INTERNAL PT SYSTEM ASSEMBLY

Fixing To Formwork

FDoT specifications.

post-tensioning specialist personnel.

CAUTION

Assembly of anchorage and installation of tendons shall only be performed by qualified post-tensioning specialist personnel.

This installation procedure is generic, follows the specific procedure for each project and the FDoT specifications.

NOTE:

·

CONCRETE CLASS

BAR DIAMETER

PITCH (P)

DIAMETER (D)

ITEM

Epoxy grout shall be used to fill recesses: make reference to FDoT standard plans index 462-003 for post-tensioning anchorage and tendon inspection.

Port and hose assembly may be oriented in any required direction to create a vent or a drain.

Commercially available thread seal tape

Commercially available and compatible silicone grease

Material:

Epoxy grout shall be used to facilitate the threading of the wedges over the strands and securely place them into wedge holes.

Commercially available thread seal tape

Commercially available and compatible silicone grease

The position of the spiral rebar (SR) shall be secured to threaded holes located on the front surface of AN. AN shall be placed perpendicular to the tendons axis and rotated such that the side hole gage points up.

The SR shall be installed such that it won’t interfere with 3/8” NPT pipe attachment if using side gage hole. Align gage of SR with AN. Seal unused port in AN.

Install wedge plate (keeping up the inspection hole), slip the wedges over the strands and secure them into wedge holes.

Do not apply post-tensioning forces until the concrete mean compressive strength f’c is not less than the values shown on the spiral table. These values refer to cylindrical strength.

Stressing can now proceed.

(!) Appropriate clearance must be kept behind the hydraulic jack while stressing.

Stressing operation shall be executed according to the engineer form and requires the simultaneous reading of pressure and elongation. Check the conformity of the final elongations measurement with prescribed values.

Install the protection cap (PC) with O-ring sealing on AN using no bolts (some silicone grease shall be used to facilitate the compression of the O-ring).

Thread ¼” NPT pipe for grout into the PC and the ¼” NPT pipe for grout into AN. Use a ½” plunger to secure the hole on PC not used. (Some thread seal tape shall be used to improve the tightness of the threading).

15. Carry out the pressure test.

Gripping can now proceed.

Grout shall be injected through the filler inlet until it escapes from the filler outlet. Special measures shall be applied for long tendons, for tendon paths with distinct pressure and elongation. Check the conformity of the final elongations measurement with prescribed values.

11. All vents and grouting inlets/outlets have to be sealed (some silicone grease shall be used to improve the tightness of the threading).

10. Fill holes with non-shrink grout after post-grouting operation and inspectors are completed.

9. Make sure grout has hardened and tendon inspected.

8. Carry out the pressure test.

7. Check the wedge plate (W) for rust and dirt. Clean wedge holes with wire brush if necessary. Lightly grease or oil wedge holes.

6. Check for wedges. Discard rusty wedges and use only clean ones.

5. Install wedge plate (keeping up the inspection hole), slip the wedges over the strands and secure them into wedge holes.

4. Do not apply post-tensioning forces until the concrete mean compressive strength f’c is not less than the values shown on the spiral table. These values refer to cylindrical strength.

3. Stressing can now proceed.

2. All vents and grouting inlets/outlets have to be sealed (some silicone grease shall be used to improve the tightness of the threading).

1. Carry out the pressure test.

Grinding can now proceed.

Grout shall be injected through the filler inlet until it escapes from the filler outlet. Special measures shall be applied for long tendons, for tendon paths with distinct pressure and elongation. Check the conformity of the final elongations measurement with prescribed values.

This drawing contains information intended to be used in this project and may not be maintained in any other project. For any other use the written permission of FDOT is required.
PROTECTION CAP 12-01-00

5/16"-18UNC HEX BOLT, 3/4" LONG, WHOLE THREADED

5/16" TYPE A NARROW WASHER

ANCHOR 12-03-00

Material: Stainless Steel GR316L - according to ASTM F593

Title: PROTECTION CAP BOLTS for 12AMTS15

Part #: 12-01-01

Dimensions: INCH [mm] FOR REFERENCE ONLY

Material: Stainless Steel GR316L - according to ASTM F593
NOTE:

- This drawing is not intended for manufacturing purposes.

SECTION A-A

Ø0.92"  
(Ø177.17mm)

Ø0.21"  
(Ø5.34mm)

CENTRO GUARNIZIONI TIGER S.R.L
PROTECTION CAP O-RING
for 12AMTS15 PT SYSTEM

Material: NBR - according to FDoT Tab. 2.2.1.7-1 Sec. 960

NOTE:
This drawing contains proprietary information restricted solely for use on this project and may not be reproduced in whole or in part. For any other use without the expressed written permission of TENSA AMERICA LLC, the company will safeguard its rights according to the civil and penal provisions of the Law.
**WEDGE PLATE**

for 12AMTS15 (12-06")

Internal Bonded System

**Material:** Steel AISI C1045 Normalized

**Dimensions:**
- **INCH [mm]**
- **FOR REFERENCE ONLY**

**Title:**

**Drawn:** F. MORAGLIA

**Checked:** T. CICCONE

**Date:** 12/20/2016

**Part #:** I-12-02-00

**Code:** -
I have independently reviewed the calculations and testing reports, along with the documentation and certified that TENSA system spiral rebar detail meets the requirements as outlined in paragraph 3.3 PTI Anchorage Zone Design.

[*] Do not apply post-tensioning forces until the concrete mean compressive strength $f_{cd}$ is not less than the values shown in the present drawing.

NOTE: The local zone reinforcement is to be shown on the shop drawings.
NOTE:

- This drawing is not intended for manufacturing purposes.

SECTION A-A

08/23/16
Rev. Date
0
First issue

Ø0.48" [Ø12.70 mm]

12-06-01
Part # : 12-04-01

INCH [mm]

FOR REFERENCE ONLY

Centro Guarnizioni TIGER s.r.l
COMPRESSION SEAL
for 12AMTS15
between Anchor and Trumpet

NOTE:

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Minimum radii of curvature determined as per FIB Bulletin 75, Annex A8

<table>
<thead>
<tr>
<th>Strands Nr.</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum radius [ft (m)]</td>
<td>14.44 (4.40)</td>
<td>15.75 (4.80)</td>
<td>17.06 (5.20)</td>
<td>18.37 (5.60)</td>
<td>19.72 (6.01)</td>
</tr>
</tbody>
</table>

NOTE:
- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Duct is delivered in straight sections and is not intended to be coiled;
- Duct meets FDoT requirements in terms of Minimum Wall Thickness (Table 2.2.1.1-1 Section 960).

Material: Polypropylene - according to ASTM D4101
Treatment:

Title: GTI DUCT 3.00” (76mm) for Internal Bonded System
Standard fit for 12AMTS15

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NOTE:

- This drawing is not intended for manufacturing purposes;
- Coupler meets or exceeds FDoT requirements (Section 960-2.2.1.5 and 2.4.4);
- Standard fit for 3.00” [76mm] corrugated plastic duct.

SECTION/ELEVATION

SECTION A-A

Material: Polypropylene - according to ASTM D4101
Treatment: -

Title: GTI SLIP-ON COUPLER for Internal Bonded System
Standard fit for 12AMTS15

Dimensions: [INCH] [mm]
- Ø3.15" [80mm]
- Ø3.42" [87mm]
- Ø3.58" [91mm]
- Ø3.78" [96mm]
- 2.18" [55mm]
- 6.36" [162mm]

Description
Rev. Date 0 12/20/16
L.C. T.C. Drawn Checked
First issue 12/20/16

Date: 12/20/2016
Dimensions: [INCH] [mm]
Part #: I-12-07-01
Code: 220305

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NOTE:
- This drawing is not intended for manufacturing purposes;
- Coupler meets or exceeds FDoT requirements (Section 960-2.2.1.5 and 2.4.4);
- Standard fit for 3.00" [76mm] corrugated plastic duct.

Title: GTI SLIP-ON COUPLER W/ 21mm PORT
for Internal Bonded System
Standard fit for 12AMTS15

Material: Polypropylene - according to ASTM D4101
T.C.: 220306

Dimensions: 21mm grout fitting

NOTE:
- This drawing is not intended for manufacturing purposes;
- Coupler meets or exceeds FDoT requirements (Section 960-2.2.1.5 and 2.4.4);
- Standard fit for 3.00" [76mm] corrugated plastic duct.

Title: GTI SLIP-ON COUPLER W/ 21mm PORT
for Internal Bonded System
Standard fit for 12AMTS15

Material: Polypropylene - according to ASTM D4101
T.C.: 220306

Dimensions: 21mm grout fitting

NOTE:
- This drawing is not intended for manufacturing purposes;
- Coupler meets or exceeds FDoT requirements (Section 960-2.2.1.5 and 2.4.4);
- Standard fit for 3.00" [76mm] corrugated plastic duct.
**NOTE:**

- The installation procedure is general; reference to manufacturer’s instruction manual for the detailed installation instructions;
- This drawing is not intended for manufacturing purposes;
- Heat shrink sleeve meets or exceeds FDoT requirements (Table 2.2.1.8-1 Section 960);
- Tabular sleeve diameter:
  - 4.7" [120mm] as supplied
  - 3.3" [81mm] fully recovered

**INSTALLATION**

**Surface Preparation**

1. Lightly abrade the coupler (or trumpet) and duct to a distance of 2 inches [50mm] beyond each end of the shrinksleeve.

2. Wipe clean the coupler (or trumpet) and duct to remove foreign contaminants. Ensure that the components are dry before cleaning.

**Installation**

3. Completely remove the inner release liner from the sleeve and center the shrinksleeve over the joint to be sealed.

4. Using the appropriate sized heat gun or torch, begin at the center of the shrinksleeve and heat circumferentially around the duct and coupler. Use broad strokes.

5. Continue heating from the center toward one end of the shrinksleeve until recovery is complete (sleeve has shrunk). In a similar manner heat and shrink the remaining side. Shrinking has been completed when the adhesive begins to ooze at the shrinksleeve edges all around the circumference.

6. Finish shrinking the sleeve with long horizontal strokes over the entire surface to ensure a uniform bond.

7. Allow the shrinksleeve to cool for two hours prior to usage.

**Inspection**

8. Check the full contact of sleeve with the coupler (or trumpet) and duct.

9. Check that adhesive flows beyond both sleeve edges.

10. Check that no cracks or holes are present in shrinksleeve backing.

**Title:** CANUSA-CPS HEAT SHRINK SLEEVE

**Standard fit for 12AMTS15**

**Material:** Coated Polyolefin Backing - according to FDoT Tab.2.2.1.8-1 Sec.960

**Dimensions:**

- [INCH] [mm] FOR REFERENCE ONLY
  - Ø4.72" [Ø120mm]
  - 0.06" [1.55mm]
  - 4.43" [112mm]

**Part # : 12-07-06**

**Code : PLA-90-112-BK**

**Drawn : L.CIVATI**

**Checked : T.CICCONE**

**Date : 05/14/2018**

**Dimensions :**

**Part # : 12-07-06**

**Code : PLA-90-112-BK**

**Date : 05/14/2018**

**Dimensions :**
NOTE:
- This drawing is not intended for manufacturing purposes;
- Coupler meets or exceeds FDoT requirements (Section 960-2.2.1.5 and 2.4.4);
- Standard fit for 3.00" [76mm] corrugated plastic duct.

Material: Polypropylene - according to ASTM D4101

Title: GTI STEPLESS COUPLER
Adaptation for 3.00" duct with 12AMTS15 trumpet