INTERMEDIATE COUPLING DETAILS

1. Install the protection cap (PC) with O-ring sealing on AN using six bolts. (b) Cure silicone grease shall be used to facilitate the compression of the O-ring.

2. Thread ½" NPT pipe for injection onto the PC and the AN using six bolts (some thread seal tape shall be used to secure the hole on PC, not used branded thread seal tape shall be used to improve the tightness of the treadguide).

3. Carry out the pressure test.

4. Injection can now proceed.

5. Appropriate cleanliness must be kept behind the hydraulic jack while stressing.

6. Stressing operation shall be executed according to the engineer's form and require the simultaneous reading of pressure and elongation. Check the conformity of the tendon into duct. Allow sufficient extra length at the end of the duct.

7. Install strands by pushing or pulling individually or as a bundle assembly. Make sure extra length at the active anchorage for stressing.

8. Check the wedge plate (WP) for rust and dirt, clean only clean ones.

9. Check the wedge plate (WP) for rust, discard rusty wedges and use only clean ones.

10. Install wedge plate (WP) on the inspection hole, clip the wedge plate to avoid rust and oil wedge holes.

11. Do not apply post-tensioning force until the concrete mean compressive strength Fc, is not less than the values shown on the spiral table. These values refer to cylindrical strength.

12. Carry out the pressure test. Injection can now proceed.

13. Wax shall be injected through the injection hole until it escapes from the filter outlet. Special measures shall be applied for long tendons, for tendon paths with distinct obstructions or damage and that all injection vents are free and secured.

14. All vents and injection outlets have to be sealed with plugs soon after injection.

15. Fill holes with high shrink grout after post injection operation and inspection are completed.

NOTE: Components marked with “T” on the drawing are temporary.

MISSCULINARY MATERIALS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Commeically available thread seal tape</td>
</tr>
<tr>
<td>22</td>
<td>Commercially available and compatible silicone grease</td>
</tr>
</tbody>
</table>

SPIRAL

<table>
<thead>
<tr>
<th>CONCRETE CLASS</th>
<th>6000 PSI [41.5MPa]</th>
</tr>
</thead>
<tbody>
<tr>
<td>LENGTH (L)</td>
<td>25-75/10 (Inches)</td>
</tr>
<tr>
<td>DIAMETER (D)</td>
<td>20-120 (Inches)</td>
</tr>
<tr>
<td>PITCH (P)</td>
<td>3/32 (Inches)</td>
</tr>
<tr>
<td>BAR DIAMETER</td>
<td>#3 - 3/16 (Inches)</td>
</tr>
<tr>
<td>N. OF TUBING</td>
<td>12</td>
</tr>
</tbody>
</table>
Pipe Internal Configuration

- Replace 1/2" ball valve (00-01-04-M) with 1/2" female plug (00-01-06) at the end of operations.

- Replace 3/4" ball valve (00-03-02-M) with 3/4" female plug (00-03-04) at the end of operations.

Pipe External Configuration

- Replace 3/4" ball valve (00-03-02-M) with 3/4" female plug (00-03-04) at the end of operations.

Anchor Configuration

- Top venting and injection.

Bill of Materials

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>XX-01-00*</td>
<td>Protection Cap</td>
<td>Nylon 5-P6001 - according to ASTM D5989</td>
</tr>
<tr>
<td>2</td>
<td>XX-03-00*</td>
<td>Anchor</td>
<td>S molded from AMX AA360-060 - 3&quot; - fabricated according to ASTM F1882</td>
</tr>
<tr>
<td>3</td>
<td>00-02-07-M</td>
<td>Smooth Plastic Duct</td>
<td>High density Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>4</td>
<td>00-01-01-M</td>
<td>NPT Pipe Nipple 1/2&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>5</td>
<td>00-01-05-M</td>
<td>NPT Ball Valve 1/2&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>6</td>
<td>00-01-02-M</td>
<td>NPT Plug 1/2&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>7</td>
<td>00-01-03-M</td>
<td>NPT Female Plug 3/4&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>8</td>
<td>00-01-04-M</td>
<td>NPT Elbow Valve 3/4&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>9</td>
<td>00-03-01-M</td>
<td>NPT Pipe Nipple 3/4&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>10</td>
<td>00-03-02-M</td>
<td>NPT Ball Valve 3/4&quot;</td>
<td>SCH80 steel</td>
</tr>
<tr>
<td>11</td>
<td>00-03-03</td>
<td>NPT Plug 3/4&quot;</td>
<td>High density Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>12</td>
<td>00-03-04</td>
<td>NPT Female Plug 3&quot;</td>
<td>High density Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>13</td>
<td>00-03-05</td>
<td>NPT Elbow Plug 3&quot;</td>
<td>High density Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>14</td>
<td>00-03-06</td>
<td>NPT Elbow Plug 3/4&quot;</td>
<td>High density Polyethylene - according to ASTM D3350</td>
</tr>
</tbody>
</table>

Miscellaneous Materials

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Commercially available thread seal tape</td>
</tr>
</tbody>
</table>

Note:

- Vent assemblies can be used as inlet, outlet or drain; when elbows are present, the vent cannot be used for injection / inspection.
- Epoxy grout shall be used to fill recesses: make reference to FDoT standard plans index 462-003 for post-tensioning anchorage and tendon filling details.
- Concrete cover must meet FDoT Structures Design Guidelines Section 1.4.2.
- Components marked with "T" on the drawing are temporary.

* depending from system dimension.
PROTECTION CAP BOLTS for 31AMTS15

Material: Stainless Steel GR316L - according to ASTM F593

TENSA AMERICA LLC - www.tensaamerica.com - PHONE: +1 305-866-9917
1111 KASA CONCOURSE, 5/2E 200 - BAY HARBOUR ISLAND - 33154 FL

Title: PROTECTION CAP BOLTS for 31AMTS15

Part #: 31-01-01

Drawn: F.MORAGLIA  Checked: T.CICCONE

Date: 12/20/2016  Dimensions: [inch][mm] FOR REFERENCE ONLY

0 12/20/16  First issue  F.M.  T.C.

Description  Drawn  Checked

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.
NOTE:
- This drawing is not intended for manufacturing purposes;
WEDGE PLATE for 31AMTS15 [31-06"] External and Internal Unbonded systems

Material: Steel AISI C1045 Normalized

TENSA AMERICA LLC - www.tensaamerica.com - PHONE: +1 305-866-9917
1111 KANE CONCOURSE, SUITE 200 - BAY HARBOR ISLAND - 33154 FL

Drawn: L.CIVATI  Checked: T.CICCONE

Date: 12/20/2016  Dimensions: [mm]

Part #: E-IU-31-02-00  Code: -

Marking

SECTION A-A

Inspection hole Ø0.58" [Ø9.5mm]

VIEW C-C

VIEW B-B

0.58"
[Ø17mm]

10.63"
[Ø270mm]

3.74"
[Ø95mm]

4.33"
[Ø110mm]

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.
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 $f_{cm}$ 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.
US Ø5.6"  
[Ø141.3mm]  
EU Ø5.51"  
[Ø140.0mm]

Minimum radius of curvature for prefabricated sections of duct  
13 ft (3.96 m)

Minimum radius of curvature for straight sections of duct to be field bent  
30 ft (9.14 m)

NOTE:
- This drawing is not intended for manufacturing purposes;
- Duct meets FDoT requirements (Par. 2.2.1.2 and 2.4.4 Section 960):
  - maximum dimensional ratio (DR) of 17 as per ASTM D3035 or ASTM F714
  - 125 psi rated
  - minimum cell class of 445574C as per ASTM D3350
  - minimum OIT of 40 minutes as per ASTM D3895

Material:  
High Density Polyethylene- according to ASTM D3350

Title:  
SMOOTH PLASTIC DUCT 5.563"  
for External and Internal Unbonded  
Systems - Standard fit for 31AMTS15  
Alternate fit for 27AMTS15

Update with measures for US and European versions  
04/26/18

First issue

Date:  
10/08/2019

Dimensions:  
\[\text{INCH} \quad \text{mm} \quad \text{For Reference Only}\]

Part #:  
E-IU-31-07-08

Code:  
-
**NOTE:**
- The United States (US) coupler must be used with the corresponding US duct; the European (EU) coupler must be used with the corresponding EU duct;
- The installation procedure is general; reference to manufacturer’s instruction manual for the detailed installation instructions;
- This drawing is not intended for manufacturing purposes;
- Coupler meets FDoT requirements (Par. 2.2.1.5 Section 960):
  - 150 psi rated
  - minimum cell class of 445574C as per ASTM D3350
  - minimum OIT of 40 minutes as per ASTM D3895

**INSTALLATION**

Preparing the duct
1. Scrape the duct up to 0.4” (10mm) beyond the insertion length of the fitting.
2. Clean the welding area and let it dry.
3. Insert the duct ends straight into the fitting fot the correct length.
4. Install the aligners in order to keep straight position.

Welding Process
5. Connect the welding cables to the electrofusion coupler connectors and enter the welding parameters in the device.
6. At the end of the welding cycle, disconnect the cables and wait for the cooling.
7. Remove the aligners.
NOTE:

- Thickness is type L, i.e. 0.035" [0.9 mm] backing + 0.043" [1.1 mm] adhesive;
- This drawing is not intended for manufacturing purposes;
- Heat shrink sleeve meets or exceeds FDoT requirements (Table 2.2.1.8-1 Section 960);
- For the installation make reference to manufacturer procedure.

Thickness is type L, i.e. 0.035" [0.9 mm] backing + 0.043" [1.1 mm] adhesive;  
This drawing is not intended for manufacturing purposes;  
Heat shrink sleeve meets or exceeds FDoT requirements (Table 2.2.1.8-1 Section 960);  
For the installation make reference to manufacturer procedure.