

The maximum allowable stresses are to be in accordance with AASHTO except as modified below:

Tension	
<i>Load Condition</i>	<i>Allowable</i>
<i>Stress</i>	
Girder DL + Prestress	0
Total Service Load	$0.8\sqrt{f'c}$

404.03 EFFECTIVE FLANGE WIDTH (AASHTO 9.8 AND 8.10.1)

The effective flange width will be as specified by AASHTO except for Type V and standard and modified type VI girders where the requirement of 12 times the slab thickness plus web thickness will be increased by 430 mm.

404.04 SHEAR

Girders will be designed for shear using the latest AASHTO Standard Specifications. The depth to be used in the calculation of shear will be the depth of the beam plus the depth of the of the slab. If composite action is fully developed, the shear will be calculated assuming full continuity for composite dead load and live load plus impact.

404.05 INTERMEDIATE DIAPHRAGMS (AASHTO 9.10)

A single 300 millimeter thick intermediate diaphragm shall be placed at the midspan for all spans over 12 meters. For skews less than or equal to 10°, place the diaphragms parallel to the skew. For skews greater than 10°, the diaphragms shall be staggered and placed normal to the girders.

404.06 BEARING PADS

Laminated neoprene bearing pads should be used for relatively light reactions and moderate superstructure movements.

Pot type bearings should be used for heavy reactions, large superstructure movements and superstructure on horizontal curve alignment.

Allow an extra 40 mm movement per 100 meters of girder length for long-term creep and shortening due to prestressing.

Elastomeric bearing pads will be a maximum width of 50 mm less than the normal width of the bottom flange to accommodate the 20 mm side chamfer and should be set back 50 mm from the end of the girder to avoid spalling of the girder ends.

404.07 CREEP FACTOR

Use a creep factor of 3 when calculating long term deflections.

404.08 FRAMES AND CONTINUOUS CONSTRUCTION (AASHTO 9.7.2)

Girders shall be designed as composite section, simple supported beams for live load plus impact and composite dead load. The superstructure shall be constructed continuous with the negative moment reinforcing designed considering continuity over intermediate supports for live load plus impact and composite dead loads. The positive moment connection may be designed using the method described in the PCA publication "Design of Continuous Highway Bridges with Precast, Prestressed Concrete Girders". In determining the positive restraint moment, use 30 days as the length, of time between casting the girders and deck closure. The development length of the strands may be based on the criteria contained in Report No. FHWA-RD-77-14, "End Connections of Pretensioned I-Beam Bridges" November 1974. In determining the number and pattern of strands extended, preference shall be given to limiting the number of strands by increasing the extension length and alternating the pattern to increase constructability.