

# Electricity Specification ES400 L5

Issue 6      December 2023

## Two-way and Four-way Underground Link Boxes



## Amendment Summary

ISSUE NO. DATE	DESCRIPTION
<b>Issue 4</b> <b>February 2022</b>	<p>The new template for Engineering Specification Documents has been applied. All information has been reviewed and updated where appropriate. Testing requirements to ENATS 09-23 added.</p> <p>Prepared by: Philip Howell Approved by: Policy Approval Panel and signed on its behalf by Steve Cox, DSO Director</p>
<b>Issue 5</b> <b>September 2022</b>	<p>Temperature Rise testing information updated. Addition of clause to allow specific resin to be supplied with the link box to meet type testing if the ENWL approved resin has not been tested.</p> <p>Prepared by: Philip Howell Approved by: Policy Approval Panel and signed on its behalf by Steve Cox, DSO Director</p>
<b>Issue 6</b> <b>December 2023</b>	<p>Updated to latest template for ES Documents</p> <p>Section 6.1.2: <a href="#">Amendment of range for waveform cables to include 95mm<sup>2</sup></a></p> <p>Section 6.1.2: <a href="#">Added options for live direct connection type box</a></p> <p>Section 6.1.2: <a href="#">Added preference for future compatibility with electronic switch devices</a></p> <p>Section 6.1.4: <a href="#">Increased shell thickness from 2mm to 3mm</a></p> <p>Section 6.1.8: <a href="#">Addition of requirement for C250 rated access cover</a></p> <p>Section 6.1.8: <a href="#">Addition of option for composite covers</a></p> <p>Section 6.1.10: <a href="#">Amendment of IP rating for accessories box</a></p> <p>Section 6.2.3: <a href="#">Added test method IEC 61180 for dc voltage test on insulated bell cover</a></p> <p>Prepared by: Philip Howell Approved by: Policy Approval Panel and signed on its behalf by Paul Turner, PAP Chairperson</p>

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## 1 Introduction

This document provides the general requirements for approvals, construction and testing of low voltage underground link boxes as used on the electricity distribution network (Network) owned by Electricity North West Limited, as Distribution Licensee, herein referred to as ENWL.

## 2 Scope

The specification covers, two-way and four-way underground link boxes to be installed into the low voltage Network. The specification covers both 2-way and 4-way configurations.

As a minimum requirement, all types of link box shall be suitable for dead jointing to ENWL Approved SNE and CNE polymeric insulated mains distribution cables. The specification also covers alternative designs which allow direct connection under live conditions of cables designs found on the ENWL network.

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## 3 Definitions

<b>ABS</b>	Acrylonitrile butadiene styrene
<b>Approval</b>	Sanction by the ENWL Circuits Policy Manager that specified criteria have been satisfied
<b>CONSAC</b>	Cables with solid aluminium conductor and aluminium sheath/neutral conductor
<b>CNE</b>	Common Neutral & Earth
<b>ENWL</b>	Electricity North West Limited
<b>GRP</b>	Glass Reinforced Polymer
<b>HDPE</b>	High Density Polyethylene
<b>HIPS</b>	High Impact Polystyrene
<b>PETG</b>	Polyethylene terephthalate glycol
<b>PILCSTA</b>	Paper Insulated, Lead Covered, Steel Tape Armoured
<b>PME</b>	Protective Multiple Earthed
<b>SNE</b>	Separate Neutral and Earth

<b>Specification</b>	The Specifications and schedules (if any) agreed by the parties for the purpose of the Contract.
<b>Supplier</b>	Any person or person's firm or company who supplies goods to ENWL or to its Contractor.
<b>Tender</b>	An offer in writing to execute work or supply goods at a fixed price.
<b>Tenderer</b>	The person or person's firm or company, including personal representatives, successors and permitted assigns, invited by ENWL to submit a Tender.
<b>Underground Link Box</b>	Underground shell and phase pockets with removable links, fuses or other circuit protection devices (either manually or automatically operated), suitable for live operation

## 4 General Requirements for Approvals and Testing

### 4.1 Product not to be Changed

Compliance with this clause shall be in accordance with ES001.

### 4.2 Electricity North West Limited Technical Approval

Compliance with this clause shall be in accordance with ES001.

### 4.3 Quality Assurance

Compliance with this clause shall be in accordance with ES001.

### 4.4 Formulation

Compliance with this clause shall be in accordance with ES001.

### 4.5 Identification Markings

Compliance with this clause shall be in accordance with ES001.

### 4.6 Minimum Life Expectancy

The minimum life expectancy of all products covered by this Specification is 60 years.

### 4.7 Product Conformity

Compliance with this clause shall be in accordance with ES001.

### 4.8 Confirmation of Conformance

The Tenderer shall complete the conformance declaration sheets in [Appendix A](#).

Failure to complete these declaration sheets may result in an unacceptable bid.

## 5 Requirements for Type and Routine Testing

Compliance with this clause shall be in accordance with ES001.

### 5.1 Requirement for Type Tests at Suppliers Premises

Compliance with this clause shall be in accordance with ES001.

### 5.2 Requirement for Routine Tests at the Supplier's Premises

Compliance with this clause shall be in accordance with ES001.

## 6 Technical Particulars

### 6.1 Constructional Requirements

#### 6.1.1 Conditions of Installation and Operation

Link Boxes specified in this document shall be installed on cables laid in accordance with ENWL specification document ES400E4 (Installation, Commissioning and Repair of Solid HV and LV Cables).

During storage and after installation link boxes are subjected to the full range of climatic conditions encountered in the UK. Link boxes may be surrounded by ground water for most of their operating life and should therefore be adequately constructed to ensure continued operation under these conditions.

The Link Boxes should be designed to work on Low Voltage networks with the following parameters:

- Nominal system voltage: 400/230 volts
- The working voltage of any part of the system does not normally exceed the normal system voltage by more than 10%
- Nominal system frequency: 50Hz
- The system operates with the neutral point earthed directly at one or more points.

All assembled components forming part of a Link Box shall be capable of operating under the normal and fault temperature conditions specified in the relevant cable specifications installed in the Link Box.

#### 6.1.2 General

Link boxes shall be constructed in accordance with the requirements detailed in ENA-TS 09-23- Issue 2:2018.

The link box shall be available as a 2-way (one cable entry per side) version, and a 4-way (two cables per side) version. Preference will be given for a family of link boxes sharing common components where possible.

The Link box shall, as a minimum, have the ability to connect under dead conditions, any ENWL Approved LV Waveform cables between 95mm<sup>2</sup> and 300mm<sup>2</sup> cross section with either 3 or 4 cores to BS7870-3.4 and as described in ENWL specification ES400C11.

As an option, consideration will be given to any link box design with the ability to directly connect under live conditions, the previously stated range of Approved Waveform cables and also four core PILCSTA cable

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designs typically to BS6480 with stranded copper conductors from 0.1in<sup>2</sup> up to 0.5in<sup>2</sup> and three core CONSAC cables to ENA TS 09-08 with solid aluminium conductors from 95mm<sup>2</sup> to 300mm<sup>2</sup>

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This option for a “live direct connection link box” can be either supplied as the standard unit, or as an additional variant to the standard “dead connection link box”.

The Link Boxes can either be separate versions for 3 and 4-core cables or have a suitable conversion module to convert a 3-core version to accept 4 -core cables.

The link box shall be fully compatible with ENWL Approved Cold Pour Resin used for encapsulation of low voltage joints as described in ES400R10.

Consideration will be also given to link boxes that have not been type tested with ENWL Approved Cold Pour resin provided that a suitable cold pour resin is supplied with the link box, and the resin and link box have been fully tested to the requirements detailed in [Section 6.2](#).

In addition, any supplied cold pour resin shall meet the requirements of ES400R10 , and evidence shall be provided that any accidental mixing of the supplied resin together with ENWL Approved Cold Pour resin will not create any hazardous by-products or reduction in performance of cable joints.

Tenderers should clearly indicate if the scope of supply includes a specific resin to be used in the installation of the link box, and also include full details of any packaging and labelling of the resin that can prevent any accidental use in other joints or mixing with the Approved Cold Pour resin.

However, the preference is for Link Boxes which are fully tested using ENWL Approved Cold Pour Resin.

All parts of the Link Box shall be compatible with all Approved solvent cleaning wipes, mastics, tapes and other consumables used in the installation process.

The Link Box shall be capable of fitting either solid or fused links to BS88. Provision shall be made to enable the connection of Approved ENWL fault restoration equipment (e.g. *Kelvatek Fusemate*) and allow connection of rotary clamps (“catherine wheels”) for temporary generator connections.

The link box shall allow the fitting of Approved blast mitigation blankets as described in ES400L7.

Preference will be given to link box designs which allow for future innovation to replace solid links with electronic switch devices and remote communication and operation abilities. This could be evidence of ongoing trials or design features which allow for future equipment to be incorporated into the link box.

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The link box shall be supplied without any pre-terminated cable tails. However as pre-tailing could be carried out in ENWL depots prior to transportation and installation at site, a suitable method shall be provided to securely hold the incoming cable tails adjacent to the cable shell end in order to prevent any lateral and longitudinal movement which may damage the moisture seal formed by the encapsulated resin around the cable sheath. This can be by provision of mechanical clamps or a recommended procedure for fixing tailed cables during transport or any other suitable method.

It is not envisaged that any pre-tailing in depots would be done on link boxes that can be directly connected to the network live.

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The Link Box shall be supplied with suitable lifting straps or hooks such that it can be safely offloaded from a truck into the joint bay without affecting the structural integrity of the Link Box.

### 6.1.3 Link Box Base

The Link Box shall have a suitably strengthened base to ensure the link box passes the cantilever load withstand test detailed in ENA TS 09-23. This may either be an integral part of the link box assembly or a separate component such as a rigid base.

If a separate component is required to meet the test, then the lower joint shell assembly should be retained on the base such that no movement can occur during installation.

### 6.1.4 Link Box Joint Shell

For resin filled joints, the joint shell shall be horizontally split, made from minimum 3mm thick Virgin HIPS, Virgin ABS or Virgin PETG material. Alternative materials and designs will be considered, subject to Approval. The shell shall have stepped cable entry ports for varying cable diameters.

Any link box designed only for dead jointing shall have cable shells capable of accepting 3 or 4 core Waveform cables in the range 95mm<sup>2</sup> to 300mm<sup>2</sup> to BS7870-3.4 and as described in ENWL specification ES400C11.

Any link box designed for live direct jointing shall be provided with additional suitable shell options to cover PILSTA four core cables between 0.1in<sup>2</sup> and 0.5in<sup>2</sup> and three core CONSAC cables to ENA TS 09-08 with solid aluminium conductors from 95mm<sup>2</sup> to 300mm<sup>2</sup>.

The shell(s) shall be of suitable length to allow a connection to be made from PILCSTA cables lead sheath or CONSAC cable aluminium sheath using ENWL approved earth kits or connectors as detailed in CP411Pt1N (not supplied as part of link box scope).

The link box shells shall have a suitable port moulded near to the main cable exit point to allow an earth connection for PME applications if required. This will be either a solid busbar or a 16mm<sup>2</sup> stranded copper PVC insulated conductor connected to the cable neutral/earth conductor and taken out of the shell through the provided port to a separate earth electrode. The components to make the earth connection are not part of the link box supply.

The shell assembly shall be supplied complete with sealing clips or strips, lids and materials for sealing the cable entry ports.

The joint shell shall be compatible with ENWL Approved Cold Pour Resin and designed to ensure there is a minimum of 10mm thickness of resin between the components and the inside of the joint shell at every point along its length.

The lower section shall be flat bottomed to provide a positive location either onto the Base supplied by the manufacturer, or the base of a trench, or joint bay prepared by the installer.

The profile of the shell shall be designed to be smooth & free from sharp edges. The shell shall undertake the Cold Weather Compatibility Test detailed in [Section 6.2.1](#).

### 6.1.5 Turret Assembly

A factory-assembled turret which positively fits into the lower half of the joint shell shall be capable of accommodating either solid links or fuse carriers. Fuse Carriers shall be operated by wedge tightening thumb screws and will incorporate a "J" type fuse link with 82mm centres as per BS HD 60269-2 & BS88-2.

Solid links shall be supplied for each cable way with every Link Box.

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Adequate segregation between phase to phase, phase to neutral, phase to earth and also neutral to earth (SNE versions) shall be provided with suitable insulating barriers as appropriate. This barrier shall also be sufficient to prevent electrical tracking between links caused by condensation and shall be at a suitably higher level than the metallic contacts to ensure it is not possible to create an accidental short-circuit with links or tools.

Provision of a suitable neutral or neutral earth (PME) connection facility for testing and fault location shall be provided within the turret assembly.

All contacts shall be manufactured from tinned hard drawn copper and capable of carrying the rated current of the largest cable to be terminated.

Plastic removable shrouds shall be provided for covering unused contacts.

The link box shall have a suitable method of jointing incoming cable conductors to the relevant phase, neutral or earth connection. This shall either be with factory fitted range taking mechanical connectors which utilise shear head technology meeting the requirements of BS EN 61238-1, or by provision of suitable protruding stalks which allow connection using ENWL range of Approved mechanical straight connectors (not supplied as part of link box scope).

Where a link box is offered as being suitable for live connections, then all exposed metalwork on the phases, neutral or earth connection points shall be suitably insulated or shrouded.

Any connectors supplied as part of the link box scope shall use hexagon headed shear bolts with sizes of 13mm, 17mm or 19mm A/F.

#### **6.1.6 Bell Cover**

The 2 and 4-way link boxes shall be supplied with an insulated bell cover and shall be so designed to prevent water entering the link chamber when submerged to a minimum depth of 2 metre head of water.

Bell Covers shall be designed to minimise the possibility of condensation within the link box by means of a curved (concave) surface on the inside.

The Bell Cover shall incorporate a notice indicating "Danger Electric" or equivalent Danger of Death Sign to BS EN ISO 7010:2012. The bell cover can be one single unit, or for the 4-way unit it can be four individual covers for each way.

2- way link boxes shall be supplied with Bell Covers suitable for one-man lifting (one handle).

4-way link boxes shall be supplied with Bell Covers suitable for two-man lifting (two handles) or individual Bell Covers over each way which can have one handle.

Alternative arrangements for Bell Covers such as those fixed in position with bolts or other means may be proposed by the Tenderer providing suitable evidence of reliable operational and service history on similar LV Networks can be supplied.

#### **6.1.7 Pit Assembly**

The 2 & 4-way link boxes shall be supplied with either a GRP or HDPE access pit housing. This will sit over the link box base and locate on it so that the bell cover is central. It will prevent the ingress of any backfill material to the link box. The assembly shall be horizontally sectionalised to enable sections to be added or removed, depending on the depth of the link box to finished ground level.

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### 6.1.8 Pavement Access Cover & Frame

The link box shall be supplied as standard with an access cover and pit frame which shall meet the test load requirements of BS EN124 class B125 when installed.

ENWL may require link boxes to be installed in areas where traffic access is likely, and therefore the tenderer shall provide details for alternative access covers (and any other additional parts required) which will meet the requirements of BS EN124 class C250.

The Tenderer shall provide details of whether the upgraded access cover can be supplied as separate component to fit a standard link box and frame, or supplied with an additional dedicated frame to be used together with the upgraded cover.

The frame for the pavement access cover shall fit onto the top of the pit assembly and shall be fabricated from hot dipped galvanised steel. The frame shall be complete with integral "Skirt" to prohibit the ingress of backfill material into the pavement chamber. The frame shall incorporate an adjustment system that allows up to approximately 100mm vertical movement of the cover. The adjustment shall only be achieved from inside the pit with the pavement access cover removed.

The pavement cover for the 2-way link box assembly shall be a single galvanised steel tray, concrete filled with 2 x "keyhole" type slots to aid removal from the frame. This shall incorporate a notice indicating "Danger Electric" or equivalent Danger of Death Sign to BS EN ISO 7010:2012.

The steel frame for the 4-way link box shall incorporate removable galvanised steel cross-member to allow 2 x single pavement covers (as detailed above) to be installed.

Preference will be given to Tenderers who can offer options for alternative pavement covers made from lightweight composite materials complete with suitable locking mechanisms, providing that satisfactory evidence of meeting the load requirements and service history are provided. All ancillary items such as locking keys and modified access frames shall be offered as part of any proposal. The composite pavement cover option shall be capable of being fitted to the offered standard link box pit assembly.

### 6.1.9 Circuit Identification

Circuit identification label(s) of an appropriate size, manufactured from insulating material and suitable for engraving shall be incorporated into the link box for each feeder way. Labels shall be positively located and easy to remove.

### 6.1.10 Accessories

Each link box shall be provided with a suitably sized waterproof container shall be provided for the safe keeping of removable links and plastic shrouds. The container shall satisfy a rating of IPX7 in accordance with BS EN 60529.

The link box shall be supplied with a small tube of electrical contact grease.

## 6.2 Testing Requirements

All testing should be carried out with Link Boxes filled with Electricity North Wests Approved Cold Pour resin and using four core cables with aluminium conductors of 300mm<sup>2</sup> cross section area.

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Consideration will also be given to Link Boxes which include a specific resin as part of their scope of supply which fully meets the testing requirements detailed in this section and in addition, the resin meets requirements of ES400R10.

All test documentation should be provided using the proposed resin to be used, including the Cold Weather Test detailed in [6.2.1](#) below.

### **6.2.1 Cold Weather Test**

All plastic joint shells used in the Tendered link boxes shall be tested to prove they are compatible with the ENWL current Approved cold pour resin (or the supplied resin) during cold weather and will not split in these conditions due to Environmental Stress Cracking.

The Tendered link box shells and resin should be put into an environmental chamber and left for 12 hours minimum to chill to -20°C.

The resin shall then be mixed, and the shells filled while still inside the environmental chamber and then left for 2 hours. During the mixing, pouring and 2 hour waiting stage the temperature shall be kept between -5°C and -10°C.

After the 2-hour waiting period, the shells shall be visually examined. They shall not show any signs of splitting, cracking or resin leakage due to damage of the shell.

The Tenderer shall provide a test report detailing the result for each link box shell offered, including details of independent witnesses, at the time of Tender.

### **6.2.2 Type Testing**

The Link boxes must be tested with the sequences detailed in Tables 3 to 5 of Clause 7.3 of ENA-TS 09-23 Issue 2:2018.

The temperature rise test detailed in Clause 8.8 of ENA-TS 09-23 shall not cause damage of a nature which impairs the subsequent performance of the equipment in the test sequence.

During the tests, the ambient air temperature shall be between +10 °C and +40 °C and shall not vary by more than 10 K.

The temperature shall not rise from the measured starting ambient temperature by more than the following values:

- Joint shell/resin 25 K
- Turret outer surface 25 K
- Handle of bell cover 15 K
- Bell cover 15 K
- Outer phase stalk 65 K
- Inner phase stalk 65 K
- Neutral phase stalk 65 K

The Tenderer shall provide a full detailed test report detailing the results obtained for each test, including details of independent witnesses, at the time of Tender.

### 6.2.3 DC voltage withstand of link box coating

This test only applies to any cast iron bell covers with a plastic coating or composite covers with plastic coatings

- The coating shall withstand 1kV for 4 minutes.
- The leakage current shall be less than 0.1mA.

The test shall be carried out generally in accordance to IEC 61180 and made on link box covers partially immersed in water. The D.C. voltage shall be applied between the non-immersed part of the cover and the water. | Dec 23

### 6.2.4 Additional Testing

Further to the mandatory testing detailed in Sections 6.2.1 to 6.2.3, preference will be given to tenderers who can provide any evidence of additional testing to demonstrate reliability and operation under extreme conditions.

Some examples of these tests are;

- Short circuit tests to BS EN 61238, ER C79 and/or BS EN 60439-1
- Long term soak testing ( as per clause 8.9 of ENA TS 09-23 )
- Testing to show long term effect of vibrations (e.g. due to road traffic)

## 6.3 Instructions and Labelling

Each individual link box kit shall include the relevant jointing instruction/drawing and a kit contents list. The volume of resin required to complete the joint (where applicable) shall clearly be displayed.

The production of the jointing instruction will be subject to Approval by the ENWL Circuit Policy Manager and be consistent with versions included in ENWL LV Cable Jointing Code of Practice CP411Pt1N. Any amendments required shall be agreed and approved by ENWL Circuits Policy Manager.

A label shall be attached to the outer packaging detailing the part description, application, batch number/date and the relevant ENWL Commodity Code.

Full details of proposed labels including any to be used on resin packaging supplied as part of the overall link box system shall be provided at time of Tender.

## 7 Documents Referenced

All references to documents listed below are to the latest versions, unless stated otherwise

DOCUMENTS REFERENCED	
<b>Health and Safety at Work Etc Act 1974.</b>	
<b>Control of Substances Hazardous to Health Regulations 2002.</b>	
<b>Manual Handling Operations Regulation 1992.</b>	
<b>BS EN ISO 9000</b>	Quality management systems.
<b>BS EN ISO 14001: 2004</b>	Environmental Management Systems.
<b>BS 6480</b>	Specification for Impregnated paper-insulated lead or lead alloy sheathed electric cables of rated voltages up to and including 33 000 V
<b>BS 7870-3.40</b>	LV and MV polymeric insulated cables for use by distribution and generation utilities. Specification for distribution cables of rated voltage 0.6/1kV. XLPE insulated, copper wire waveform concentric cables with solid aluminium conductors.
<b>BS EN 124 -1</b>	Gully tops and manhole tops for vehicular and pedestrian areas. Design requirements, type testing, marking and quality control.
<b>BS EN 60439-1</b>	Low-voltage switchgear and control gear assemblies - Part 1: Type-tested and partially type-tested assemblies.
<b>BS EN 60529</b>	Degrees of Protection Provided by Enclosures (IP Code)
<b>BS EN 60282-1</b>	High-voltage fuses. Current limiting fuses BS EN 60947-1: - Low-voltage switchgear and control gear. General rules.
<b>BS EN 61238-1</b>	Compression and mechanical connectors for power cables for rated voltages up to 36kV.
<b>BS EN ISO 7010:2020</b>	Graphical symbols. Safety colours and safety signs. Registered safety signs

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<b>BS HD 60269-2, BS 88 - 2</b>	Low-voltage fuses. Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application). Examples of standardized systems of fuses A to J.
<b>ENA Technical Specification 09-08</b>	Impregnated Paper Insulated 600/1000V cables with solid aluminium conductors and Aluminium sheath/Neutral Conductor (CONSAC)
<b>ENA Technical Specification 09-23</b>	Issue 2 : 2018 LV Link Boxes
<b>ENA Engineering Recommendation C79</b>	Type tests for connectors for copper and aluminium conductors of insulated power cables
<b>IEC 61180</b>	High-voltage test techniques for low-voltage equipment – Definitions, test and procedure requirements, test equipment
<b>ES001</b>	ENWL Main Specifications
<b>ES400E4</b>	Installation, Commissioning and Repair of Solid HV and L V Cables
<b>ES400R10</b>	Engineering Specification for Cold-Pour Resin Compound for Encapsulating Joints on LV, 11kV and 33kV Cables
<b>ES400C11</b>	Engineering Specification for Low Voltage Mains Cables
<b>ES400L7</b>	Engineering Specification for Low Voltage Link Box Blast Mitigation Bags and Blankets
<b>CP311</b>	Approval Policy and Process
<b>CP411Pt1N</b>	Low Voltage Cable Jointing

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## 8 Keywords

Underground Link-Box

## Appendix A – Conformance Declaration

### SECTION-BY-SECTION CONFORMANCE WITH SPECIFICATION

The Tenderer shall declare conformance or otherwise for each product/service or range of products/services, section-by-section, using the following Conformance Declaration Codes.

#### Conformance Declaration Codes:

<b>N/A =</b>	Clause is not applicable/appropriate to the product/service.
<b>C1 =</b>	The product/service conforms fully with the requirements of this clause.
<b>C2 =</b>	The product/service conforms partially with the requirements of this clause.
<b>C3 =</b>	The product/service does not conform to the requirements of this clause.
<b>C4 =</b>	The product/service does not currently conform to the requirements of this clause, but the manufacturer proposes to modify and test the product in order to conform.

**Manufacturer:**

**Product/Service Description:**

**Product/Service Reference:**

**Name:**

**Company:**

**Signature:**

**SECTION-BY-SECTION CONFORMANCE**

Section	Section Topic	Conformance Declaration Code	Remarks * (must be completed if code is not C1)
1	Introduction		
2	Scope		
4.1	Product not to be Changed		
4.2	ENWL Technical Approval		
4.3	Quality Assurance		
4.4	Formulation		
4.5	Identification Markings		
4.6	Minimum Life Expectancy		
4.7	Product Conformity		
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5.1	Requirements for Type Tests at the Supplier's Premises		
5.2	Requirement for Routine Tests at the Supplier's Premises		
6.1	Constructional Requirements:		
6.1.1	Conditions of Installation and Operation		
6.1.2	General		
6.1.3	Link Box Base		



6.1.4	Link Box Shell		
6.1.5	Turret Assembly		
6.1.6	Bell cover		
6.1.7	Pit Assembly		
6.1.8	Pavement Access and Cover Frame		
6.1.9	Circuit identification		
6.1.10	Accessories		
6.2	Testing Requirements:		
6.2.1	Cold Weather Testing		
6.2.2	Type Testing		
6.2.3	DC voltage withstand of link box coating		
6.2.4	Additional Testing		
6.3	Instructions and Labelling		

\* Applicable specifications shall be stated in the Remarks column where alternatives are quoted within a section. The Remarks column shall also be used to indicate cases where the products or services exceed the quoted specifications.