Concrete stress-strain curves

The Section Designer automatically generates **concrete stress-strain curves**. By default, these curves do not provide tensile strength. Stress-strain curves may be reviewed within the Section Designer by using the concrete model View controls.

To model the tensile strength of concrete, a material stress-strain curve may be converted into a user-defined constitutive model by selecting Define > Materials. A separate material must be created for each Mander confinement state. Then the Section Designer will apply this user-defined curve. For parametric Mander material, an option which is not user-defined, stress-strain curves are automatically computed, though tensile strength is not recognized.

How can I adjust the shear stress-strain curve?

Extended Question: I have defined the nonlinear constitutive relationships for an isotropic concrete material. How do I set a specific maximum shear-stress capacity?

Answer: For response, please refer to the CSI *Analysis Reference Manual* (Chapter VI Material Properties, Nonlinear Material Behavior). Further, a layered shell object may be created in which individual layers represent pure shear and pure axial behaviors. Different material properties may be assigned to each layer and its local mechanical behavior.