

Topping Slabs over Prestressed Members

ASCC Position Statement #38

Prestressed floor and roof members usually exhibit camber (upward deflection caused by eccentric prestress force). If a cast-in-place concrete topping is required, the concrete contractor will normally be required to hold finished floor elevation(s) (Fig. 1(a)), so the topping thickness will vary. Depending on the bearing elevations, member depth, and camber, the topping thickness at the midspan location could be less than considered for strength and fire resistance or the topping dead load could exceed design assumptions.

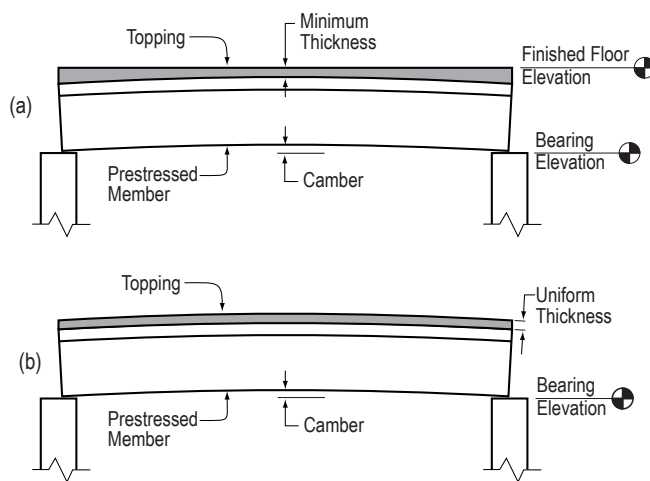


Fig. 1: Possible topping conditions resulting from camber of a prestressed floor member: (a) topping held to constant finished floor elevation; and (b) topping held to uniform thickness.

Figure 1(b) shows a topping of uniform thickness. In this case, the finished surface follows the cambered curvature of the prestressed members. If this option is specified, the architectural details must show how final camber affects partitions, doorways, stairs, and roof flashings.

As stated in the PCI Tolerance Manual (MNL 135-00), “The dimensional effects of design camber,

especially of long-span members, should be evaluated as part of the design process.” Thus, ASCC concrete contractors expect the engineer to have considered the structural consequences and the architect to have considered the detailing consequences of choosing either a uniform or nonuniform topping thickness on cambered prestressed members.

ASCC concrete contractors recommend that the estimated camber at time of erection, calculated per the *PCI Design Handbook* or the *PCI Manual for the Design of Hollow Core Slabs*, be included in the Structural Notes. If the contract documents don’t specify construction in accordance with either Fig. 1(a) or (b), ASCC concrete contractors will bid the project based on a stipulated uniform thickness topping. Modifications requested after the bid award will result in a change order.

ASCC concrete contractors will meet the specification requirements for cast-in-place topping slabs over prestressed members; however, the engineer and architect must consider the consequences of camber in the design process.

If you have any questions, contact your ASCC concrete contractor or the ASCC Technical Hotline at (800) 331-0668.



2025 S. Brentwood Blvd., Suite 105 ■ St. Louis, MO 63144
Telephone: 314-962-0210 ■ Website: www.asconline.org
Toll Free: 866-788-2722 ■ E-mail: ascc@asconline.org