

	<b>Scope of Work</b>	<b>NTCSA</b>
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**Compiled by**



**Seruwe Ntsoane**  
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Date: 31/12/2025

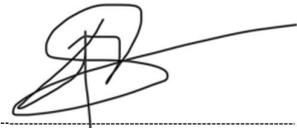
**Reviewed by**



**Livhuwani Mulaudzi**  
**HV Plant Snr Advisor**

Date: 05/1/2026

**Authorized by**



**Pulane Sereme**  
**HV Plant Manager**

Date: 5/1/2026

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### CONTROLLED DISCLOSURE

## 1. Introduction

It has been observed that the substation labels and safety signage at substations, control rooms and overhead lines in Central Grid Substations are not adequate and some of the existing signs and labels have faded. The OHS act requires the substations to have safety signs for the interest of the safety of personnel, therefore the Grid needs to purchase the signs to comply with this act.

## 2. Supporting Clauses

### 2.1 Scope

#### 2.1.1 Purpose

The purpose of the document is to detail the specification for the transaction of signage and labels in Central Grid.

#### 2.1.2 Applicability

This document shall apply in National Transmission Company South Africa SOC Ltd Reg No 2021/539129/30's Central Grid substations.

#### 2.1.3 Effective date

The document will be effective from approval and last signature.

### 2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

#### 2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] Occupational Health and Safety (OHS Act 85 of 1993)
- [3] SANS 141, Glass-reinforced polyester (GRP) laminates;
- [4] SANS 121 (ISO 1461), Hot-dip galvanised coatings on fabricated iron and steel articles - Specifications and test methods;
- [5] SANS 1091, National colour standards for paint;
- [6] SANS 1186-1, Symbolic safety signs Part 1: Standard signs and general requirements;
- [7] SANS 1274, Coatings applied by the powder-coating process;
- [8] ST\_240-114967625, Operating regulations for high voltage systems (ORHVS);

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- [9] EPL\_32-727, Rev 0, Safety, Health, Environment, And Quality (SHEQ) Policy;
- [10] 240-120804300, The Standard For The labelling Of Electrical Equipment within Eskom Wires Network.
- [11] 240-103414344: Eskom Corporate Identity Manual– Section5: Signage;
- [12] 0.54/404: Electrical equipment enamelled labels details;
- [13] 0.54/5577: Electrical equipment enamelled labels text layout;
- [14] D-DT-5047: Substation name board – Sizes & Legend layout
- [15] D-DT-5047: Substation primary plant label – Sizes & Legend layout
- [16] D-DT-5047: Substation primary plant label – Vitreous Enamel manufacturing details
- [17] D-DT-5047: Substation primary plant label – Fibreglass manufacturing details
- [18] D-DT-5047: Substation primary plant label – Chromadek / Chromaprep manufacturing details
- [19] D-DT-5050: Sub-transmission line label – HV Line Designation & Structure Identification Label
- [20] D-DT-5050: Sub-transmission line label – HV Line Crossing Label
- [21] D-DT-5050: Low voltage line label – LV Structure Identification Label (Optional to D-DT-3049)
- [22] D-DT\_3202: Sign, Danger;
- [23] 240-62629353: Specification For Panel Labelling Standard;

## 2.2.2 Informative

N/A

## 2.3 General

### 2.3.1 Definitions

Definition	Description
<b>Cable designation labels</b>	Label installed on each end of a power cable to identify the designation of the cable.
<b>Legend</b>	The text or any other makings that is to be displayed by the completed label.
<b>Line designation</b>	Text (alphas) on a label indicating the source and/or destination of a line.
<b>Line crossing label</b>	Labels that are installed on a sub-transmission line structure to indicate location on a line that is regarded as hazardous to aircraft during aerial inspections.
<b>LV service cable identification label</b>	Label installed on a pole top box identifying the customer service cable is connected to.
<b>Operating equipment label</b>	Labels that identify all substation and line equipment including, line isolators (links), sectionalisers, auto reclosers, voltage regulators, fuses and breakers.

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**Structure identification labels**

Labels that are installed on overhead line support structures to uniquely identify each structure of a specific line.

**Substrate**

The base material that the label is manufactured from, on which the legend is applied to.

**Text**

The wording/numbers required on the labels.

**Helvetica Compact**

The trademarked name for a font type.

## 2.4 Roles and Responsibilities

The roles and responsibilities will be of NTCSA appointed representative to manage and oversee the transaction until completion of the work. The contractor will be responsible for the provision of the services listed including the supply of all material, tools and equipment, personal protective equipment, labour resources, traveling and accommodation of the personnel working.

## 2.5 Process for Monitoring

The contractor shall follow the guidelines and requirements in the scope of work and technical specification documents including requirements in the Occupational Health and Safety (OHS Act 85 of 1993) to execute the scope of work. Any deviations from the scope are to be communicated with the NTCSA representative and approval issued with the relevant documents.

## 2.6 Related/Supporting Documents

N/A

## 3. Scope of Work :

Supply and Delivery of signage and labels in Central Grid according to the following standards and specifications, as well as the BOQ to accompany this document:

### 3.1 Substation signage and labels [240-75660336 - Section 3.2 ]

**3.1.1** Power Plant (Apparatus ) labels

**3.1.2** Substation Safety Signs (OSH)

**3.1.3** Substation Name Boards

### 3.2 Overhead Line labels [ 240-75660336 - Section 3.3]

**3.2.1** Overhead Tower labels

**3.2.2** Overhead Line Crossing

**3.2.3** Overhead Line Designation

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3.3 Control Plant labels [240-6262953]

- 3.3.1 Control Panel labels
- 3.3.2 Control cable labels/markers
- 3.3.3 Control Circuit /Junction Box / Marshalling Kiosk label

3.4 Delivery Address:

**Substation signs and labels:**

Brenner Substation (Amelia Thulo)  
Tritchard Road, Salfin  
Boksburg  
1459

**Line labels**

NTCSA Simmerpan (Nathan Molapo / Mac Masilana)  
Refinery Road, Elandsfontein  
Germiston  
2094

**Control Plant labels**

NTCSA Simmerpan (Gert Maphutsi)  
Refinery Road, Elandsfontein  
Germiston  
2094

## 4. Acceptance

This document has been seen and accepted by:

Name	Designation
Pulane Sereme	HV Plant Manager
Arthur Mdhuli	Contracts Manager
Livhuwani Mulaudzi	HV Plant Snr Advisor

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In the preceding table, list the manager/s of the divisions that will be affected by the content of this document.

## 5. Revisions

**Note:** Start with the latest Revision History in the first row and go backwards.

Date	Rev.	Compiler	Remarks
November 2025	0	S.N Ntsoane	Scope of work

## 6. Development Team

The following people were involved in the development of this document:

- Seruwe Ntsoane

## 7. Acknowledgements

- Ronald Chauke
- Rose Baloyi
- Mac Masilana
- Lebo Sithole

### CONTROLLED DISCLOSURE

## Appendix A – Specifications

### Substation:

**Table 1: Colours for Substation Name Boards**

1	2
Legend Type	Colour code
Gold Background	PANTONE 8004C
Eskom Blue – Legend, logo and signage legs	PANTONE 287C

**Table 2: Colour requirements for substation equipment and substation phasing discs labels**

COLOUR SCHEME	LETTERING	LABEL SIDES	BACKGROUN D	LABEL SIDES	APPLICATION
1.	BLACK	-	ORANGE – Spectrum B25	-	All primary plant excluding earth switches.
2.	WHITE	-	BLACK	-	Earth Switches
3.	BLACK	-	WHITE	-	Junction Boxes
4.	BLACK	Lettering One side only	RED - A11	Background Both Sides	Phasing Discs
5.	BLACK	Lettering One side only	WHITE	Background Both Sides	
6.	BLACK	Lettering One side only	BLUE – Ultramarine F09	Background Both Sides	

**Table 3: Minimum height of legend text**

1	2
Legend Type	Legend min. height
Indicating panel/bay of specific plant.	50mm
Indicating voltage and function of a specific plant.	30mm
Phase identification label	100mm
Overhead strung busbar label	100mm
Tubular busbar label / MV busbar	50mm

**Table 4: Thickness of substrate for vitreous enamel labels**

1	2	3
Label type	Mild steel thickness	
	1.2mm	1.6mm
Label 2	X	
Label 3		X
Label 4		X
Label 5	X	

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**Table 5: Substation safety signs (OHS Act)**

1	2	3
BG drawing number	Sign description	Layout drawing Number
D-DT-6072	SIGN, ABC – UNAUTH. ENTRY/INTERF. APP	D-DT-5015
D-DT-6073	SIGN, DE – PROC. IN CASE FIRE/NO H2O	D-DT-5016
D-DT-6074	SIGN, F – PROHIBITIVE (VARIOUS)	D-DT-5017
D-DT-6075	SIGN, G – HARD HAT AREA	D-DT-5018
D-DT-6077	SIGN, LC – LIVE CHAMBER	D-DT-5021
D-DT-6112 Sht 1	SIGN, DCSS1 – BATTERY ROOM	D-DT-5022 Sht 1
D-DT-6112 Sht 2	SIGN, DCSS2 – BATTERY CABINET	D-DT-5022 Sht 2
D-DT-6112 Sht 2	SIGN, DCSS3 – COMBINED BATTERY ROOM	D-DT-5022 Sht 3
D-DT-6113 Sht 1	SIGN, GA20 – EMERGENCY SHOWER	D-DT-5023 Sht 1
D-DT-6113 Sht 2	SIGN, GA19 – EYE WASH	D-DT-5023 Sht 2
D-DT-6113 Sht 2	SIGN, PV5 – DRINKING WATER PROHIB	D-DT-5023 Sht 3

**Annex A – List of drawings**

Drawing No	Sheet	Description
D-DT-3049	-	Plate, Blank Alu Pole Mk 25x150
D-DT-5015	-	Sign ABC – Unauthorized entry prohibited
D-DT-5016	-	Sign DE – Procedure in case of fire
D-DT-5017	-	Sign F – Prohibitive sign
D-DT-5018	-	Sign G – Hard hat area
D-DT-5021	-	Sign LC – Live chamber
D-DT-5022	1	Sign DCSS1 – Battery room
D-DT-5022	2	Sign DCSS2 – Battery cabinet
D-DT-5022	3	Sign DCSS3 – Combined battery room
D-DT-5023	1	Sign GA20 – Emergency shower
D-DT-5023	2	Sign GA19 – Eye wash
D-DT-5023	3	Sign PV5 – Drinking water prohibited
D-DT-5047	1	Substation name board – Sizes & Legend layout
D-DT-5047	2	Substation primary plant label – Sizes & Legend layout
D-DT-5047	3	Substation primary plant label – Vitreous Enamel manufacturing details
D-DT-5047	4	Substation primary plant label – Fibreglass manufacturing details
D-DT-5047	5	Substation primary plant label – Chromadek / Chromaprep manufacturing details
D-DT-5273	1	Post Support and Foundation
D-DT-5273	2	Label Mounting Bracket
D-DT-5273	3	Mounting bracket for Phase Identification Labels
D-DT-5273	4	Substation Name Board – Mounting details
D-DT-5049	-	Substation secondary plant label – Sizes
D-DT-5050	1	Sub-transmission line label – HV Line Designation & Structure Identification Label
D-DT-5050	2	Sub-transmission line label – HV Line Crossing Label
D-DT-5050	3	Low voltage line label – LV Structure Identification Label (Optional to D-DT-3049)
D-DT-6072	-	Sign ABC – Unauthorised entry prohibited
D-DT-6073	-	Sign DE – Procedure in case of fire
D-DT-6074	-	Sign F – Prohibitive sign
D-DT-6075	-	Sign G – Hard hat area
D-DT-6077	-	Sign LC – Live Chamber
D-DT-6112	1	Sign DCSS1 – Battery room
D-DT-6112	2	Sign DCSS2 – Battery cabinet
D-DT-6112	2	Sign DCSS3 – Combined battery room
D-DT-6113	1	Sign GA20 – Emergency shower
D-DT-6113	2	Sign GA19 – Eye wash
D-DT-6113	2	Sign PV5 – Drinking water prohibited
D-DT-8012	-	Cable route marker
0.54/404	-	Electrical equipment enamelled labels details
0.54/5577	-	Electrical equipment enamelled labels text layout

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### Annex B – List of colour references

The following colour references are used in this specification:

Colour Name	SANS 1091 (NCS)	RAL	PANTONE
Orange	2075-Y70R	RAL 2011	-
Red	1580-Y90R	RAL 3000	-
Blue	4050-B	RAL 5015	-
Yellow	1070-Y20R	RAL 1003	-
Gold Background	-	-	8004C
Terracotta	-	-	174C
Eskom Blue	-	-	287C

### Annex C – List of primary plant labels & sizes

1	2	3	4	5
Label Type	Label Size			Typical Usage
	VE	CD	FG	
Label 2	1000 x 245	1000 x 245	1000 x 250	Isolator, Voltage Transformer, Current Transformer, Breaker, Transformer, Busbar
Label 3	600 x 245	600 x 245	600 x 250	Isolator, Voltage Transformer, Current Transformer, Breaker, Transformer, Medium Voltage operating equipment
Label 4	450 x 245	450 x 245	450 x 250	Isolator, Voltage Transformer, Current Transformer, Breaker, Transformer, Medium Voltage operating equipment
Label 5	150 x 245	150 x 245	150 x 245	Phase Identification labels
Label 6	300 x 245	300 x 245	-	Isolator, Voltage Transformer, Current Transformer, Breaker, Transformer, Medium Voltage operating equipment

VE - Vitreous Enamel  
 CD - Chromadek  
 FG - Fibreglass

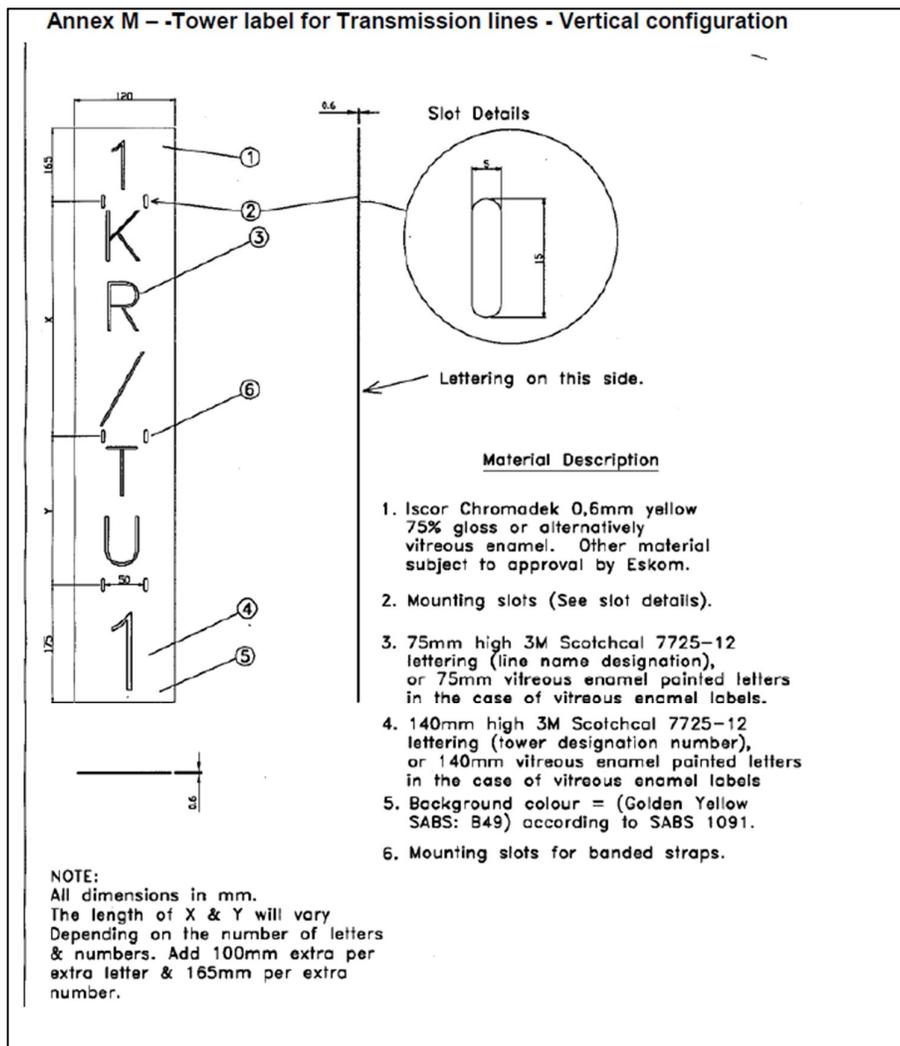
### Annex D – List of label substrate types

1	2	3	4	5
Label Type	Vitreous Enamel	Chromadek / Chromaprep	Fibreglass	Aluminium
Substation name board	-	X	-	-
Substation primary plant labels	X	X	X	-
Sub-transmission line structure identification labels	X	X	-	-
Sub-transmission line crossing label	-	X	-	-
MV structure identification labels	-	-	-	X
LV structure identification labels	-	X	-	X
MV operating labels	X	X	-	-
LV operating labels	X	X	-	-
Substation safety signs	X	X	-	-

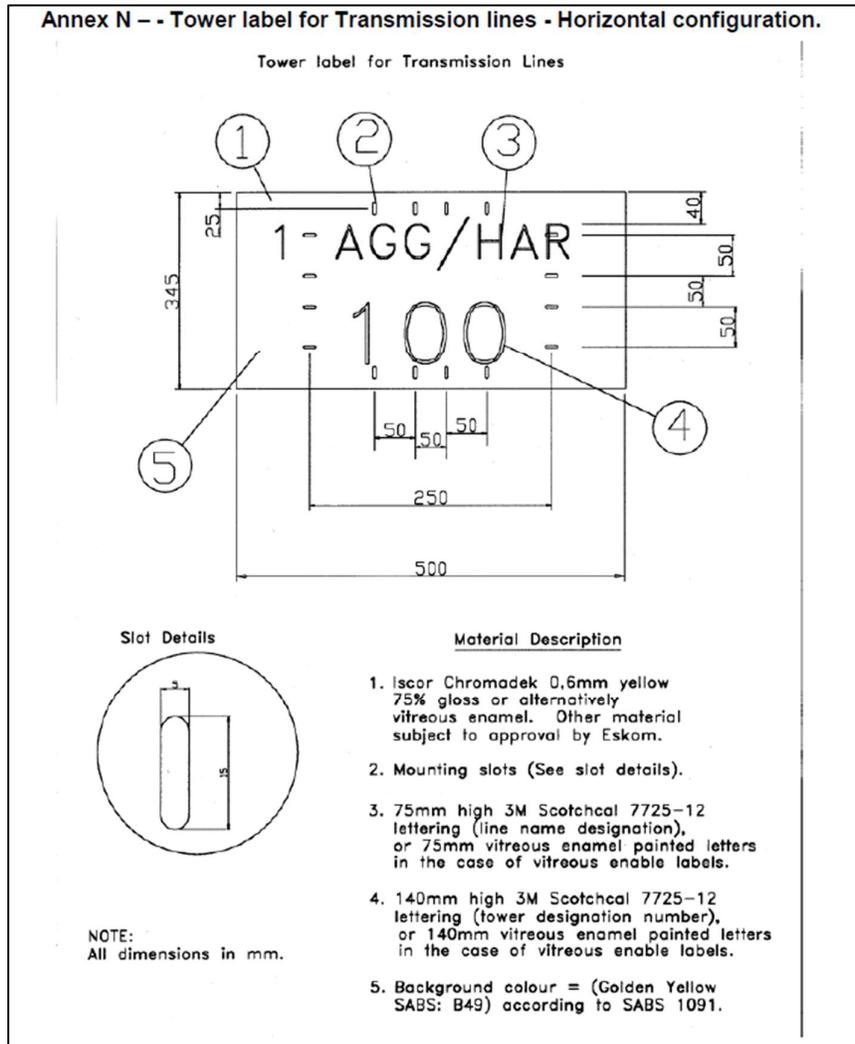
**CONTROLLED DISCLOSURE**

Lines

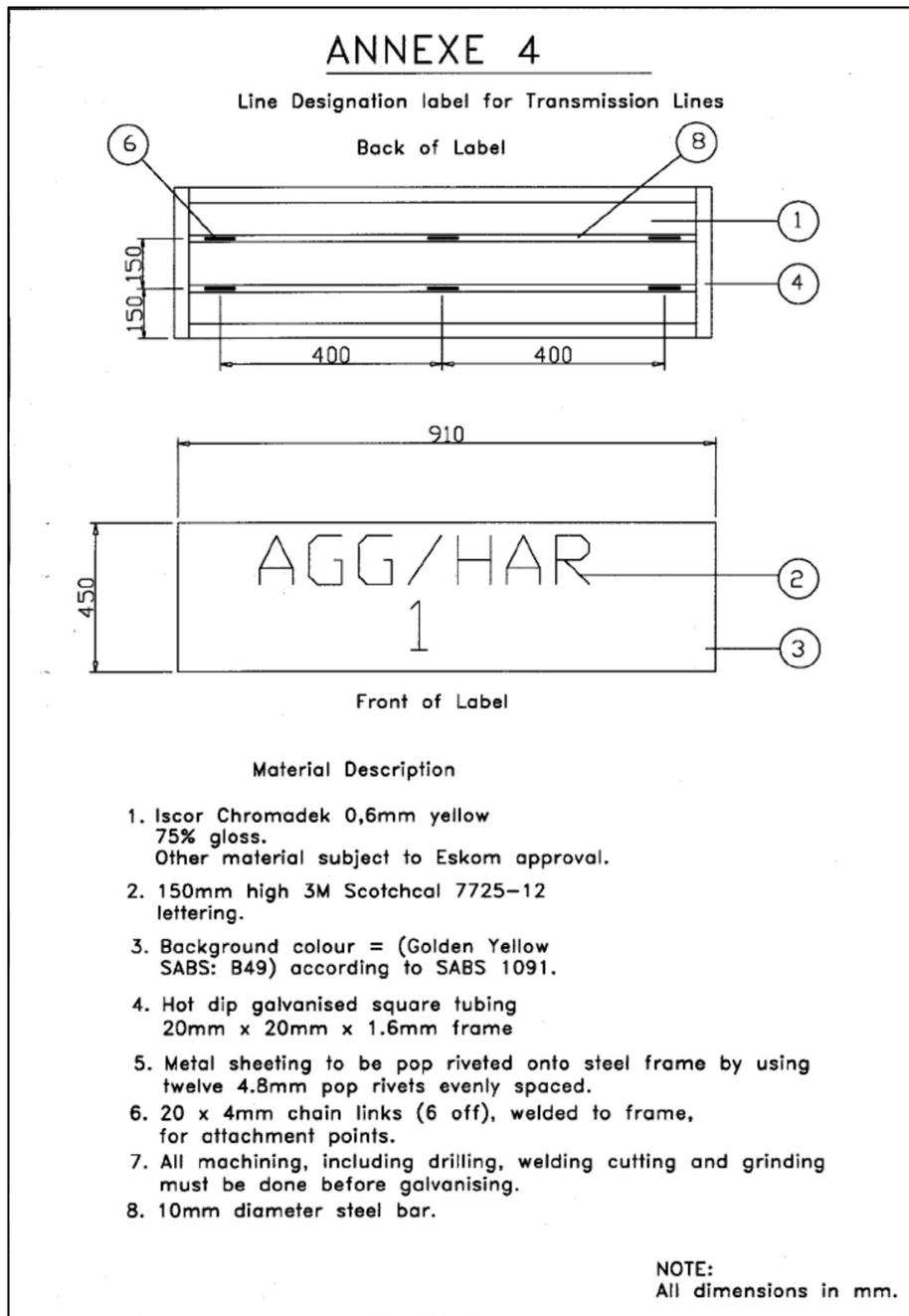
Legend	Size
1. Line number designation	75 mm
2. Line name designation	75 mm
3. Tower number designation	140 mm



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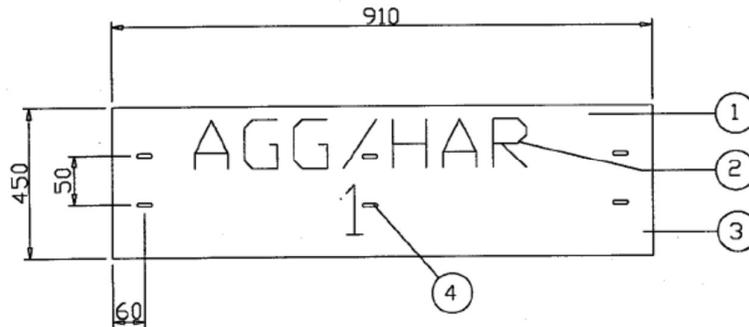
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**CONTROLLED DISCLOSURE**

## ANNEXE 4A

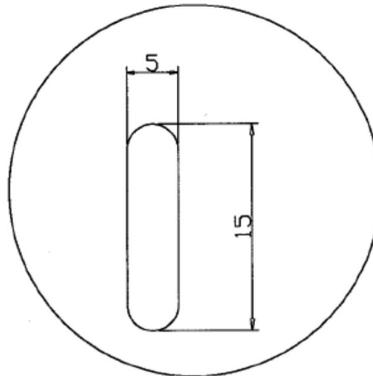
Line Designation label for Transmission Lines



### Material Description

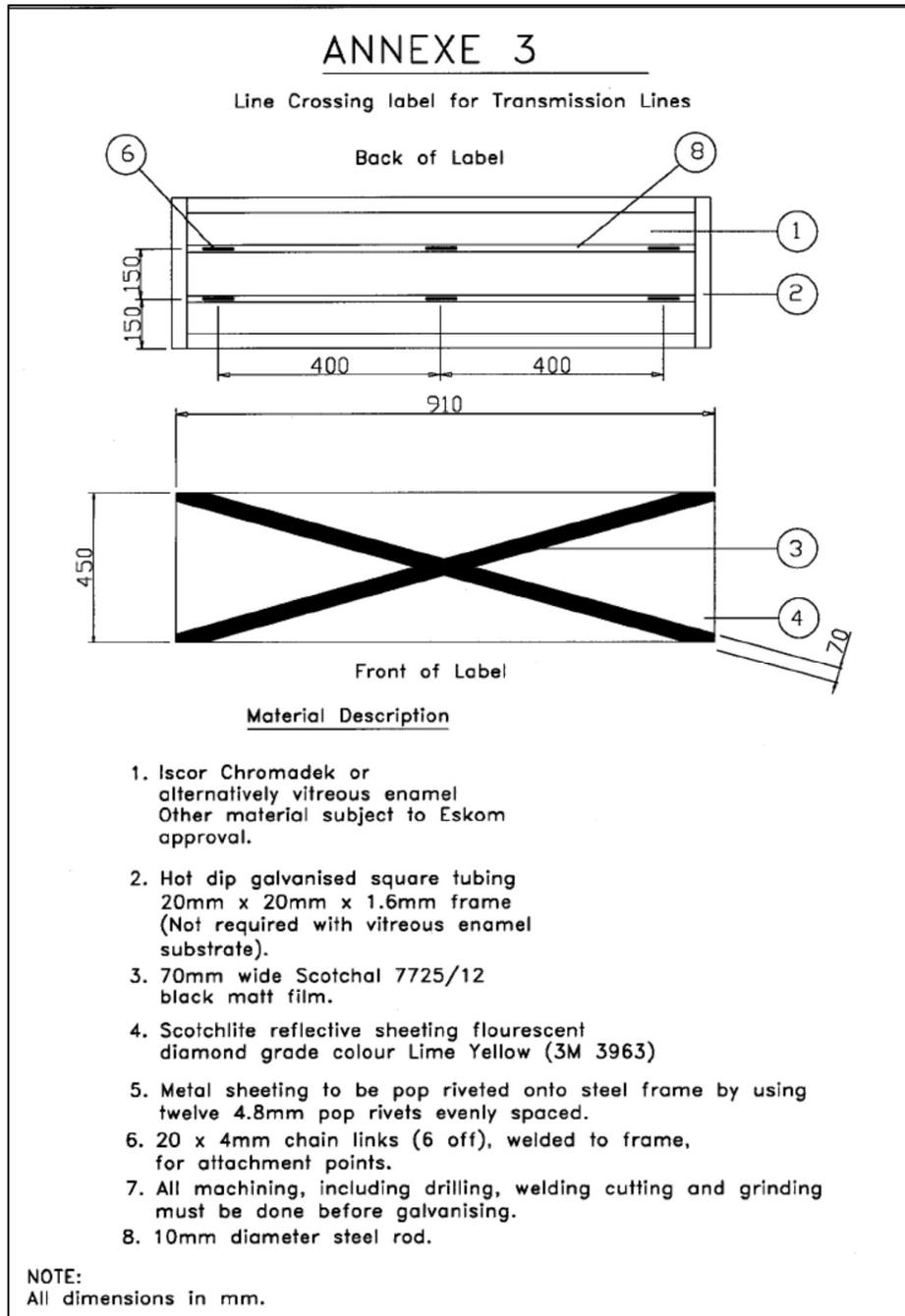
1. Vitreous enamel substrate. Other material subject to approval by Eskom.
2. 150mm vitreous enamel painted letters
3. Background colour = (Golden Yellow SABS: B49) according to SABS 1091.
4. Mounting slots (See slot details).

### Slot Details



NOTE:  
All dimensions in mm.

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