NOTES:
2. The top surface of the beam shall not vary more than 1/8" in 10' as measured from a straightedge.
3. Tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces.
4. Projection above top of spread box beam shall be ±3/8". Projection above top of adjacent box beam +0 to -3/8".

Projection above top of spread box beam shall be ±3/8".
Projection above top of adjacent box beam +0 to -3/8".

±1/2" for skew ≤ 30°
±1/2" for skew > 30°

±1/8" for spa. ≥ 12'
±1/2" for spa. < 12'

±1/2" tolerance for tie rod holes spa.
3" dia. hole for tie

±1/2" - tolerance for end of void to center of tie hole

Diaphragm & 3" dia. tie hole

Threaded inserts (typ.)

2" dia. hole for dowels

±3/4" max

±1/8" for adjacent box beam

±1/2" ±3/4" max

±1/2" - tolerance for tie rod holes spa.

±1/2" tolerance for vertical dowel holes spa. to the ends & aides of the member

±1/2" for spa. ≥ 12'
±1/2" for spa. < 12'

±1/2" for tie rod holes spa.

% Diaphragm ±1/2" - tolerance for tie rod holes spa.

±1/2" - tolerance for beam length = 40', ±3/8" for beam length > 60'.

±1/2" for beam length > 60'.

±1/2" for beam length = 60', ±1/2" for beam length > 60'.

±1/2" for ends parallel to centerline of beam

Variation in horizontal alignment from a straight line,
end to end of beam and parallel to centerline of beam shall be ±1/4" for beam length ≤ 60'. ±1/2" for beam length > 60'.

±1/2" for spa. < 12" ±1" for spa. = 12" ±3", -1" ±1/2" for spa. > 12"
±1/8" to -3/8"
+1/2" to -1/4"  
+1/2" for spa. ≥ 12"  
+1/4" for spa. < 12"  

±1/2" tolerance for centers of inserts to end of beam

±1/2" for spa. ≥ 12"  
+1/8" for spa. < 12"  

1 1/2" dia. holes for dowels (typ.)

1" dia. holes

Variation from a straight line, end to end of beam:
±1/8" per 10'

±3/4" max.

INDIANA DEPARTMENT OF TRANSPORTATION
FABRICATION TOLERANCES
PRESTRESSED I BEAM
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NOTES:
2. Center of gravity of depressed-strands group at the end of beam shall not be more than ±1/2".
3. Tolerance of position of post-tensioning duct shall be ±1/4".
4. Horizontal tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces. Vertical tolerance shall be ±1/8" per 12" of beam height.
NOTES:


2. Center of gravity of depressed-strands group at the end of beam shall not be more than ±1/2".

3. Tolerance of position of post-tensioning duct shall be ±1/4".

4. Horizontal tolerance of beam ends for deviation from a true vertical with respect to top and bottom surfaces. Vertical tolerance shall be ±1/8" per 12" of beam height.

5. Location of handling device.
GENERAL NOTES:

1. Tolerances shown are maximum permissible variations from the dimensions shown on the plans or shop drawings. Tolerances shall not be considered cumulative. Longitudinal tolerances are based on design length. Casting length shall be adjusted to compensate for shrinkage and plastic flow.

2. End stirrup bars shall not be more than 2" from the end of the beam.

3. Mild reinforcing steel concrete cover tolerance shall be 1/8" to +3/8".

4. Tolerances for reinforcing bars for composite beam.

5. Variation of camber shall not be more than 1" on one span nor more than 1/2" between adjacent members to be measured at time of erection.

   Permitted camber variation from design camber is as follows:
   - I-beam or built-up beam: ±1/8" per 10'-0" length with ±1/2" maximum for member length of 80'-0" or less
   - Box beam: ±1" maximum for member length of greater than 80'-0"
   - ±1/8" per 10'-0" length with ±1/2" mm maximum

6. Tolerance in length of beam shall be checked after the final curing phase and within three days prior to shipping.

7. Horizontal alignment tolerance shall be checked immediately after removal of forms and strand release, and prior to removal from bed.

8. At concrete bearing area, deviation from plane surface when tested in all directions of the plane surface with a steel straightedge shall not be more than ±1/16".

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FABRICATION TOLERANCES
GENERAL NOTES
SEPTEMBER 2011

STANDARD DRAWING NO. E 707-BPBF-04

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER