, an arbitrary coordinate is selected and loaded, then center of rigidity is derived, as a function of stiffness, according to the displacement at this specific point. If a diaphragm constraint is not applied, displacement at any point will also depend upon variable local membrane deformation. As a result, no unique solution is available for center of rigidity since formulation assumes that all joints translate together in planar motion. Regardless of diaphragm type, the eccentricity inherent to changes in mass centroid and stiffness centroid is automatically included in analysis.

The definition and formulation for center of rigidity is given in the Center of rigidity article.