

 Eskom National Transmission Company South Africa TM	Scope of Work	NTCSA
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1. Introduction

Supply and delivery of tower labels, line designation labels, line crossing labels, phasing labels and stainless-steel strapping, labelling is mandated by the Occupational Health and Safety Act (OHS Act) No. 85 of 1993, which stipulates that all control apparatus must be permanently marked to clearly identify the system or subsystem to which it belongs.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

Supply and delivery of tower labels, line designation labels, line crossing labels, phasing labels and stainless-steel strapping. This document shall apply throughout National Transmission Company South Africa (NTCSA) Central Grid on a once-off basis.

2.1.2 Effective date

This document is effective from the last date of 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] 240-114967625, Operating regulations for high voltage systems (ORHVS).
- [2] 32-727, Safety, Health, Environment, and Quality (SHEQ) Policy.
- [3] 240-120804300, The Standard for The Labelling of Electrical Equipment within Eskom Wires
- [4] 240-185000230, Standard for the Labelling of Electrical Equipment within Transmission
- [5] 240-75660336, The Standard for Design, Manufacturing & Installation of Eskom Wires Business Equipment Labels

2.2.2 Informative

- [6] Occupational Health and Safety Act and Regulations (OH Act);
- [7] ISO 9001, 2000 Quality Management Systems.
- [8] SANS 121 (ISO 1461), Hot-dip galvanised coatings on fabricated iron and steel articles - Specifications and test methods.
- [9] SANS 1091, National colour standards for paint.

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[10] SANS 1186-1, Symbolic safety signs Part 1: Standard signs and general requirements.

[11] SANS 1274, Coatings applied by the powder-coating process.

2.3 Definitions

All definitions in the OHS Act 85 and 240-114967625, Operating regulations for high voltage systems (ORHVS) as well as the following are applicable:

2.3.1 Line Crossing Label

Labels that are installed on a sub-transmission line structure to indicate the location on a line that is regarded as hazardous to aircraft during aerial inspections as shown in Figure 1.

A line crossing label shall be attached to each longitudinal face of the bridge, on second and third poles the first, /towers on all sides of a crossing.



Figure 1: Line Crossing Label

2.3.2 Line Designation

Line designation labels are labels placed at the start and end of a line and are installed on the beam or cross-arm of the structure which identifies the designation and the line number as shown in Figure 2. The colour of the label will be a golden yellow background with black lettering.

Text (alphas) on a label indicating the source and/or destination of a line.

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Figure 2: Line Designation Label

2.3.3 Tower Label

Tower labels are used to identify a specific line and also a specific tower/pole on a line. The standard prescribes that it will be a golden yellow background with black lettering as shown in Figure 3. It is clearly visible and needs to be fitted to all towers according to the labelling standard.

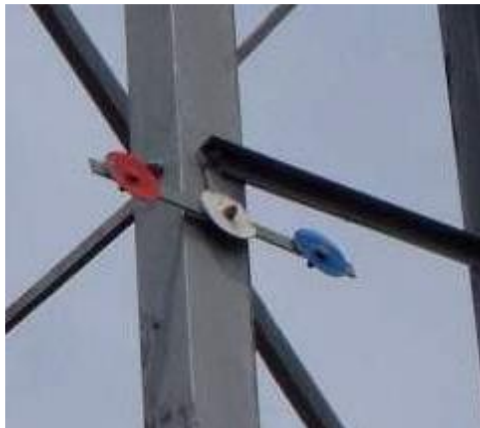


Figure 3: Line Tower Label

2.3.4 Phasing Label

A phasing label is normally found on the terminal, transposition towers and gantries to indicate the phase orientation on the structure and the line as shown in Figure 4. It is round discs in bright red, white and blue.

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**Figure 4: Phasing Labels**

2.4 Abbreviations

Abbreviation	Explanation
NTCSA	National Transmission Company of South Africa
HV	High Voltage
OHSACT	Occupational Health and Safety Act
ORHVS	Operating Regulations for High Voltage Systems
LES	Line Engineering Services
TX	Transmission
DRG	Drawing
HV	High Voltage

2.5 Roles and Responsibilities

N/A

2.6 Process for Monitoring

N/A

3. Scope of Work

Line inspections revealed that several towers are missing identification labels. In terms of the Occupational Health and Safety Act (OHS Act) No. 85 of 1993, labelling is a statutory requirement. The Act stipulates that all controlling apparatus must be permanently marked to identify the system, or the part of the system, to which it belongs. The required scope of work is as follows:

Supply and delivery of Tower Labels, Line Designation Labels, Line Crossing Labels and Stainless-Steel Strapping as shown in Appendix I and Appendix J.

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3.1 Tower Labels

All tower labels shall be made of a material approved by Eskom/NTCSA. Preference is given to the use of Chromadek / Chromaprep and vitreous enamel, but if any other material offers the same or higher quality than the preferred listed above, then this new material will be considered.

The Chromadek / Chromaprep label shall have a minimum guaranteed life of 10 years and the vitreous enamel labels a minimum guaranteed life of 25 years. b) The Chromadek / Chromaprep label shall be 0,6 mm thick with a minimum gloss of 75 %, while the substrate used for the vitreous enamel shall be cold rolled sheets from 1,2 mm to 1,6 mm thick. c) All labels supplied shall have a standard background colour of GOLDEN YELLOW: SABS B49 in accordance with SABS 1091.

3.1.1 Size and length of label

The tower label shall be manufactured in accordance with the drawings in Annexures A and B. The label shall have slots for the banded straps. The details of these slots are shown in the drawings in Annexures A and B. Label sizes and slots shall be manufactured as indicated on the relevant drawings.

3.1.2 Legends

a) Plain block letters (HELVETICA MEDIUM) shall be used for the legend. The inscription shall be detailed in the Works Information of the relevant contract.

b) The legend sizes shall be as indicated in the table below.

Table 1: Tower labels Legend and sizes

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

c) The legends for the Chromadek / Chromaprep labels shall use cast vinyl having a guarantee of 7 to 10 years lettering

d) The equivalent lettering shall be subject to Eskom/NTCSA approval.

3.2 Line Designation labels

This section covers transmission, sub-transmission and distribution lines.

Size and length of specific line designation labels shall be in accordance with the details specified in annexures C & D (TX).

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3.2.1 Legend

- a) The font for the legend shall be helvetica medium. The inscription shall be detailed in the Schedule of Quantities / Works Information of the relevant contract, supplied by the responsible person(s).
- b) All alphabetical inscriptions shall only be capital letters.
- c) The legend of Chromadek / Chromaprep labels shall be of cast vinyl having a guarantee of 7to10 years.
- d) The minimum height of the legend shall be 150 mm high for TX.
- e) The equivalent lettering shall be subject to Eskom/NTCSA approval.

3.2.2 Substrate – Vitreous enamel labels

Note 3: The substrate of specific line designation labels shall be manufactured in accordance with the details specified in Appendix C & D

- a) Labels shall be finished in vitreous enamel having a minimum guarantee of 25 years. The primary colour needs to be on the same side of the substrate where the legend is going to be applied.
- b) The vitreous enamel labels shall be manufactured from mild steel plates having a minimum thickness of 1.2mm-1.6mm.
- c) The label sizes and manufacturing details shall be in accordance with drawing D-DT-5050.
- d) All holes and slots shall be punched before enamelling. The slot shall be between 3mm and 5mm wide and 15mm long.

3.2.3 Substrate – Chromadek / Chromaprep labels

- a) Labels shall be manufactured from a material equivalent to Chromaprep (Z200)" having a minimum thickness 0.6mm-1.0mm with a minimum gloss of 75 %. Other material shall be subject to approval by Eskom.
- b) The primary colour of the label shall be powder coated with an exterior type of powder coating according to SANS 1274 (Type 6) with a minimum thickness of 70mm. The primary colour needs to be on the same side of the substrate where the legend is going to be applied.
- c) After the cast vinyl legend is positioned on the coloured substrate the label shall be powder coated on both sides of the label with an exterior type clear coat powder coating according to SANS 1274 (Type 6) with a minimum thickness of 70mm.
- d) The label sizes and manufacturing details shall be in accordance with drawing D-DT-5050.
- e) All slots shall be punched before powder coating. The slot shall be between 3mm and 5mm wide and 15mm long.

3.3 Line crossing labels

3.3.1 Substrate

Note 4: The line crossing labels shall be manufactured in accordance with the drawing in annex R (TX).

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- a) Line crossing labels shall be manufactured from a material equivalent to a Chromadek / Chromaprep (Polar White N14112 - Z200 or Frost White N14017 - Z200 or Fish Eagle White N14128 - Z200) having a minimum thickness 0.6mm. Other material shall be subject to approval by Eskom.
- b) The label shall be manufactured in such a way that the white finished side shall be facing the back of the label.
- c) The primed side of the Chromadek / Chromaprep label shall be covered with a 3M™ Diamond Grade™ DG³ Reflective Sheeting 4083 Fluorescent Yellow Green. Any other material shall be subject to approval by Eskom/NTCSA.
- d) Should the manufacturer decide to space the Reflective Sheeting on a black background to achieve the effect of the black cross, the primed surface of the Chromadek / Chromaprep shall be powder coated in accordance with 3.3.2.3.
- e) The line crossing label shall have a cross, placed diagonally on the label. The minimum width of the cross shall be 70mm.
- f) The label sizes and manufacturing details shall be in accordance with drawing D-DT-5050.

3.4 Safety and Warning Signage

All safety and warning signs shall comply with applicable industry standards for outdoor signage and durability. Signs must be manufactured from weather-resistant material suitable for long-term outdoor exposure (e.g., UV-stable materials such as aluminium composite board, galvanized steel, or rigid PVC). The supplier shall provide artwork proofs for approval prior to production. Final wording, colour coding, and layouts will be confirmed by NTCSA.

Table 2: Safety and Warning Signage Quantities

Description	Quantity
Sinkhole Warning Sign	100
No Dumping Warning sign	200
No illegal Mining or Construction	200

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Patrick Thwala	Snr Supervisor Tech Lines
Edwin Mafolo	Snr Supervisor Tech Lines
Abduraghman Hassen	Snr Advisor Lines & Servitudes
Mac Masilana	Snr Advisor Lines & Servitudes
Rethabile Mzizi	Engineer

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Name	Designation
Koketso Molekwa	Snr Supervisor Tech Lines
Collin Sibeko	Snr Supervisor Tech Lines
Nathan Molapo	Snr Supervisor Maintenance
Ronald Chauke	Quantity Surveyor
Biko Dzhalagome	Compliance Manager
Mbali Nyalunga	Lines & Servitudes Manager
Bongumusa Mnguni	Compliance Assurance Officer
Lebogang Sithole	Snr Advisor Contracts

5. Revisions

Date	Rev.	Compiler	Remarks
November 2025	1	M Tsubane	New document

6. Development Team

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

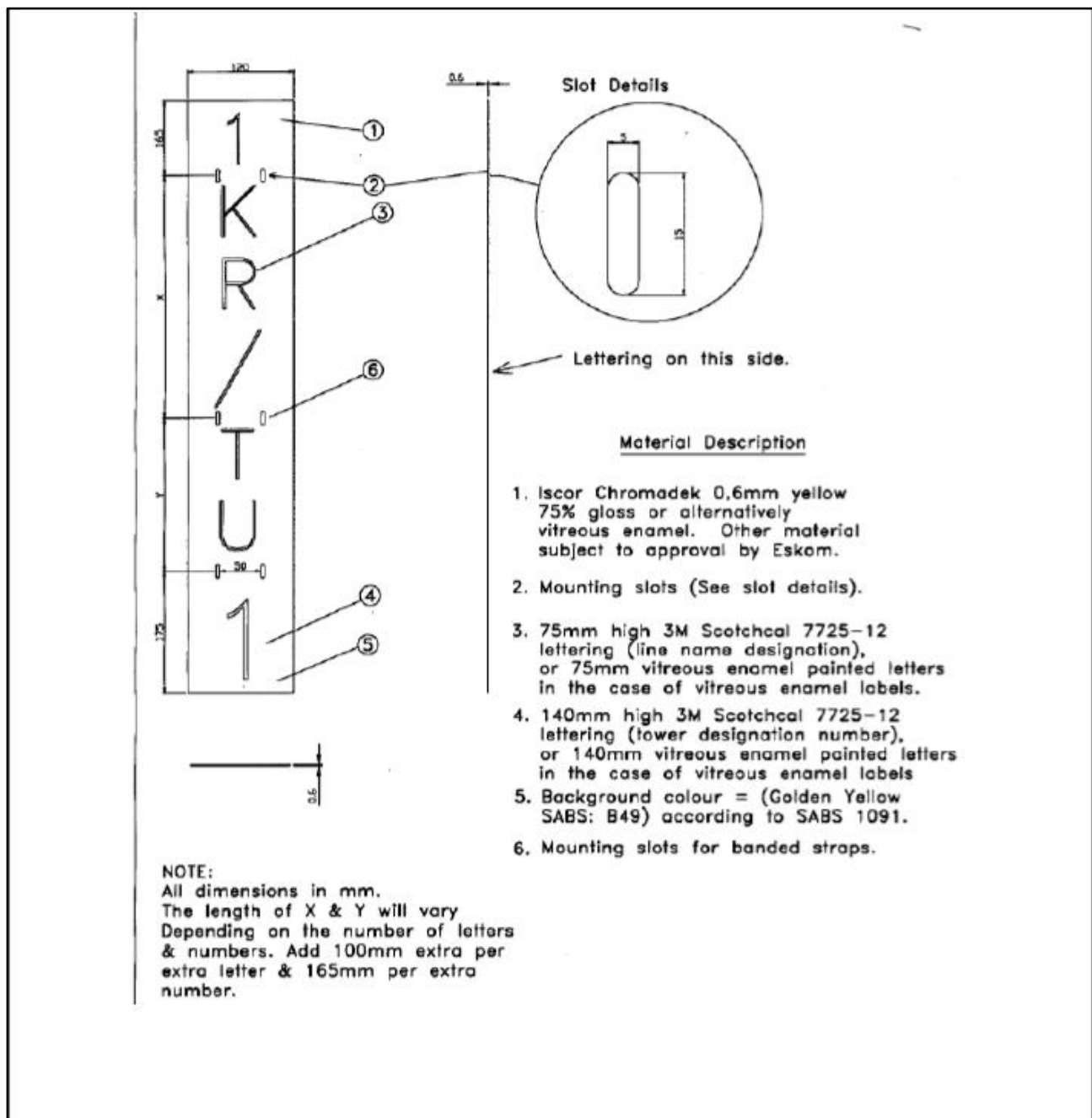
- Mac Masilane
- Zandile Zwane
- Maletsatsi Tsubane

7. Acknowledgements

N/A

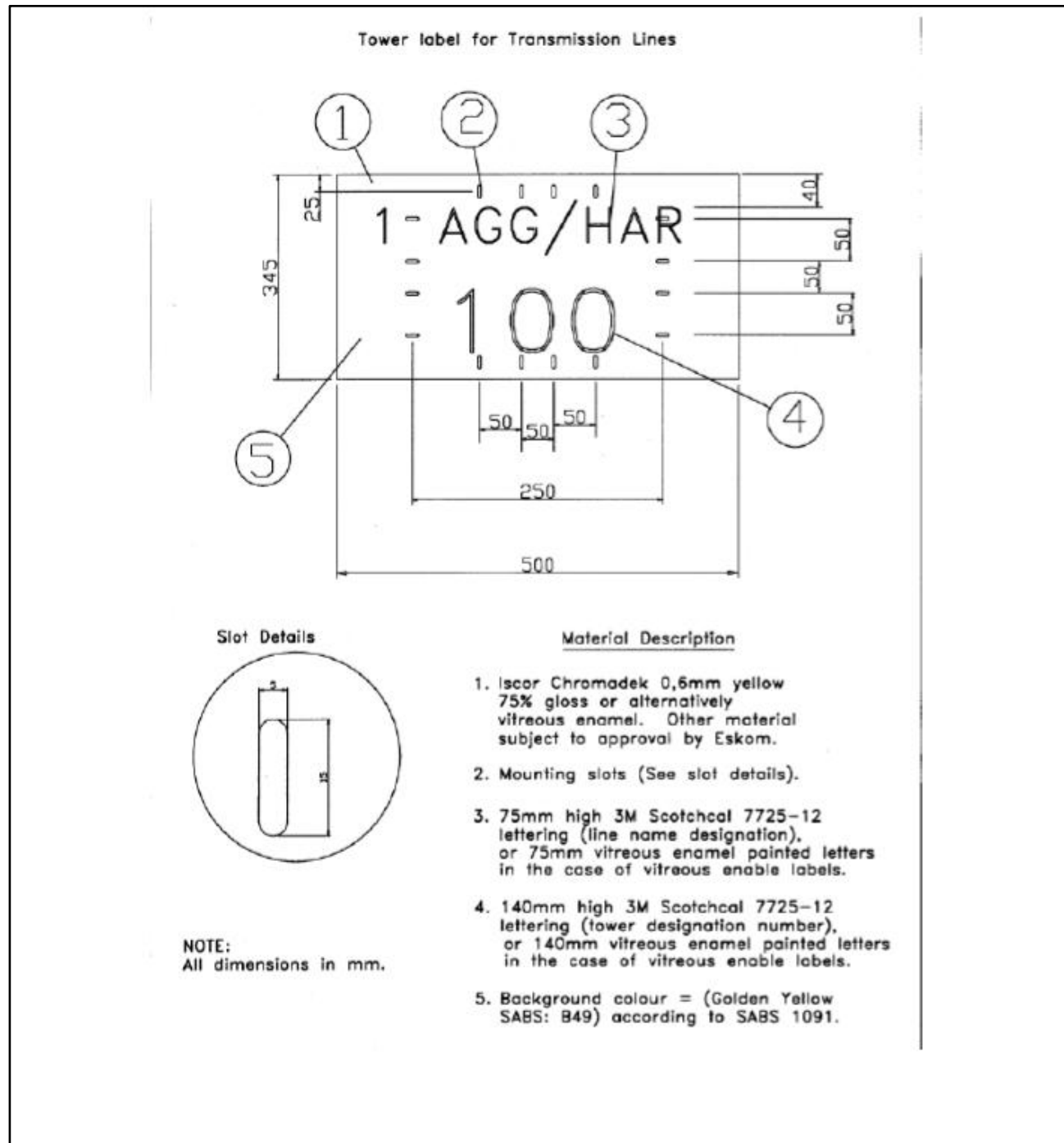
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Appendix A – Tower label for Transmission lines – Vertical configuration



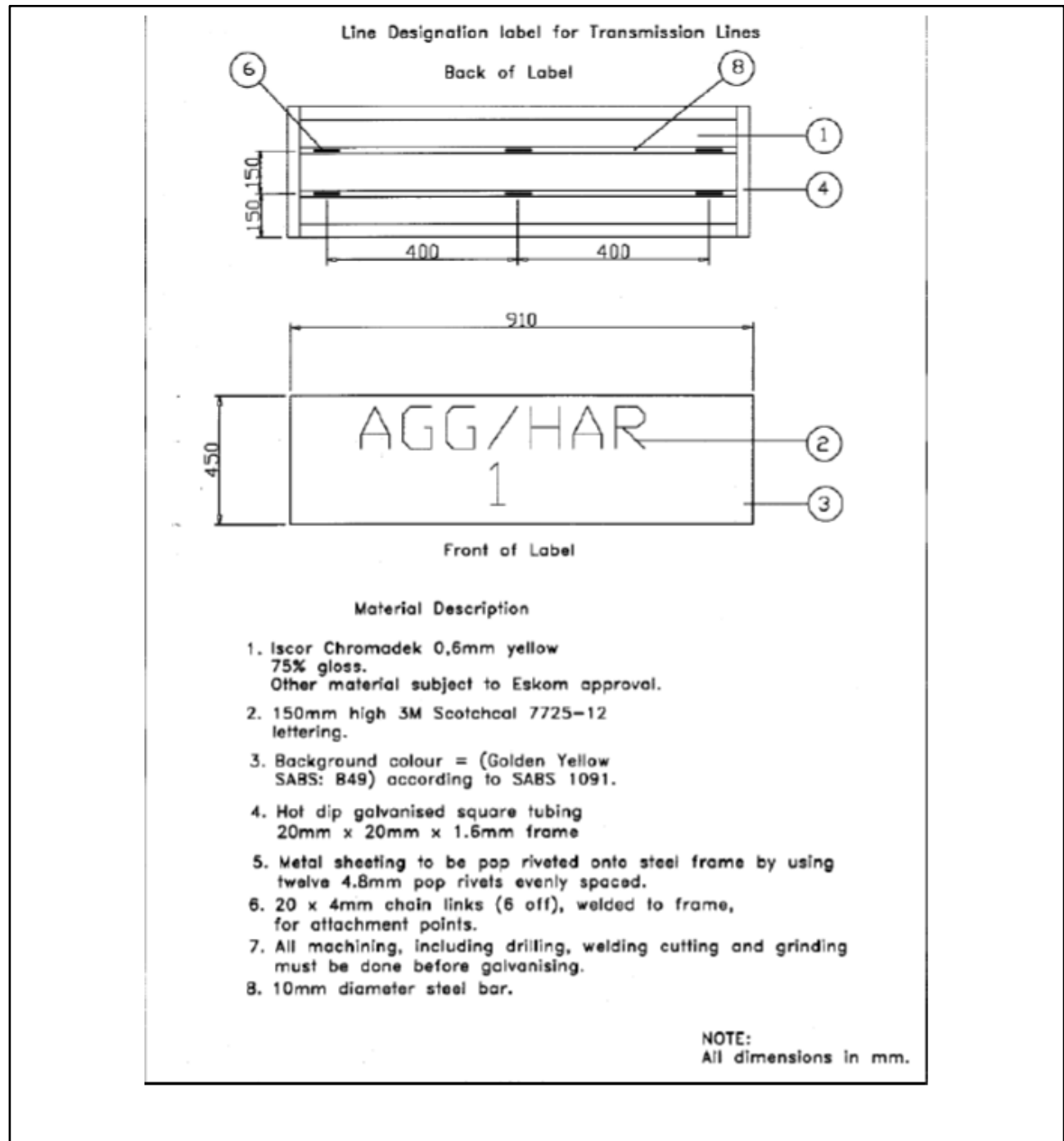
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Appendix B – Tower label for Transmission lines – Horizontal configuration

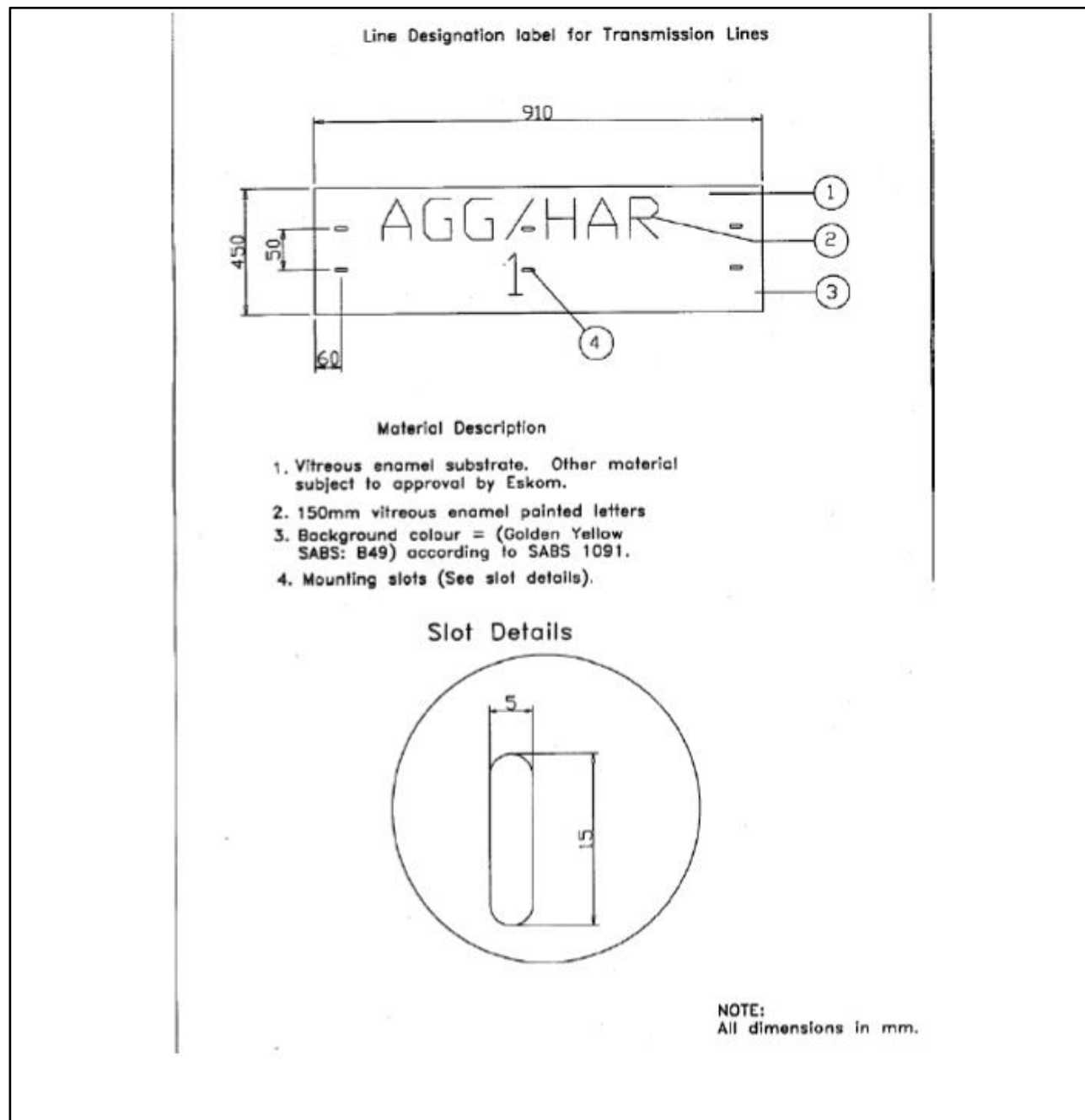


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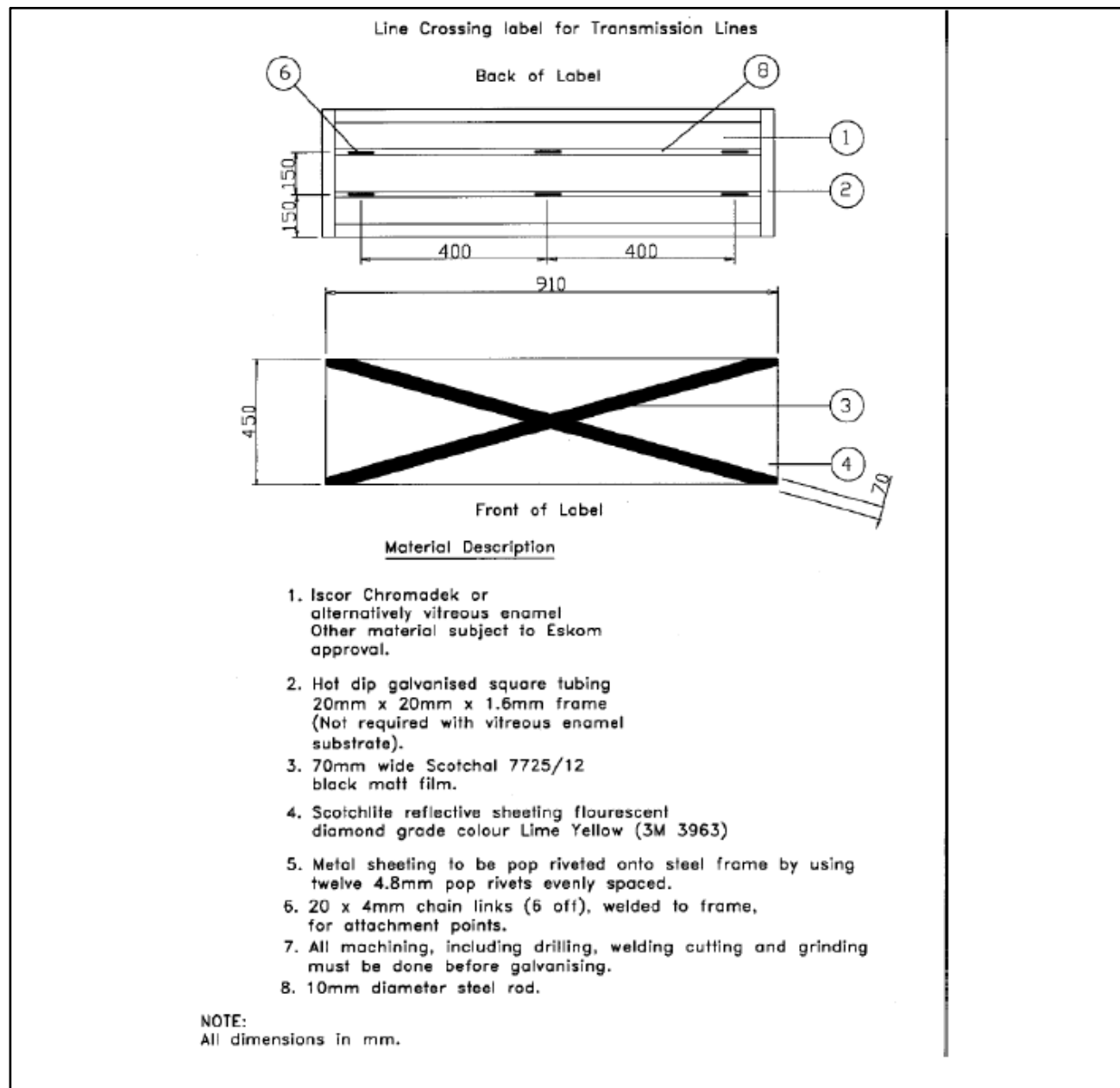
Appendix C – Line designation labels



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Appendix D – Line designation labels – Vitreous Enamel substrate**CONTROLLED DISCLOSURE**

Appendix E – Line crossing labels



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Appendix F – List of colour references**Table 1: List of colour references**

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

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Appendix G – Straps and attachment tools



MULTI-LOK STRAPPING TOOL.



STRAPPING TOOL.



Stainless steel buckle



Quick release spring & stainless steel strap



Stainless steel strapping

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Appendix H – Safety and Warning Signage



No illegal mining or Construction



Sinkhole warning sign



No dumping warning sign

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Appendix I – Tower Labels, Line Designation Labels, Line Crossing labels, Stainless Steel Strapping to be supplied**Table 1: Tower Labels, Line Designation, Line Crossing labels and Stainless-Steel Strapping**

Item	STG Number	Item Description	Quantity
1.	0742584	Tower Label	690
2.	0742538	Line Designation Labels	122
3.	0742537	Line Crossing labels	460
4.	0108554	Stainless Steel Strapping	5000

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Appendix J – Line quantities

Table 1: Line label quantities

Line Names	Tower label Quantity per line	Designation label Quantity per line	Crossing label Quantity per line
CRAIGHALL MINERVA	15	2	10
CRAIGHALL LEPINI	15	2	10
LEPINI MINERVA	15	2	10
ESSELEN JUPITER	15	2	10
CROYDON JUPITER	15	2	10
APOLLO CROYDON	15	2	10
APOLLO NJALA	15	4	10
APOLLO THUSO	15	2	10
LULAMISA MINERVA	15	2	10
ESSELEN PELLY	15	2	10
LOMOND MINERVA	15	4	10
KWAGGA MINERVA	15	4	10
MATLA NEVIS	15	4	10
BRENNER SNOWDON	15	2	10
NEVIS PIETERBOTH	15	2	10
NEVIS SNOWDON	15	2	10
ESSELEN MATLA	15	2	10
APOLLO ESSELEN	15	4	10
BRENNER EIGER	15	2	10
BENBURG ESSELEN	15	4	10
BENBURG MATLA	15	4	10
PIETERBOTH SNOWDON	15	2	10
GLOCKNER OLYMPUS	15	2	10
RIGI OLYMPUS	15	2	10
RIGI LETHABO	15	2	10
GLOCKNER KOOKFONTEIN	15	4	10
EIGER LETHABO	15	2	10

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GLOCKNER LETHABO	15	4	10
GLOCKNER MATLA	15	4	10
LETHABO SNOWDON	15	2	10
OLYMPUS SCAFELL	15	2	10
SCAFELL SNOWDON	15	2	10
GLOCKNER VERDUN	15	4	10
PRINCESS TAUNUS	15	2	10
EIGER PROSPECT	15	2	10
JUPITER PROSPECT	15	2	10
GROOTVLEI HERA	15	2	10
HERA MIDAS	15	2	10
HERA WESTGATE	15	2	10
HERA TAUNUS	15	4	10
EIGER FORDSBURG	15	2	10
JUPITER FORDSBURG	15	2	10
BERNINA GLOCKNER	15	4	10
EIGER ETNA	15	2	10
ETNA TAUNUS	15	2	10
PRINCESS WESTGATE	15	2	10
TOTAL	690	120	460

Table 2: Phasing Label Quantities

Red Phase	White Phase	Blue Phase
100	100	100

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Appendix K – Line Abbreviations

Table 1: Line Label Abbreviations

Abbreviations	Explanation
APO/CRO	APOLLO CROYDON
APO/ESS	APOLLO ESSELEN
APO/NJA	APOLLO NJALA
APO/THU	APOLLO THUSO
BEN/ESS	BENBURG ESSELEN
BEN/MAT	BENBURG MATLA
BER/GLO	BERNINA GLOCKNER
BRE/EIG	BRENNER EIGER
CRA/LEP	CRAIGHALL LEPINI
CRA/MIN	CRAIGHALL MINERVA
CRO/JUP	CROYDON JUPITER
EIG/ETN	EIGER ETNA
EIG/FOR	EIGER FORDSBURG
EIG/LET	EIGER LETHABO
EIG/PRO	EIGER PROSPECT
ESS/JUP	ESSELEN JUPITER
ESS/MAT	ESSELEN MATLA
ESS/PEL	ESSELEN PELLY
ETN/TAU	ETNA TAUNUS
GLO/KOO	GLOCKNER KOOKFONTEIN
GLO/LET	GLOCKNER LETHABO
GLO/MAT	GLOCKNER MATLA
GLO/OLY	GLOCKNER OLYMPUS
GLO/VER	GLOCKNER VERDUN
GRO/HER	GROOTVLEI HERA
HER/MID	HERA MIDAS
HER/WES	HERA WESTGATE
JUP/FOR	JUPITER FORDSBURD
JUP/PRO	JUPITER PROSPECT
KWA/MIN	KWAGGA MINERVA
LEP/MIN	LEPINI MINERVA
LET/SNO	LETHABO SNOWDON
LOM/MIN	LOMOND MINERVA

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LUL/MIN	LULAMISA MINERVA
MAT/NEV	MATLA NEVIS
NEV/PIE	NEVIS PIETERBOTH
NEV/SNO	NEVIS SNOWDON
OLY/SCA	OLYMPUS SCAFELL
PIE/SNO	PIETERBOTH SNOWDON
PRI/TAU	PRINCESS TAUNUS
PRI/WES	PRINCESS WESTGATE
RIG/LET	RIGI LETHABO
RIG/OLY	RIGI OLYMPUS
SCA/SNO	SCAFELL SNOWDON

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