

Section 430

1 There will be no direct payment for reinforcing steel when the basis of payment or
2 compensation clause applicable to a particular section of the Specifications states that
3 payment at the contract unit or lump sum prices for the work covered by such section will be
4 full compensation for furnishing and placing reinforcing steel.

5 No separate payment will be made for the work of furnishing and placing wire reinforcement
6 as payment at the contract unit price for the item or items covering the structure containing
7 the wire reinforcement will be full compensation for such work.

8 These prices and payments will be full compensation for all items required to fabricate and
9 place reinforcement.

10 Payment will be made under:

Pay Item	Pay Unit
Reinforcing Steel	Pound
Epoxy Coated Reinforcing Steel	Pound
Spiral Column Reinforcing Steel	Pound
Epoxy Coated Spiral Column Reinforcing Steel	Pound

11 SECTION 430 12 ERECTING PRESTRESSED CONCRETE 13 MEMBERS

14 430-1 DESCRIPTION

15 Furnish and erect precast-prestressed concrete bridge members other than piling. Furnish,
16 galvanize, place and paint, as applicable, bearing components, anchor bolts, washers, nuts,
17 structural and reinforcing steel, miscellaneous hardware, paint, bearing assemblies and all
18 other materials; handle, transport and store materials; furnish erection drawings; paint; set
19 bearings and anchorage; grout and erect and install the bridge members and all other items
20 necessary to complete the erection in accordance with the contract.

21 When used in this section, the term *prestressed concrete* refers to precast, pretensioned,
22 prestressed concrete.

23 430-2 MATERIALS

24 Refer to Division 10.

Item	Section
Bearing Plate Assemblies	1072-3
Elastomeric Bearings	1079-2
Organic Zinc Repair Paint	1080-9
Plain Steel Bars, Threaded Ends	1074-3
Precast-Prestressed Members	1078
Reinforcing Steel	1070
Structural Steel	1072

25 430-3 HANDLING AND STORAGE

26 Take special care in handling, transporting and storing prestressed members. Members
27 damaged while handled or transported will be rejected unless repaired to the satisfaction of
28 the Engineer.

29 Handle members at the bearings or at pick-up points designated in the plans unless using other
30 methods approved in writing.

31 Transport prestressed concrete bridge girders in a horizontal upright position. Locate points
32 of support and directions with respect to the girder approximately the same during
33 transportation and storage as when the member is in the final position within the structure.

430-4 METHODS AND EQUIPMENT

Use methods and equipment to install prestressed members that result in satisfactory installation.

430-5 BEARINGS AND ANCHORAGES

Supply elastomeric bearings, when required by the plans, meeting Section 1079.

Set steel sole plates level in exact position with full and even bearing on the bearing pad.

Accurately set anchor bolts in accordance with Subarticle 420-12(A).

When welding the sole plate to the embedded plate in the girder, use temperature indicating wax pens or other suitable means, to ensure that the temperature of the sole plate does not exceed 300°F. Temperatures above this may damage the elastomer.

Before welding, grind the galvanized surface of the portion of the embedded plate and sole plate that require welding. After welding, repair damaged galvanized surfaces in accordance with Article 1076-7.

430-6 ERECTION AND INSTALLATION**(A) General**

Erect prestressed concrete members by methods that satisfy the handling requirements specified in Article 430-3.

Perform field welding in accordance with Article 1072-18 only when required in the plans.

When indicated in the plans, recess the ends of tie rods used in intermediate diaphragms of prestressed concrete girders. Fill these recesses with an approved non-metallic, nonshrink grout to match the neat lines of the girders.

When concrete is cast in contact with prestressed members, thoroughly clean and wet the surface of the prestressed member which contacts the fresh concrete for at least 2 hours just before casting the fresh concrete.

After casting and finishing all concrete, thoroughly clean the prestressed members.

(B) Cored Slabs

When erecting prestressed cored slabs, place the 0.6" diameter transverse post tensioning strands and tension to 43,950 lb in each span. Grease the transverse strands and place in a non-corrosive 0.6" diameter, 1/16" minimum wall thickness black polyethylene pipe meeting ASTM D2239. Do not apply grease or extend the pipe in the area of the recesses at the ends of the tensioning strands where grout is applied. After tensioning the 0.6" diameter transverse strand in a span and before placing any equipment, material or barrier rail on the span, fill the shear key, dowel holes and recesses at the ends of transverse strands with an approved non-metallic, nonshrink grout and cure for 3 days minimum and until the grout reaches a compressive strength of 3,000 psi.

After tensioning and curing, obtain approval before placing material and equipment on the cored slab spans. Support cranes or other equipment exceeding the legal load limit on mats. Submit for review a detailed drawing for the mats that are intended for use on the cored slabs. Provide a complete description of the equipment that is intended for placement on the mats. Supply and construct mats at no additional cost to the Department.

Section 430

1 **(C) Box Beams**

2 The post tensioning system shall use 0.6" diameter strands. Strands shall be tensioned to
3 43,950 lb. Strands shall be placed in a non-corrosive 0.6" diameter, 1/16" minimum wall
4 thickness black polyethylene pipe meeting ASTM D2239.

5 Grease the strands and place in the polyethylene pipe. Do not apply grease or extend the
6 pipe in the area of the recesses at the ends of the tensioning strands where grout is
7 applied. Tension the strands in the diaphragm nearest mid-span first. Proceed to tension
8 strands in the adjacent diaphragms. Continue the tensioning operation in a symmetric
9 manner along the length of the span. At each diaphragm location, maintain a symmetric
10 tension force between each pair of strands in the diaphragm. After all tensioning in
11 a span is completed and before placing any equipment, material or barrier rail on the
12 span, fill the shear key, dowel holes and recesses at the ends of the diaphragm with
13 an approved non-metallic, nonshrink grout. Cure for 3 days minimum and until the grout
14 reaches a compressive strength of 3,000 psi.

15 After tensioning and curing, obtain approval before placing material and equipment on
16 the box beam spans. Support cranes or other equipment exceeding the legal load limit on
17 mats. Submit for review a detailed drawing for the mats that are intended for use on the
18 box beams. Provide a complete description of the equipment that is intended for
19 placement on the mats. Supply and construct mats at no additional cost to the
20 Department.

21 **430-7 PAINTING**

22 Clean, by hand or with power tools, and paint with 2 coats of organic zinc repair paint all
23 ungalvanized steel surfaces, such as tie rod ends, not encased in concrete in accordance with
24 Section 442. Provide a minimum dry thickness of each coat of paint of 1.5 mils.

25 **430-8 MEASUREMENT AND PAYMENT**

26 *__*" *Prestressed Concrete Girders* will be measured and paid as the number of linear feet of
27 prestressed concrete girders estimated in the plans as being necessary to complete the project.

28 *3'-0" x __'-__*" *Prestressed Concrete Cored Slabs* will be measured and paid as the number of
29 linear feet of prestressed concrete cored slabs estimated in the plans as being necessary to
30 complete the project.

31 *3'-0" x __'-__*" *Prestressed Concrete Box Beams* will be measured and paid as the number of
32 linear feet of prestressed concrete box beams estimated in the plans as being necessary to
33 complete the project.

34 *Concrete Box Beams* will be measured and paid as the number of linear feet of concrete box
35 beams estimated in the plans as being necessary to complete the project.

36 *Elastomeric Bearings* will be paid at the contract lump sum price.

37 These prices and payments will be full compensation for all items required to erect
38 prestressed concrete members, including, but not limited to, those items contained in
39 Article 430-1.

40 Payment will be made under:

Pay Item	Pay Unit
<i>__</i> " <i>Prestressed Concrete Girders</i>	Linear Foot
<i>3'-0" x __'-__</i> " <i>Prestressed Concrete Cored Slabs</i>	Linear Foot
<i>3'-0" x __'-__</i> " <i>Prestressed Concrete Box Beams</i>	Linear Foot
<i>Concrete Box Beams</i>	Linear Foot
<i>Elastomeric Bearings</i>	Lump Sum