


# DISTRIBUTION TRANSFORMER - SCHEDULE OF REQUIREMENTS

SYSTEM VOLTAGE AND FREQUENCY	11000 Volts, 50 Hz
SYSTEM FAULT LEVEL	350MVA
SITE LOCATION	Government Printing Works - Pretoria
CLIMATIC CONDITIONS	Altitude 1400m above Sea Level
	Ambient Temperature 0°C to 45°C
	Relative Humidity 95%
TYPE OF TRANSFORMERS	SANS 60076
TRANSFORMER DESIGNATION	Transformer - Sub 1

TRANSFORMER	1	2	3	4
1 Designation & Labelling	Sub No.1 - Transformer No.1			
2 Nature of Load and Mode of Operation	General commercial load including fluorescent lamps, discharge lamps, variable frequency drives, lift/pump/fan motors			
3 Transformer Manufacturer	Contractor to submit details with tender			
4 Transformer Type	Oil Immersed in tank			
5 Winding	Double wound copper			
6 Rating	1200kVA			
7 Primary Voltage	11000V			
8 Secondary Voltage	400V			
9 No of Phases (primary/secondary)	3/3			
10 Vector Group	Dyn 11			
11 % Impedance / losses	SANS Standard Loss			
12 Flux density in Core	Not to exceed 1.7 tesla			
13 Noise Level	To SABS			
14 Cooling	ONAN			
15 Buchholz	Buchholz Relay with bleeder test valves			
16 Thermometer	Dial type thermometer with fault, alarm and trip with resettable high pointers.			
17 Protection Wiring Termination facility	York type box with cover complete with Klippon 25A terminals addressed and wired to temperature trip and alarm contacts			
18 Breather	Silica gel large unit with oil pan			
19 MV Termination facility	Bushings in cable box for 95mm <sup>2</sup> 3 core 6.35/11kV XLPE, copper tape screened, PVC bedded, PVC Sheathed, Cu conductors from below			
20 LV Termination facility	Bushings in cable box for Cu busbar transformer flange from above			
21 Indoor / Outdoor	Indoor, external bolts hot dipped galvanised			
22 Tap Changer	0, ± 2.5%, ± 5% (5 positions off load). Complete with keyed alike padlock			
23 Drain Valve and Plug	Lockable valve and keyed alike padlock			
24 Skids/ Wheels flat under base	Skids			
25 Conservator/ Sealed cover	Conservator & oil level glass			
25 Earth Terminal	On tank MV side			
26 Rigging Equipment	Welded lifting lugs/eyes and jacking pads			
27				
28 Padlock & Keys	30mm Viro Padlock, keyed alike			
29 O&M Manual	Three complete sets hardcopy. One complete set electronically			
30 Factory	All SABS group 3 tests			
31 Site	5kV and 2kV megger test on MV and LV respectively Pressure test at 21kV for 1 minute Temperature alarm and trip Phase rotation and displacement Open circuit voltage			
32 Colour	Protection Enclosure and MV cable box - Grey			
33	LV Cable box - Grey			
34 Dimensions	Refer to layout drawing.	Refer to layout drawing.	Refer to layout drawing.	Refer to layout drawing.
35 Arrangement	Floor standing			
36 Signage	Statutory & rating and diagram plate	Statutory & rating and diagram plate	Statutory & rating and diagram plate	Statutory & rating and diagram plate

## Notes

- 1) MV cable box to have removable gland plate on bottom, without bottom cross brace to enable transformer to be replaced without disturbing cable
- 2) LV cable box to have removable gland plate on top, without top cross brace to enable transformer to be replaced without disturbing cable
- 3) Schedule of requirements is to be read in conjunction with tender document technical / project specification
- 4) Transformer enclosure is to be supplied by transformer manufacturer.

						ENGINEER	DRAWN	DATE:	SCALE	P. SIZE	CHKD	TITLE:  GOVERNMENT PRINTING WORKS    Transformer Schedule of Requirements
						MK	VT	NOV'17	nts	A3		
						PROJ No.:		DISCIPLINE	DWG No	STATUS	REV	
A	General Revision		KS	26/02/20	MK	17052		ELEC	604	-	0	
0	Original Issue		VT	22/02/18	AM							
REV	DESCRIPTION				BY	DATE	CHKD	FILE NAME:			SHEET: 1 of 1	