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|  | FDOT Traffic Engineering Research Laboratory (TERL)  Pull and Splice Box Compliance Matrix | By signing this form, the applicant declares that he/she has read and understands the provisions of Sections 635 and 996 of the FDOT *Standard Specifications for Road and Bridge Construction* and all implemented modifications. The requirements listed on this matrix are derived from Sections 635 and 996,and are the basis for determining a product’s compliance and its acceptability for use on Florida’s roads. |

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| --- | --- | --- | --- |
| Date: | Click here to enter a date. | Applicant’s  Name (print): |  |
| Manufacturer: |  |  |  |
| Item, Model No.: |  | Signature: |  |

|  |  | **\*\* Greyed out rows in table below are for TERL use only \*\*** |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ID No** | **Section** | **Requirement** | **Item Comply? (Yes/No/NA)** | **Comments (Applicant must provide information as indicated)** | **TERL Evaluation Method** |
| The following compliance matrix criteria are for all pull and splice boxes. | | | | | |
| 1 | 996-1.1 | Equipment is permanently marked with manufacturer name or trademark, part number, and serial number. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| TERL Test Cases (Steps): PSB002 (Step 1) |  |  | Init.: |
| 2 | 996-5.1 | Box bodies and covers are free of flaws such as cracks, sharp, broken, or uneven edges, and voids. |  | *Applicant may provide comments in this field.* | Physical Inspection |
| TERL Test Cases (Steps): PSB002 (Step 2) |  |  | Init.: |
| 3 |  | In-ground boxes have an open bottom design. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 1), PSB002 (Step 3) |  |  | Init.: |
| 4 | 996-5.2 | The following information is permanently cast into the top surface of all pull and splice box covers:  1. Application for which it is used:  FDOT TRAFFIC SIGNAL for signalized intersections  FDOT FIBER OPTIC CABLE for fiber optic cable  FDOT LIGHTING for highway lighting  FDOT TRAFFIC MONITORING for traffic monitoring  FDOT ELECTRICAL for other electrical applications  2. Manufacturer’s name or logo  3. FDOT Approved Product List (APL) approval number  4. TIER rating  If used, nameplates are UV stable, mechanically fastened, and bonded with adhesive material suitable for outdoor applications. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement. In the documentation, ensure place holders are shown on the box cover for the application/use and the 9-digit FDOT approval number.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 2), PSB002 (Step 4) |  |  | Init.: |
| 5 |  | The date of manufacture (month/day/year, or date code) is permanently located on the top or bottom of the cover. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 3), PSB002 (Step 5) |  |  | Init.: |
| 6 |  | The interior of the box body has a permanent marking that includes the manufacturer name, part/model number, and date of manufacture near the top of box in a location that is visible after installation when the cover is removed. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 4), PSB002 (Step 6) |  |  | Init.: |
| The following compliance matrix criteria are for pull boxes for signalized intersections and lighting applications. | | | | | |
| 7 | 996-5.3 | Pull boxes have nominal cover dimensions of 13 inches wide by 24 inches long or larger and are no less than 12 inches deep. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 5), PSB002 (Step 7) |  |  | Init.: |
| 8 |  | The inside opening area is a minimum of 240 square inches and no inside dimension is less than 12 inches. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 5), PSB002 (Step 7) |  |  | Init.: |
| The following compliance matrix criteria are for pull boxes for fiber optic cable applications. | | | | | |
| 9 |  | Pull boxes have nominal cover dimensions of 24 inches wide by 36 inches long or larger and are no less than 24 inches deep. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 5), PSB002 (Step 7) |  |  | Init.: |
| The following compliance matrix criteria are for splice boxes. | | | | | |
| 10 |  | Rectangular splice boxes have nominal cover dimensions of 30 inches wide by 60 inches long or larger and are no less than 36 inches deep. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 5), PSB002 (Step 8) |  |  | Init.: |
| 11 |  | Round splice boxes have a nominal cover diameter no less than 36 inches or larger and are no less than 36 inches deep. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 6), PSB002 (Step 8) |  |  | Init.: |
| The following compliance matrix criteria are for all pull and splice boxes. | | | | | |
| 12 | 996-5.4 | Box covers are constructed of concrete, polymer concrete, or other materials meeting the requirements of this Section. |  | *Provide product literature, specifications, user manual, or similar information that details the material of construction for the box cover.* | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 7) |  |  | Init.: |
| 13 |  | Box covers have lifting slots and a flush-seating lockdown mechanism. |  | *Provide product literature, specifications, user manual, or similar information that shows the product meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 8), PSB002 (Step 9) |  |  | Init.: |
| 14 |  | Bolts are of the penta-head or other non-standard, security type lockdown lag type. |  | *Provide product literature, specifications, user manual, or similar information that shows the hardware meets this requirement.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 9), PSB002 (Step 10) |  |  | Init.: |
| 15 |  | Lockdown bolts and lifting slots are made of type 316, 304, or 302 passivated stainless steel or brass. |  | *Provide statement of conformance from hardware supplier that shows the product meets this requirement.* | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 10) |  |  | Init.: |
| 16 |  | Lockdown bolt assembly is designed to prevent seizing and is removable without damaging the cover or box body. |  | *Provide an explanation as to how the lockdown bolt assembly is designed to prevent seizing.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 11) |  |  | Init.: |
| 17 |  | The lockdown bolt threaded insert/nut assembly is field replaceable. |  | *Provide a user manual detailing instructions for replacing lockdown hardware in the field.* | Document Review and Physical Inspection |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 12), PSB002 (Step 11) |  |  | Init.: |
| 18 | 996-5.5 | Pull and splice boxes meet or exceed the American National Standards Institute/Society of Cable Telecommunications Engineers (ANSI/SCTE) 77 2017 Specification for Underground Enclosure Integrity for TIER 15 loading. |  | *Provide a first or third party test report that demonstrates compliance with this requirement. The test report must contain: (a) Individual weights of box and cover tested; (b) Load versus deflection graphs for each structural load test on full-size products (for each of the ten Design Load cycles, and when loaded to the test load or failure, whichever occurs first); and (c) Certificates of calibration including, but not limited to, load cells and deflection gauges. For a given product series (i.e. a given length x width), ensure the deepest box is tested for structural load testing on full-size products. Also, provide a completed Testing Laboratory and Report Checklist.* | Document Review |
| *Indicate location of requested information in submittal.* |
| TERL Test Cases (Steps): PSB001 (Step 13) |  |  | Init.: |
| 19 |  | All environmental tests from ANSI/SCTE 77 2017 are applied to the box and its cover. |  | *Provide a first or third party test report that demonstrates compliance with this requirement. Also, provide a completed Testing Laboratory and Report Checklist.* | Document Review |
| *Applicant may provide comments in this field.* |
| TERL Test Cases (Steps): PSB001 (Step 14) |  |  | Init.: |
| 20 |  | All flexural testing is conducted in accordance with an appropriate ASTM standard and the standard is clearly stated in the report. |  | *Applicant may provide comments in this field.* | Document Review |
| TERL Test Cases (Steps): PSB001 (Step 13, 15) |  |  | Init.: |
| 21 |  | Repetitions of Cycle 1 in Table X2.1 of ASTM G154 are performed for a minimum duration of 1000 hours for the simulated sunlight exposure test. |  | *Indicate compliance with this requirement in the requested first or third party test report.* | Document Review |
| *Applicant may provide comments in this field.* |
| TERL Test Cases (Steps): PSB001 (Step 15) |  |  | Init.: |
| 22 |  | Deflection-measuring devices positioned to measure vertical and lateral deflection (wherever maximum deflection occurs) are used for the vertical sidewall load test. |  | *Indicate compliance with this requirement in the requested first or third party test report.* | Document Review |
| *Applicant may provide comments in this field.* |
| TERL Test Cases (Steps): PSB001 (Step 135) |  |  | Init.: |
| 23 |  | The lateral sidewall pressure, vertical sidewall load and cover vertical load tests are conducted without any removable or permanent wall to wall supporting beams located in the interior or top of the box opening. |  | *Indicate compliance with this requirement in the requested first or third party test report.* | Document Review |
| *Applicant may provide comments in this field.* |
| TERL Test Cases (Steps): PSB001 (Step 153) |  |  | Init.: |
| 24 |  | When testing pull and splice boxes of various sizes (width x length x depth), the cover impact test, internal equipment protection test, coefficient of friction test, and all environmental tests, can be completed using a single representative box/cover (instead of samples from all box/cover sizes) as long as the test report indicates the following:  1. Materials of construction, compositions, and manufacturing processes are identical for all box and cover sizes submitted for listing on the APL.  2. Size (width x length x depth) of the representative box/cover. |  | *As applicable, indicate compliance with this requirement in the requested first or third party test report.* | Document Review |
| *Applicant may provide comments in this field.* |
| TERL Test Cases (Steps): PSB001 (Step 16) |  |  | Init.: |
| 25 | 635-5 | Pull, splice, and junction boxes have a manufacturer’s warranty covering defects for a minimum of one year from the date of final acceptance in accordance with 5-11 and Section 608. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| TERL Test Cases (Steps): PSB001 (Step 17) |  |  | Init.: |
| 26 |  | The warranty includes providing replacements, within 30 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department or the maintaining agency. |  | *Provide a statement of conformance in this field.* | Compliance Matrix Review |
| TERL Test Cases (Steps): PSB001 (Step 18) |  |  | Init.: |

**Document History for:**

**Pull and Splice Box Compliance Matrix**

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| --- | --- | --- | --- | --- | --- | --- |
| Rev | Description | Authored and Checked | Reviewed | Approved | Approval Date | Rev More Stringent? |
| 1.0 | New matrix to reflect conversion of A635 to 635 | A. Burleson | J. Morgan | J. Morgan | 02/15/2013 | Yes |
| 2.0 | Remove warranty language | D. Bremer | J. Morgan | J. Morgan | 03/28/2013 | No |
| 3.0 | Updated to reflect latest FHWA approved spec w/ FA 7-30-13. Edited comments and TERL evaluation method columns. | A. Burleson | J. Morgan | J. Morgan | 08/15/2013 | No |
| 4.0 | Replaced FDOT logo with latest approved one and added CM ID # to header. Revised document approver title. | D. Bremer  K. Moser | J. Morgan | J. Morgan | 12/19/2013 | No |
| 5.0 | Updated to reflect latest FHWA approved spec w/ FA 6-24-15. | K. Moser | J. Morgan | J. Morgan | 06/17/2015 | Yes |
| 6.0 | Updated to reflect latest FHWA approved spec w/ FA 7/16/19. | F. Deasy | J. Morgan | D. Vollmer | 12/02/2019 | No |
| 7.0 | Move from 635 to 996. Added warranty information. | W. Geitz | M. DeWitt  C. Raimer | D. Vollmer | 03/29/2022 | No |
| 8.0 | Added test cases and steps. | W. Geitz | M. DeWitt | M. DeWitt | 08/04/2022 | No |
| 9.0 | Updated to latest FA specs 635 (FA 9-28-22) and 996 (10-24-22). | W. Geitz | D. Vollmer | D. Vollmer | 08/15/2023 | No |
| 10.0 | Updated to latest FA date of 12-1-23 for spec 996. | W. Geitz | D. Christian | D. Vollmer | 01/08/2024 | No |
| 11.0 | Clarified requirements for ANSI/SCTE 77 testing. Added checklist reference. | W. Geitz | M. DeWitt | D. Vollmer | 08/06/2024 | No |