

Index 450-199 Prestressed I-Beams Build-Up & Deflection Data

Design Criteria

AASHTO LRFD Bridge Design Specifications; Structures Detailing Manual (SDM); Structures Design Guidelines (SDG)

Design Assumptions and Limitations

Use this standard in conjunction with Indexes 450-010, 450-036, 450-045, 450-054, 450-063, 450-072, 450-078, 450-084, 450-096 and 450-120.

Unless otherwise required as a design parameter, beam camber for computing the theoretical build-up must be based on 120-day old beam concrete.

Consider the effects of horizontal curvature with bridge deck cross slope when determining the minimum theoretical build-up over the tip of the inside flange. Consider that the vertical curve geometry is along the effective alignment along a chord at the centerline of the beam, which may be different from the alignment parallel to the Profile Grade Line.

For a given size and type of beam, beam camber and associated Dim B and Dim D will vary due to span lengths and beam spacings. Dim B and Dim D will also vary from span to span along the length of a bridge due to deck geometry. To provide for better aesthetics and potentially easier detailing of the supporting pedestals, where possible adjust the values of Dim B and Dim D over equal height beams in adjacent spans so as to allow the beam bottom flanges to line up. Dim B and Dim D do not necessarily have to be the same value for a single beam. See the following sketch:



