

Electricity Specification 400G1

Issue 8 November 2021

Cable Guards for Wood Pole Overhead Lines



Amendment Summary

ISSUE NO. DATE	DESCRIPTION
Issue 8 November 2021	New Template applied. Plastic GRP service guards removed. Prepared by: D M Talbot Approved by: Policy Approval Panel and signed on its behalf by Steve Cox, Engineering and Technical Director

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1 Introduction

This Specification comprises general requirements for cable guards employed on the electricity distribution network (network) owned by Electricity North West Limited (Electricity North West), as distribution licensee, followed by technical particulars relating to the constructional requirements. [Appendix A](#) is a schedule of all cable guards in alphanumeric order, followed by associated drawings (in drawing number order).

2 Scope

This Specification covers the supply of cable guards suitable for the protection of exposed service cables, mains cables and earth wires on walls or wood poles.

3 Definitions

Approval	Sanction by the Electricity North West Overhead Line Circuits Manager that specified criteria have been satisfied
Contract	The agreement between Electricity North West and the Contractor for the execution of the Works including therein all documents to which reference may properly be made in order to ascertain the rights and obligations of the parties under the said agreement.
Contractor	The person or person's firm or company, including personal representatives, successors and permitted assigns, who's Tender has been accepted by Electricity North West.
ENA TS	Energy Networks Association Technical Specification.
OHL	Overhead Line.
Specification	The Specifications and schedules (if any) agreed by the parties for the purpose of the Contract.
Sub-Contractor	Any person (other than the Contractor) named in the Contract for any part of the Works or any person to whom any part of the Contract has been sub-let with the consent in writing of the Electricity North West Overhead Line Circuits Manager, and the legal representatives, successors and assigns of such person.
Supplier	Any person or person's firm or company who supplies goods to Electricity North West or to its Contractor.
Tender	An offer in writing to execute work or supply goods at a fixed price.

Tenderer

The person or person's firm or company, including personal representatives, successors and permitted assigns, invited by Electricity North West to submit a Tender.

4 General Requirements for Approvals and Testing

4.1 Product not to be Changed

No change in the product, packaging or labelling shall be made after Approval has been granted without prior notice to the Electricity North West Overhead Line Circuits Manager, and receipt of a written agreement to the proposed change from the Electricity North West Overhead Line Circuits Manager.

4.2 Electricity North West Technical Approval

The Tenderer shall submit, with this Tender, proposals for testing which will demonstrate, to the satisfaction of the Electricity North West { Overhead Line Circuits Manager, compliance with this Specification. Such tests shall be carried out without expense to Electricity North West.

Alternatively, technical reports and other data may be submitted that the Tenderer considers will demonstrate, to the satisfaction of the Electricity North West Overhead Line Circuits Manager, compliance with this Specification. Acceptance of this evidence shall be at the discretion of the Electricity North West Overhead Line Circuits Manager but will not be unreasonably withheld.

Approval shall be 'factory specific' and is not transferable to another factory without the written Approval of the Electricity North West Overhead Line Circuits Manager.

The Supplier and product shall comply with all the relevant requirements of Electricity North West documents EPD311 and CP311.

4.3 Quality Assurance

The Tenderer shall confirm whether or not Approval is held in accordance with a quality assurance scheme accredited under ISO 9000. If not, the Tenderer shall submit a statement of the quality assurance procedures employed to control the quality of the product, including the performance of Suppliers and Sub-Contractors.

The right is reserved for the repeat of such tests, from time to time, that the Electricity North West Overhead Line Circuits Manager may deem to be reasonably necessary to demonstrate continued compliance with the Specification.

The Tenderer shall submit, with the Tender, a list of tests and inspections which are carried out on the product prior to despatch which shall demonstrate, to the satisfaction of the Electricity North West Overhead Line Circuits Manager, fitness for installation and service.

The Tenderer shall provide free of charge to Electricity North West such samples as may, in the opinion of the Electricity North West Overhead Line Circuits Manager, be reasonably required for inspection and/or retention as quality control samples. The Electricity North West Overhead Line Circuits Manager will confirm the requirement for samples at the time of Tendering.

The right is reserved for inspections to be made of Tenderer's facilities, from time to time, as deemed reasonably necessary by the Electricity North West Overhead Line Circuits Manager to ensure compliance with this Specification and any Contract of which it forms a part.

The Tenderer shall submit, with the Tender, such details of product packaging disposal, as will enable Electricity North West to comply with the requirements of BS EN ISO 14001 - Environmental Management Systems.

4.4 Formulation

The Tenderer shall submit, with the Tender, such details of the formulation and use of the product and associated substances as will enable Electricity North West to comply with the obligations of the Health and Safety at Work Act 1974 and the Control of Substances Hazardous to Health Regulations 2002, in the use, storage and disposal of the product. The Tenderer may stipulate, prior to submission of such information, that it is to remain confidential, and the Electricity North West Overhead Line Circuits Manager will, if requested, confirm agreement to this prior to receipt of the information.

4.5 Identification Markings

The Tenderer shall submit, with the Tender, details of markings which it is proposed to apply to the product or packaging to identify manufacturing batches or items. The forms and content of such markings shall be subject to the Approval of the Electricity North West Overhead Line Circuits Manager and shall in all cases include the Electricity North West approved description and commodity code number.

The Tenderer shall submit, with the Tender, such details of marking gross weight on components, assemblies and packages, as will enable Electricity North West to comply with the Health and Safety Manual Handling Operation Regulations 1992, for components, assemblies and packages supplied with a gross weight over 1kg. The forms and content of such markings shall be subject to the Approval of the Electricity North West Overhead Line Circuits Manager.

4.6 Minimum Life Expectancy

The minimum life expectancy of all products covered by this Specification is 35 years.

4.7 Product Conformity

Preference will be given to those Suppliers who can provide suitable product conformity certification to a recognised or specified standard, or an equivalent certification.

4.8 Confirmation of Conformance

The Tenderer shall complete the conformance declaration sheets in [Appendix B](#). Failure to complete these declaration sheets may result in an unacceptable bid.

5 Requirements for Type and Routine Testing

The Electricity North West Overhead Line Circuits Manager shall set out the requirement of the following tests to be carried out by the Supplier at the Supplier's cost.

5.1 Requirement for Type Tests at Suppliers Premises

These are a series of one-off type tests, which are carried out to ensure the satisfactory performance of the product design, under extremes of operating stresses, and of endurance, as may be appropriate, to be determined by the Electricity North West Overhead Line Circuits Manager.

These may or may not be destructive tests.

5.2 Requirement for Routine Tests at the Supplier's Premises

These tests may be required to be carried out on every individual unit or component, as specified, or at some regular frequency to be determined by the Electricity North West Overhead Line Circuits Manager.

The results of these tests may be required to be supplied to Electricity North West with each unit purchased or retained for inspection, at a period to be determined by the Electricity North West Overhead Line Circuits Manager.

5.3 Requirement for on Site Tests

These will normally be included within the scope of onsite commissioning, but may be included if appropriate.

6 Technical Particulars

6.1 Galvanized Steel Cable Guards

(Refer to Drawings I-400G1-GRD-002, -004 and -008)

Steelwork shall conform to all requirements of Specification ES400S11 and ENA TS 43-95 unless otherwise stated.

Steel cable guards shall be of cold reduced mild steel, galvanized in accordance with BS EN ISO 1461.

Galvanized steelwork shall be free from sharp edges or points left by the galvanization process.

Each cable guard (or separate deliverable item) shall be stamped with the following:

- The Electricity North West Commodity Code (CC) number (refer to [Appendix A](#)).
- Gross weight.

Additionally, each item shall be identified by the Approved product description (refer to [Appendix A](#)). In this case, identification means attaching a label, tag or other suitable marker to each cable guard item or deliverable batch.

6.2 Packaging

Ensure the cable guards are packed suitably for delivery and storage. For example, avoid wedging cable guards together so that subsequently they need to be prised apart (which could lead to injury).

7 Documents Referenced

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

DOCUMENTS REFERENCED	
Health and Safety at Work Act 1974	
Control of Substances Hazardous to Health Regulations 2002	
Manual Handling Operations Regulations 1992	
BS EN ISO 1461:	Hot dip galvanized coatings on fabricated iron and steel articles. Specifications and test methods.
BS EN ISO 9000:	Quality management systems.
BS EN ISO 14001:	Environmental management systems. Requirements with guidance for use.
ENA TS 43-50:	132kV Single Circuit Overhead Lines on Wood Poles.
ENA TS 43-95:	Steelwork for overhead lines.
CP311:	Equipment Approval Policy and Process
ES400O2:	Overhead-Lines of Compact-Covered-Construction (CCC) for 6.6/11 and 33kV: Design and Construction.
ES400O3:	Bare-Wire Overhead-Lines on Wood Poles for 6.6/11 and 33kV: Design and Construction.
ES400O4:	Aerial Bundled Conductors for LV: Design and Construction.
ES400S11:	Specification for Overhead Line Steelwork.

8 Keywords

Cable; guard;

Appendix A – Schedule of all OHL Cable Guards

APPROVED DESCRIPTION (FOR PURCHASING AND PRODUCT LABELLING)	DRAWING REFERENCE (DERIVED FROM)	USED IN SPEC:	CC NUMBER
Cable guard, 132kV wood pole line, galvanized steel (Dwg I-400G1-GRD-004)	I-400G1-GRD-004 (ENA TS 43-50: Fig. 14) (ENA TS 43-95: Fig. 52)	ENA TS 43-50	122794
Cable guard, angled shoe, galvanized steel (Dwg I-400G1-GRD-006)	I-400G1-GRD-006 (bespoke development)	ES40002 * ES40003 * ES40004 *	TBA
Cable guard, galvanized steel, 10R, 450mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122716
Cable guard, galvanized steel, 10R, 1050mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122723
Cable guard, galvanized steel, 10R, 1650mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122719
Cable guard, galvanized steel, 25R, 450mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122724
Cable guard, galvanized steel, 25R, 1050mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122725
Cable guard, galvanized steel, 25R, 1650mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122720
Cable guard, galvanized steel, 25R-FS, flat surface, 2400mm (Dwg I-400G1-GRD-008)	I-400G1-GRD-008 (bespoke development)	ES40004 ***	TBA
Cable guard, galvanized steel, 38R, 450mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122717

Cable guard, galvanized steel, 38R, 1050mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122727
Cable guard, galvanized steel, 38R, 1650mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122721
Cable guard, galvanized steel, 45R, 450mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122728
Cable guard, galvanized steel, 45R, 1050mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122729
Cable guard, galvanized steel, 45R, 1650mm (Dwg I-400G1-GRD-002)	I-400G1-GRD-002 (bespoke development)	ES40002 * ES40003 * ES40004 *	122730
Cable guard, service entry cover plate	I-400G1-GRD-009 (bespoke development)	ES40004	261468

* Where enhanced security measures are to be applied due to risk of interference, the following drive screws shall be used to fix the cable guards to the pole (washers may be used where necessary):

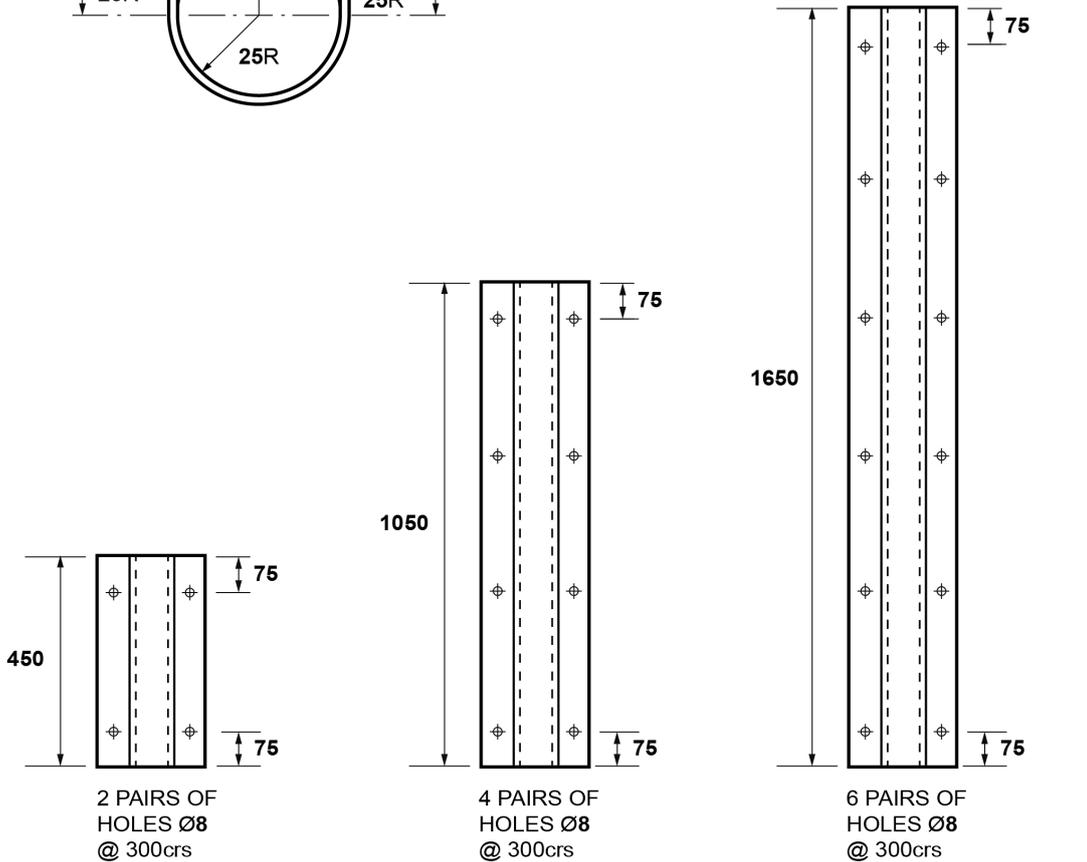
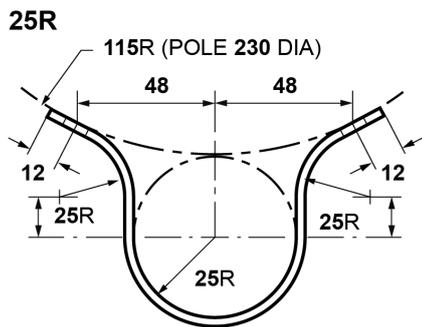
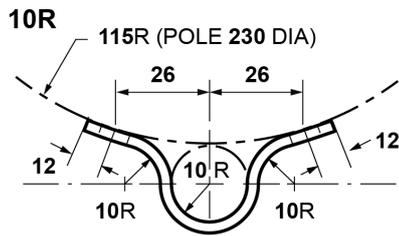
- For cable guards 10R and 25R, use drive screws, CC 991600.
- For cable guards 38R, 45R and angled shoe, use drive screws, CC 900165.

Where enhanced security measures are not necessary, the following coach screws may be used to fix cable guards to the pole (washers may be used where necessary):

- For cable guards 10R and 25R, use 6mm diameter coach screws, CC 139379.
- For cable guards 38R, 45R, use 8mm diameter coach screws, CC 139380.

** The GRP cable guards are to be fixed to walls by 6mm diameter coach screws, CC 139379, and Rawlplugs as necessary.

*** For cable guards 25R-FS, use drive screws, CC 991600 and Rawlplugs as necessary.



No 16 BG SHEET STEEL

CABLE GUARD
GALVANIZED STEEL

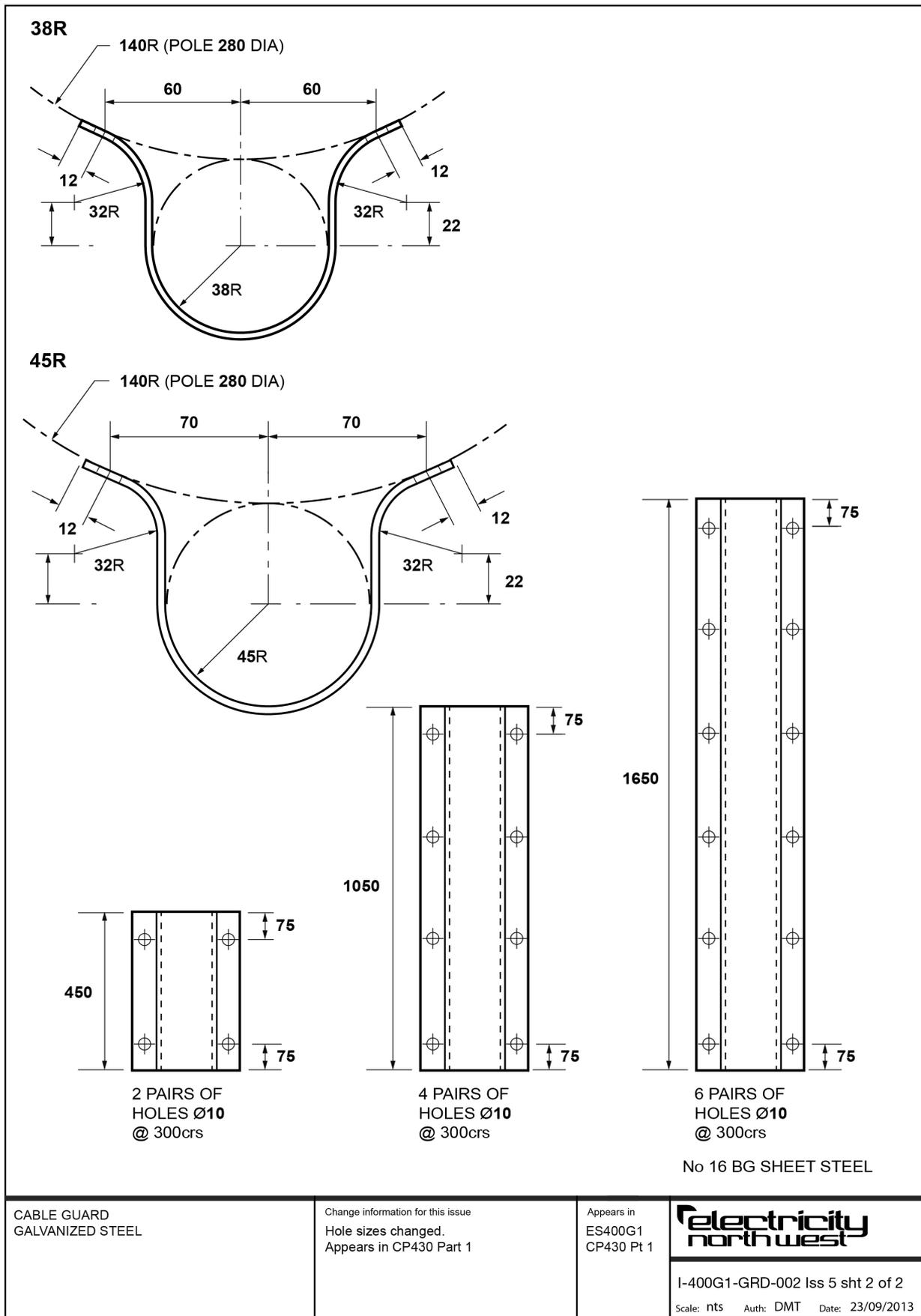
Change information for this issue
Hole sizes changed.
Appears in CP430 Part 1

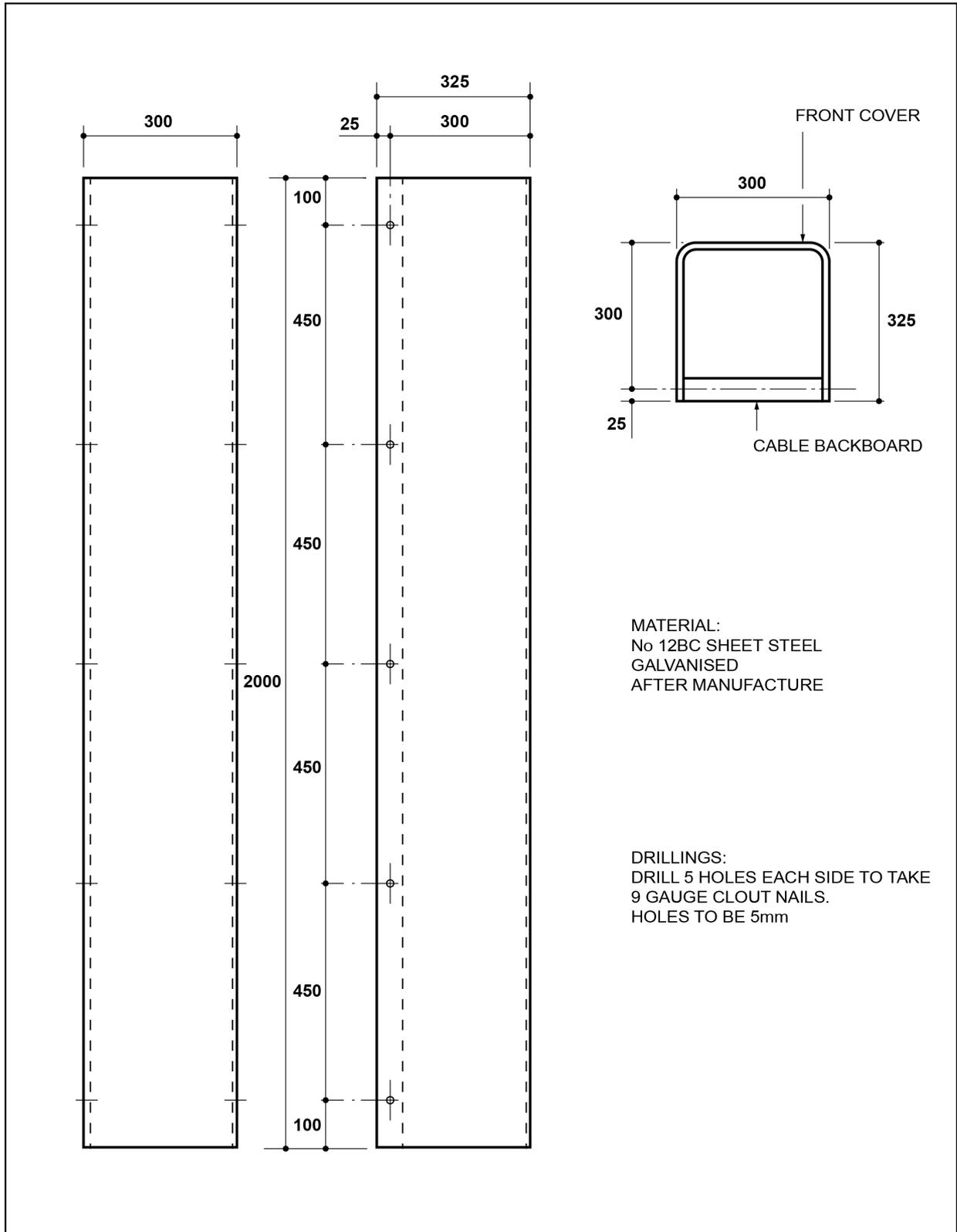
Appears in
ES400G1
CP430 Pt 1



I-400G1-GRD-002 Iss 5 sht 1 of 2

Scale: nts Auth: DMT Date: 23/09/2013

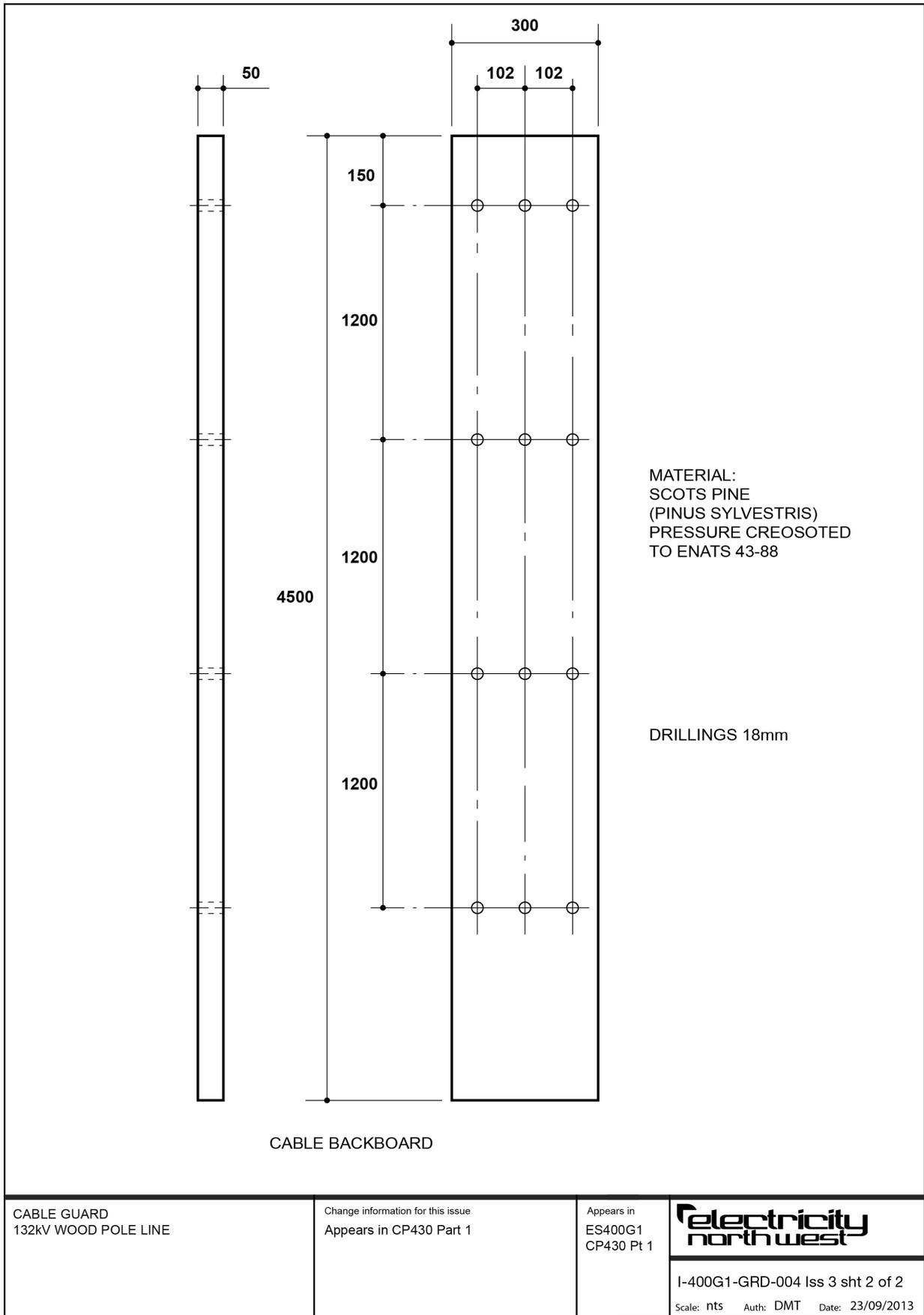




MATERIAL:
No 12BC SHEET STEEL
GALVANISED
AFTER MANUFACTURE

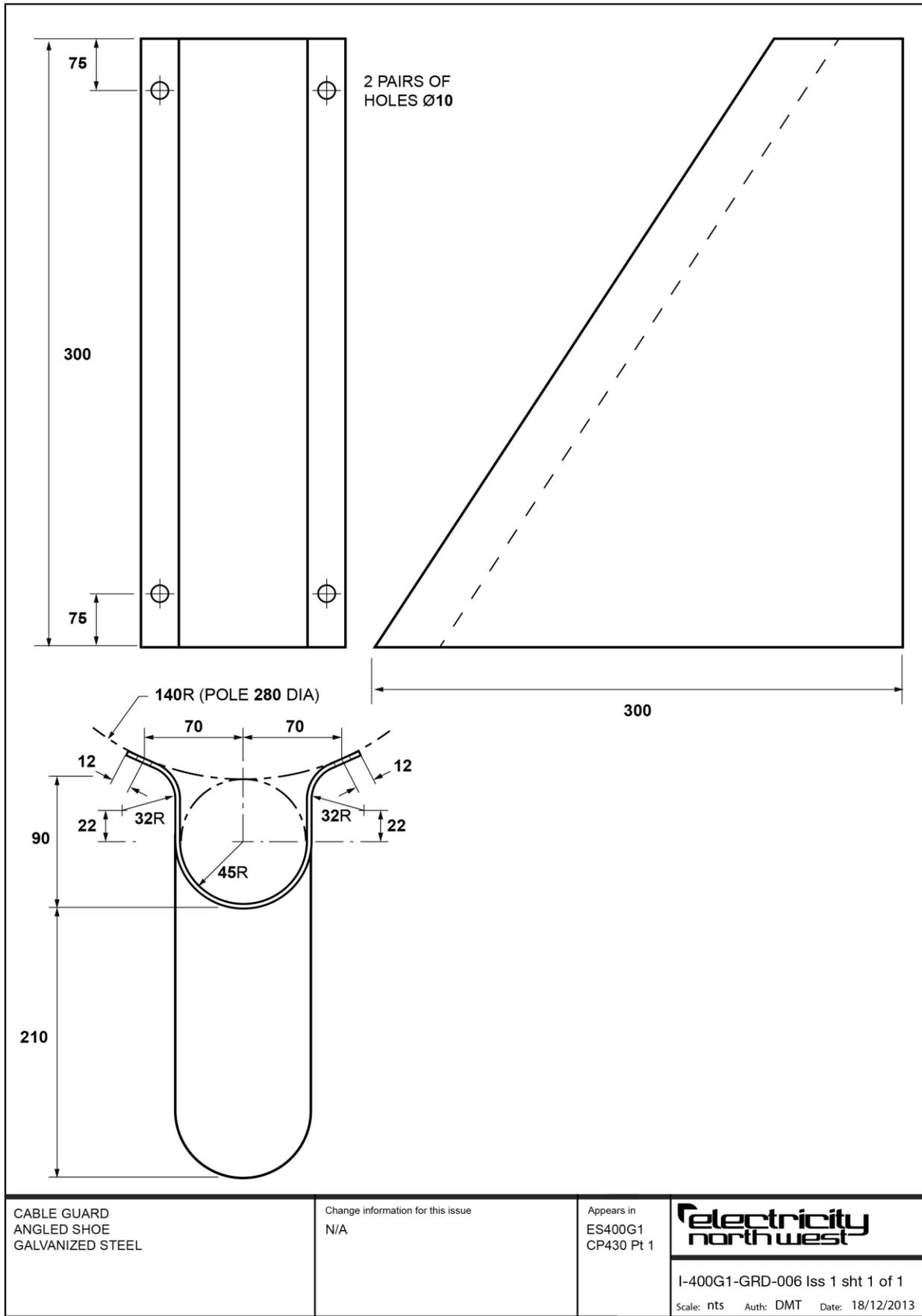
DRILLINGS:
DRILL 5 HOLES EACH SIDE TO TAKE
9 GAUGE CLOUT NAILS.
HOLES TO BE 5mm

<p>CABLE GUARD 132kV WOOD POLE LINE</p>	<p>Change information for this issue Appears in CP430 Part 1</p>	<p>Appears in ES400G1 CP430 Pt 1</p>	<p>electricity north west</p> <p>I-400G1-GRD-004 Iss 3 sht 1 of 2 Scale: nts Auth: DMT Date: 23/09/2013</p>
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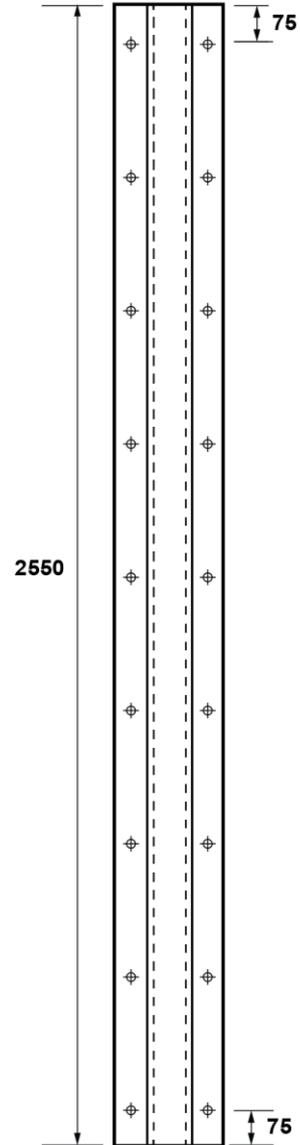
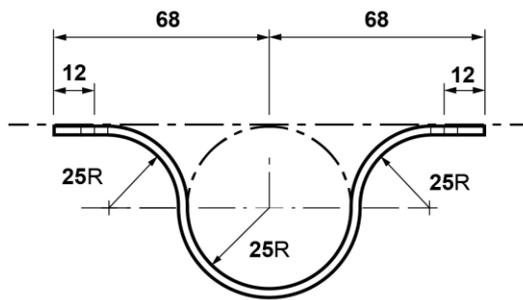


**Cable Guard, 132kv Wood Pole Line, Galvanized Steel
(Kit CCNumber 122794)**

		DRAWING NO: I-400G1-GRD-004	
Approved Description (for purchasing and product labelling)	Qty	CC Number	
Front cover	2	-	
Cable backboard	1	-	
Nail, clout, 9 gauge, length 50mm, galvanized	10	991694	



25R-FS



9 PAIRS OF
HOLES Ø8
@ 300crs

No 16 BG SHEET STEEL

CABLE GUARD
GALVANIZED STEEL, 25R-FS
FLAT SURFACE

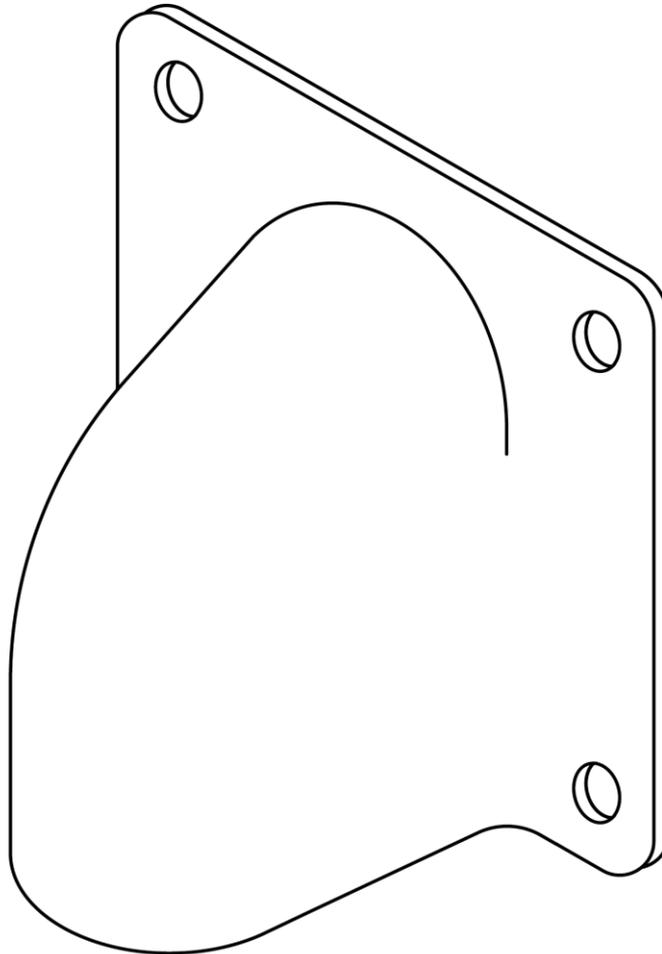
Change information for this issue
N/A

Appears in
ES400G1
CP430 Pt 1

**Electricity
north west**

I-400G1-GRD-008 iss 1 sht 1 of 1

Scale: nts Auth: DMT Date: 28/04/2016



The material shall meet the general requirements of this specification (ie ES400G1).

The cover plate shall contain suitable fixing points (holes, slots, etc) to enable it to be secured firmly to the wall of a building. Once secured to the wall, the cover plate shall be sealed to prevent water ingress – a method for providing a suitable seal shall be provided.

The inside diameter of the cover plate shall be suitable for the insertion of a cable of TBAm maximum diameter, after cover plate has been secured to a flat wall.

CABLE GUARD
SERVICE ENTRY
COVER PLATE

Change information for this issue
N/A

Appears in
ES400G1
CP430 Pt 1



I-400G1-GRD-009 Iss 1 sht 1 of 1

Scale: nts Auth: DMT Date: 22/6/2016

Appendix B – 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:

N/A =	Clause is not applicable/appropriate to the product/service.
C1 =	The product/service conforms fully with the requirements of this clause.
C2 =	The product/service conforms partially with the requirements of this clause.
C3 =	The product/service does not conform to the requirements of this clause.
C4 =	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)
4.1	Product not to be Changed		
4.2	Electricity North West Technical Approval		
4.3	Quality Assurance		
4.4	Formulation		
4.5	Identification Markings		
4.6	Minimum Life Expectancy		
4.7	Product Conformity		
4.8	Confirmation of Conformance		
5.1	Requirements for Type Tests at the Supplier's Premises		
5.2	Requirement for Routine Tests at the Supplier's Premises		
6.1	Galvanized Steel Cable Guards		
6.2	Packaging		

* 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.

Additional Notes: