

# ALABAMA DEPARTMENT OF TRANSPORTATION

DATE: February 24, 2014

Special Provision No. 12-0942

EFFECTIVE DATE: August 1, 2014

SUBJECT: Concrete for Keyways.

Alabama Standard Specifications, 2012 Edition, SECTION 512 and SECTION 513 shall be modified as follows:

## SECTION 512 PRECAST NON-PRESTRESSED CONCRETE BRIDGE MEMBERS

### 512.03 Construction Requirements.

#### (d) INSTALLATION OF PRECAST BRIDGE MEMBERS.

##### 2. INSTALLATION OF DECK MEMBERS.

*This Item [512.03(d)2] shall be replaced with the following:*

##### 2. INSTALLATION OF DECK MEMBERS.

Deck members shall be installed so that the difference in the surface of the deck across adjacent members does not exceed 1/4 of an inch {6 mm}. Deck members shall be replaced without extra compensation if the difference in the surface is not within the allowable 1/4 of an inch {6 mm} difference. Members not meeting the installation tolerance may be installed in other locations in the structure if this results in an acceptable deck surface.

Deck members shall be bolted together as shown on the plans to provide snug tight fit. Beveled washers shall be provided if the flat washers, bolt heads and nuts are not in full bearing on each other after tightening. Snug tight is defined as the tightness that can be produced by one or two solid blows from an impact wrench or by full effort of a person using an ordinary 2 foot {610 mm} spud wrench. The threads of the bolts shall be burred to prevent removal after the members have been acceptably bolted together.

The concrete keyway shall be filled with concrete after the members have been acceptably installed. The keyway shall be filled with a "1:2:3" concrete mix, by weight {mass}, of cement, fine aggregate, and coarse aggregate, respectively. The maximum size of the coarse aggregate shall be 3/8 of an inch {9.5 mm}, and the maximum amount of water allowed shall be 6 gallons per 100 pounds {1 liter per 2 kg} of cement. The keyways shall be filled in accordance with the following:

- standard mixing of the concrete shall be completed a minimum of 45 minutes in advance of placement;
- the mix shall be retempered by remixing the concrete without additional water just prior to placing;
- the concrete mix shall be placed in the keyway, tamped, and packed as necessary to insure complete filling of the joint;
- the exposed surface of the joint shall be struck to the same elevation of the adjoining deck sections;
- the surface shall be given a wood float finish

## SECTION 513 PRESTRESSED CONCRETE BRIDGE MEMBERS

### 513.03 Construction Requirements.

#### (f) INSTALLATION OF PRESTRESSED CONCRETE MEMBERS.

##### 3. INSTALLATION OF DECK SPAN MEMBERS.

*This Item [513.03(f)3] shall be replaced with the following:*

##### 3. INSTALLATION OF DECK SPAN MEMBERS.

Deck span members that will not be covered by an overlay shall be installed so that the difference in the top surface of adjacent members does not exceed 1/4 of an inch {6 mm}. Deck members shall be replaced without extra compensation if the difference in the surface is not within the allowable 1/4 of an inch {6 mm} difference. Members not meeting the installation tolerance may be installed in other locations in the structure if this results in an acceptable deck surface.

Deck span members shall be bolted together as shown on the plans to provide snug tight fit. Beveled washers shall be provided if the flat washers, bolt heads and nuts are not in full bearing on each other after tightening. Snug tight is defined as the tightness that can be produced by one or two solid blows from an impact wrench or by full effort of a person using an ordinary 2 foot {610 mm} spud wrench. The threads of the bolts shall be burred to prevent removal after the members have been acceptably bolted together.

At the completion of the bolting together of the members, the concrete keyway shall be filled with a "1:2:3" concrete mix, by weight {mass}, of cement, fine aggregate, and coarse aggregate, respectively. The maximum size of the coarse aggregate shall be 3/8 of an inch {9.5 mm}, and the maximum amount of water allowed shall be 6 gallons per 100 pounds {1 liter per 2 kg} of cement. The keyways shall be filled in accordance with the following:

- standard mixing of the concrete shall be completed a minimum of 45 minutes in advance of placement;
- the mix shall be retempered by remixing the concrete without additional water just prior to placing;
- the concrete mix shall be placed in the keyway, tamped, and packed as necessary to insure complete filling of the joint;
- the exposed surface of the joint shall be struck to the same elevation of the adjoining deck sections;
- the surface shall be given a wood float finish.