# Minimum Radius of Curvature

## General

Curvature of an equation in rectangular coordinates,

Radius of curvature

## Parabolic Tendons

Parabolic tendons are modeled with an equation of the form

Find the location of minimum R by taking its derivative, setting it equal to zero, and solving for x

Substitute in the equation for R

## Linear Tendons

The curvature of a straight line is zero; therefore the radius of curvature is infinite. However, in PGSplice™ we can model tendons as a series of linear segments. The linear segments are assumed approximate a curve. The approximate radius of curvature is computed as follows:

Line Segment 1

Line Segment 2

Derivative of line segment 1 = Slope =

Derivative of line segment 1 = Slope =

Compute the first and second derivatives and solve for R.