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

This installation procedure is general, follow the specific procedure for each project and the Tensan AMERICA LLC specifications.

---

**IMMEDIATE COUPLING DETAILS**

see installation procedures

**SECTION A-A**

large duct configuration

**SECTION B-B**

top welding and injection

**BILL OF MATERIALS**

<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Protection Cap O-Ring</td>
</tr>
<tr>
<td>2</td>
<td>Protection Cap Bolts</td>
</tr>
<tr>
<td>3</td>
<td>Segmental Duct Coupler 5.125&quot;</td>
</tr>
<tr>
<td>4</td>
<td>Smooth Plastic Duct 5.563&quot;</td>
</tr>
<tr>
<td>5</td>
<td>Electrofusion Duct Coupler 5.563&quot;</td>
</tr>
<tr>
<td>6</td>
<td>Smooth Plastic Duct 4.5&quot;</td>
</tr>
<tr>
<td>7</td>
<td>Segmental Duct Coupler 4.5&quot;</td>
</tr>
<tr>
<td>8</td>
<td>Pulling Sleeve</td>
</tr>
<tr>
<td>9</td>
<td>Smooth Plastic Duct 3.941&quot;</td>
</tr>
<tr>
<td>10</td>
<td>Electrofusion Duct Coupler 3.941&quot;</td>
</tr>
<tr>
<td>11</td>
<td>Smooth Plastic Duct 3.543&quot;</td>
</tr>
<tr>
<td>12</td>
<td>Electrofusion Duct Coupler 3.543&quot;</td>
</tr>
<tr>
<td>13</td>
<td>Smooth Plastic Duct 3.125&quot;</td>
</tr>
<tr>
<td>14</td>
<td>Electrofusion Duct Coupler 3.125&quot;</td>
</tr>
<tr>
<td>15</td>
<td>Smooth Plastic Duct 2.875&quot;</td>
</tr>
<tr>
<td>16</td>
<td>Electrofusion Duct Coupler 2.875&quot;</td>
</tr>
<tr>
<td>17</td>
<td>Smooth Plastic Duct 2.563&quot;</td>
</tr>
<tr>
<td>18</td>
<td>Electrofusion Duct Coupler 2.563&quot;</td>
</tr>
<tr>
<td>19</td>
<td>Smooth Plastic Duct 2.250&quot;</td>
</tr>
<tr>
<td>20</td>
<td>Electrofusion Duct Coupler 2.250&quot;</td>
</tr>
<tr>
<td>21</td>
<td>Smooth Plastic Duct 2.000&quot;</td>
</tr>
<tr>
<td>22</td>
<td>Electrofusion Duct Coupler 2.000&quot;</td>
</tr>
<tr>
<td>23</td>
<td>Smooth Plastic Duct 1.750&quot;</td>
</tr>
<tr>
<td>24</td>
<td>Electrofusion Duct Coupler 1.750&quot;</td>
</tr>
</tbody>
</table>

---

**NOTE:** Components marked with "T" on the drawing are temporary

**MISCELLANEOUS MATERIALS**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>Commercially available thread seal tape</td>
</tr>
<tr>
<td>25</td>
<td>Commercially available compatible silicone grease</td>
</tr>
</tbody>
</table>

---

**SPIRAL**

<table>
<thead>
<tr>
<th>CONCRETE CLASS</th>
<th>LENGTH (L)</th>
<th>DIAMETER (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000 PSI (41.4MPA)</td>
<td>17-1/2&quot; (44mm)</td>
<td>17-1/8&quot; (43mm)</td>
</tr>
<tr>
<td>4500 PSI (31.5MPA)</td>
<td>17-1/2&quot; (44mm)</td>
<td>17-1/8&quot; (43mm)</td>
</tr>
</tbody>
</table>

---

**INSTALLATION**

1. Preassemble anchor (AN) and plastic trumpet (PT) (some silicone grease shall be used to facilitate the threading and the compression of the gasket).

2. Butt the assembled AN to the pocket former using the two threaded holes located on the first surfacw of AN. AN shall be placed perpendicular to the tendon’s axis and rotated such as the side injection hole points up.

3. The position of the spiral valve (SV) shall be secured to the AN to align motor by lash winding or proper fixing. The SV shall be rotated such that it won’t interfere with 3/4" NPT pipe attachment (if using side injection hole). Align pin and SV with AN. Seal unused port in AN.

4. Install the smooth duct as shown on shop drawings and insert in AN PT, sealing the connection by heat shrink sleeve by. If possible, with heat shrink sleeve in order to prevent concrete from penetrating.

5. Carry out the pressure test.

Concrete casting can now proceed.

6. After completion of concrete placement, remove the pocket former and prave that duct is clear of any obstructions or damage and that all injection vents are firm and secured.

7. Install strand by pulling or pulling individually or as a bundle in each day. Allow sufficient extra length at the active anchorage for stressing.

8. Check the wedge plate (WP) for rust and dirt. Class wedge holes with worst brush of necessary. Lightly grease or oil all wedge holes.

9. Check wedges for rust. Discard rusty wedges and use only clean ones.

10. Install wedge plate Cleaving up the inspection total, the wedge over the strands and safety plate there and wedge holes.

11. Do not apply post-tensioning forces until the concrete reaches compressive strength $f_c$ is not less than the values shown on the spiral table. These values refer to cylindrical strength.

12. Stressing can now proceed.

13. Appropriate clearance must be left behind the hydraulic jack while stressing.

14. 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 prescribined values.

15. Install the protection cap (PC) with 0-ring sealing on the spiral using six bolts (some silicone grease shall be used to facilitate the compression of the O-ring).

16. Thread a ¾" NPT pipe for injection onto the PC and the ¾" NPT pipe onto AN. Use ¾" plug to secure the hole on PC, not placed into the O-ring (lave tube shall be used to improve the tightness of the threadings).

17. Carry out the pressure test.

18. Injection can now proceed.

19. Wax shall be injected through the filler inlet until it escapes from the filter outlet. Special measures shall be applied for longer tendons, for tendons paths with distinct high points or in tunnels to avoid voids.

20. All vents and injection installations must be sealed with plugs made after injection.

21. Fill holes with non-shrink grout after post injection operation and inspection are completed.
Replace 3/4" ball valve (00-03-02-M) with 3/4" female plug (00-03-04) 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.

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

**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.

---

**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-01-08*</td>
<td>Protection Cap</td>
<td>Nylon 6 PA661 - according to ASTM 6666</td>
</tr>
<tr>
<td>2</td>
<td>XX-03-00*</td>
<td>Anchor</td>
<td>Steel from ASTM A369, 2&quot; x 1/2&quot; x 008 - Galvanized according to ASTM A123</td>
</tr>
<tr>
<td>3</td>
<td>00-03-01-AR</td>
<td>Smooth Plastic Duct</td>
<td>High Density Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>4</td>
<td>00-03-02-M</td>
<td>NPT Pipe Nipple 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>5</td>
<td>00-03-03-M</td>
<td>NPT Ball Valve 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>6</td>
<td>00-03-04-M</td>
<td>NPT Plug 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>7</td>
<td>00-03-05</td>
<td>NPT Ball Valve 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>8</td>
<td>00-03-06</td>
<td>NPT Female Plug 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>9</td>
<td>00-03-07</td>
<td>NPT Plug 3/4&quot;</td>
<td>High Density Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>10</td>
<td>00-03-08-M</td>
<td>NPT Female Coupler 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>11</td>
<td>00-03-09-M</td>
<td>NPT Female Plug 3/4&quot;</td>
<td>Polyethylene - according to ASTM D3350</td>
</tr>
<tr>
<td>12</td>
<td>00-03-10-M</td>
<td>NPT Female Coupler 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>13</td>
<td>00-03-11-M</td>
<td>NPT Female Plug 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
<tr>
<td>14</td>
<td>00-03-12-M</td>
<td>NPT Female Coupler 3/4&quot;</td>
<td>SCH40 steel</td>
</tr>
</tbody>
</table>

* depending from system dimension

---

**PIECE INTERNAL CONFIGURATION**

**PIECE EXTERNAL CONFIGURATION**

**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>
PROTECTION CAP BOLTS for 27AMTS15

Material: Stainless Steel GR316L - according to ASTM F593

Title: PROTECTION CAP BOLTS for 27AMTS15

Dimensions: INCH [mm] for reference only

Material: Stainless Steel GR316L - according to ASTM F593

Part #: 27-01-01

Check: T. CICCONE

Drawn: F. MORAGLIA

Date: 12/20/2016

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 express 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.

SECTION A-A
WEDGE PLATE for 27AMTS15 (27-06") External and Internal Unbonded systems

Material: Steel AISI C1045 Normalized

Dimensions:
- Ø9.5mm [Ø9.84"
- Ø250mm [3.54"
- Ø206mm [3.94"
- [90mm [3.54"

Part #: EI-IU-27-02-00

Title: WEDGE PLATE for 27AMTS15 (27-06") External and Internal Unbonded systems

Date: 12/20/2016

Checked: T.CICCONE

Drawn: L.CIVATI

Section: A-A

View: B-B

View: C-C

Description: Wedge Plate for 27AMTS15 (27-06") External and Internal Unbonded systems

Checkmark: □

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.

Document Property of TENSA AMERICA LLC

- www.tensaamerica.com - PHONE: +1 305-866-9917
1111 KANE CONCOURSE, S.TE 200 - BAY HARBOR ISLAND - 33154 FL
Material:
Ductile Iron ASTM A536 GR80-55-06

Treatment:
Galvanization according to ASTM A123

Title:
ANCHOR 27AMTS15 (27-0.6"

Material Code:
- www.tensaamerica.com - PHONE: +1 305-866-9917
1111 KANE CONCOURSE S.T.E. 200 - BAY HARBOR ISLAND - 33154 FL

Dimensions:
- FOR REFERENCE ONLY

Date: 12/20/16

Drawn: F.MORAGLIA
Checked: T.CICCONE

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

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 \( f'_c \) is not less than the values shown in the present drawing.

NOTE: The local zone reinforcement is to be shown on the shop drawings.
Title: TRUMPET for 27AMTS15 Internal Bonded and Internal Unbonded / External systems

Material: High Density Polyethylene - according to ASTM D3350

Treatment: -

Code: -

Date: 04/26/2018

Dimensions: [INCH [mm] FOR REFERENCE ONLY]

Part #: 27-06-00

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.

**Title:** Centro Guarnizioni TIGER s.r.l

**Compression Seal**

for 27AMTS15 between Anchor and Trumpet

---

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

**Dimensions:**

- Ø0.21" ([Ø5.34mm])
- Ø70.88mm

**Description**

**Rev.** 0

**Date:** 08/23/16

**Checked:** T.CICCONE

**Drawn:** L.CIVATI

**Part #:** 27-06-01

**Code:** OR 06670

---

TENSA AMERICA LLC - www.tensaamerica.com - PHONE: +1 305-866-9917
111 KANE CONCOURSE, STE 280 - BAY HARBOR ISLAND - 33154 FL

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.
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: 25 ft (7.62 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" for External and Internal Unbonded Systems - Std. fit for 27AMTS15

 Document Property of TENSA AMERICA LLC
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 express written permission of TENSA AMERICA LLC, the company will safeguard its rights according to the civil and penal provisions of the Law.
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;
- 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 for 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.
**PHASE A**
bulkhead coupler connection

**PHASE B**
match-cast coupler connection

**PHASE C**
segments detachment

**PHASE D**
gasket placing and protection

**PHASE E**
segments connection

**NOTE:**
- Reference to manufacturer’s installation manual for the detailed installation instructions;
- The representation of both smooth and corrugated duct in the same coupler is purely representative;
- Segmental duct coupler meets FDoT requirements (Par. 2.2.1.6 and 3.2.1 Section 960);
- Components marked with “T” on the drawing are temporary, components marked with “O” are optional;
- In the beside table “XX” stands for the system dimension.

**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-07-03-01</td>
<td>Bulkhead Coupler</td>
<td>Polypropylene - according to ASTM D4101</td>
</tr>
<tr>
<td>2</td>
<td>XX-07-03-02</td>
<td>Match-Cast Coupler</td>
<td>Polypropylene - according to ASTM D4101</td>
</tr>
<tr>
<td>3</td>
<td>XX-07-03-03</td>
<td>Sealing Gasket</td>
<td>TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960</td>
</tr>
<tr>
<td>4</td>
<td>XX-07-03-04</td>
<td>Boot</td>
<td>TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960</td>
</tr>
<tr>
<td>5</td>
<td>XX-07-03-05</td>
<td>Bulkhead load plug</td>
<td>TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960</td>
</tr>
<tr>
<td>6</td>
<td>XX-07-03-06</td>
<td>Match-Cast Load Plug</td>
<td>TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960</td>
</tr>
<tr>
<td>7</td>
<td>XX-07-03-07</td>
<td>Gasket Blockout</td>
<td>Polypropylene - according to ASTM D4101</td>
</tr>
<tr>
<td>8</td>
<td>XX-07-03-08</td>
<td>Storage Pipe</td>
<td>Polypropylene - according to ASTM D4101</td>
</tr>
<tr>
<td>9</td>
<td>00-10-00</td>
<td>Band Clamp</td>
<td>Stainless Steel 316S - according to ASTM A240</td>
</tr>
<tr>
<td>10</td>
<td>1-14-07-00</td>
<td>Corrugated Duct</td>
<td>Polypropylene - according to ASTM D4101</td>
</tr>
<tr>
<td>11</td>
<td>E-6-00-07-02</td>
<td>Smooth Plastic Duct</td>
<td>Highdensity Polypropylene - according to ASTM D4101</td>
</tr>
</tbody>
</table>

**NOTE:**
- Reference to manufacturer’s installation manual for the detailed installation instructions;
- The representation of both smooth and corrugated duct in the same coupler is purely representative;
- Segmental duct coupler meets FDoT requirements (Par. 2.2.1.6 and 3.2.1 Section 960);
- Components marked with “T” on the drawing are temporary, components marked with “O” are optional;
- In the beside table “XX” stands for the system dimension.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

Title: GTI SDC BULKHEAD COUPLER 4.50"
for 4.5" GTI corrugated duct and
5" smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Material: Polypropylene - according to ASTM D4101

Dimensions:

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.08&quot;</td>
<td>[186mm]</td>
</tr>
<tr>
<td>2.21&quot;</td>
<td>[56mm]</td>
</tr>
<tr>
<td>5.56&quot;</td>
<td>[141mm]</td>
</tr>
<tr>
<td>6.74&quot;</td>
<td>[171mm]</td>
</tr>
</tbody>
</table>

Treatment:

- [INCH [mm]

NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

Date: 03/20/2019

Document Property of TENSA AMERICA LLC
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:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

Title: GTI SDC MATCHCAST COUPLER 4.50"
for 4.5" GTI corrugated duct and
5" smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Material: Polypropylene - according to ASTM D4101

Treatment:

TENSA AMERICA LLC - www.tensaamerica.com - PHONE: +1 305-866-9917
1111 KANE CONCOURSE, S.TE 299 - BAY HARBOR ISLAND - 33154 FL

Date: 03/20/2019
Dimensions: REVISED

Part #: 27-07-03-02
Code: 220482
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.
NOTE:
- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

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

Treatment:

Title:
GTI SDC BOOT 4.5”
for 4.5” GTI corrugated duct and 5” smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-04
Code: 220484

Date: 03/20/2019
Dimensions:

TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960

Title:
GTI SDC BOOT 4.5”
for 4.5” GTI corrugated duct and 5” smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-04
Code: 220484

Date: 03/20/2019
Dimensions:

TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960

Title:
GTI SDC BOOT 4.5”
for 4.5” GTI corrugated duct and 5” smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-04
Code: 220484

Date: 03/20/2019
Dimensions:

TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960

Title:
GTI SDC BOOT 4.5”
for 4.5” GTI corrugated duct and 5” smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-04
Code: 220484

Date: 03/20/2019
Dimensions:

TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960

Title:
GTI SDC BOOT 4.5”
for 4.5” GTI corrugated duct and 5” smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-04
Code: 220484

Date: 03/20/2019
Dimensions:

TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.960

Title:
GTI SDC BOOT 4.5”
for 4.5” GTI corrugated duct and 5” smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-04
Code: 220484

Date: 03/20/2019
Dimensions:
NOTE:
- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.

Material: Nylon

Title: GTI SDC BULKHEAD LOAD PLUG 4.5"
for 4.5" GTI corrugated duct and
5" smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

NOTE:
- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.

Material: Nylon

Title: GTI SDC MATCHCAST LOAD PLUG 4.5" for 4.5" GTI corrugated duct and 5" smooth duct

Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Dimensions: 4.69" [119mm]
5.55" [141mm]
0.79" [20mm]

NOTE:
· All dimensions are measured;
· This drawing is not intended for manufacturing purposes;
· Temporary item.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.

Material: Polypropylene - according to ASTM D4101

Title: GTI SDC GASKET BLOCKOUT 4.5"
for 4.5" GTI corrugated duct and
5" smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Part #: 27-07-03-07
Code: 220489

Date: 03/20/2019

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:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.

Title:
GTI SDC STORAGE CAP 4.5"
for 4.5" GTI corrugated duct and
5" smooth duct
Standard fit for 27AMTS15
Alternate fit for 19AMTS15

Material: Polypropylene - according to ASTM D4101

Date: 03/28/2019

TENSA AMERICA LLC
1111 KANE CONCOURSE, S.TE 300 - BAY HARBOR ISLAND - 33154 FL
www.tensaamerica.com - PHONE: +1 305-866-9917

Part #: 27-07-03-08
Code: T20497
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

CANUSA-CPS
HIGH TEMPERATURE HEAT SHRINK SLEEVE
Standard fit for 27AMTS15 External and Internal Unbonded Systems

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

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

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;
- Coupler meets or exceeds FDOT requirements (Section 960-2.2.1.5 and 2.4.3);
- Standard fit for 4.50" [115mm] corrugated plastic duct and 5" smooth plastic duct.

**Title:**
GTI STEPLESS COUPLER
Adaptation for 4.50" corrugated duct and 5" smooth plastic duct with 27AMTS15 trumpet

**Material:**
Polypropylene - according to ASTM D4101

**Treatment:**
-
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
- Updated with measures for US and European versions

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

Drawn: L.CIVATI
Checked: T.CICCONE

Dimensions:
US Ø4.87" [Ø123.7mm]
EU 4.86" [Ø123.4mm]
US Ø5.56" [Ø141.3mm]
EU Ø5.51" [Ø140.0mm]

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
- Updated with measures for US and European versions

Date: 10/08/19
Rev. 0
Description: Updated with measures for US and European versions
L.C. T.C.

## 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 for 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:
- 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

---

### DESCRIPTION

#### REV.

<table>
<thead>
<tr>
<th>Description</th>
<th>Date</th>
<th>Drawn</th>
<th>Checked</th>
</tr>
</thead>
<tbody>
<tr>
<td>First issue</td>
<td>04/26/18</td>
<td>L.C</td>
<td>T.C</td>
</tr>
<tr>
<td>0</td>
<td>10/08/19</td>
<td>L.C</td>
<td>T.C</td>
</tr>
</tbody>
</table>

---

### MATERIAL:

- High Density Polyethylene- according to ASTM D3350

---

**TENSA AMERICA LLC**

- www.tensaamerica.com
- PHONE: +1 305-866-9917
- 1111 KANE CONCOURSE, S.TE 200 - BAY HARBOR ISLAND - 33154 FL

---

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:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

Material: Polypropylene - according to ASTM D4101

Title: GTI SDC BULKHEAD COUPLER 5.125”
for 5.125” GTI corrugated duct and
5.563” smooth duct
Standard fit for 31AMTS15
Alternate fit for 27AMTS15

Treatment:

Part #: 31-07-01-01
Code: 220531

Date: 03/20/19

Dimensions: [mm] [INCH]

NOTE:
· All dimensions are measured;
· This drawing is not intended for manufacturing purposes.

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:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

Material : Polypropylene - according to ASTM D4101

Title : GTI SDC MATCHCAST COUPLER 5.125"
for 5.125" GTI corrugated duct and
5.563" smooth duct
Standard fit for 31AMTS15
Alternate fit for 27AMTS15

Dimensions : (INCH) [mm] FOR REFERENCE ONLY

GTI AMERICA INC.
- www.tensamerica.com - PHONE: +1 305-866-9917
1111 KANE CONCOURSE, S.T.E 200 - BAY HARBOR ISLAND - 33154 FL

Date : 03/20/19
Part #: 31-07-03-02
Code : 220532

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 GTI AMERICA INC., the company will safeguard its rights according to the civil and penal provisions of the Law.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes.

Material: TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.940

Treatment: TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.940

Title: GTI SDC BOOT 5.125”
- for 5.125” GTI corrugated duct and
- 5.563” smooth duct

Standard fit for 31AMTS15
Alternate fit for 27AMTS15

Part #: 31-07-03-04
Code : 220534

Material: TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.940

Treatment: TPR Blend - according to FDoT Tab.2.2.1.7-1 Sec.940

Title: GTI SDC BOOT 5.125”
- for 5.125” GTI corrugated duct and
- 5.563” smooth duct

Standard fit for 31AMTS15
Alternate fit for 27AMTS15

Part #: 31-07-03-04
Code : 220534
NOTE:
- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.

Material: Polypropylene - according to ASTM D4101

Title: GTI SDC GASKET BLOCKOUT 5.125"
for 5.125" GTI corrugated duct and
5.563" smooth duct
Standard fit for 31AMTS15
Alternate fit for 27AMTS15

Part #: 31-07-03-07
Code : 220539
NOTE:

- All dimensions are measured;
- This drawing is not intended for manufacturing purposes;
- Temporary item.