

Clause & Page numbers	Current clause	New Clause / Comment
5.17.3 Page 49	Barrier boards covering live components within the LV switch compartment shall be fitted with a Type WW7 warning sign in accordance with SANS 1186-1.	The hinged metal cover covering live components within the LV switch compartment shall be fitted with a Type WW7 warning sign in accordance with SANS 1186-1
5.19.1 Page 50	All terminals (bushings or spindles) of the MV and LV windings shall be legibly and indelibly marked with the appropriate terminal name assigned to that terminal in accordance with SANS 60076-1 and SANS 780:2021 (edition 5.1).	All terminals of the MV and LV windings shall be legibly and indelibly marked with the appropriate terminal name assigned to that terminal in accordance with SANS 60076-1 and SANS 780:2021 (edition 5.1).
6.9.2 Page 50	The bushings shall have a threaded spindle and be equipped with three nuts and a suitable lug to approval.	New clause number 6.9.2. New clause content: The bushings shall have a palm flag equipped with nuts and a suitable lug to approval.
6.14.9 Page 54	The earth bar dimensions, and the phase and neutral busbars of Pole Mounted Transformers and Distribution Transformers up to 1000 kVA rating, shall be made from Tinned Bimetallic Busbars (CCAA or Al Alloy etc) (CCAA) material. The lengths and sizes shall conform to Drawing DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2 for the respective transformer sizes.	The earth bar dimensions, and the phase and neutral busbars of Pole Mounted Transformers and Distribution Transformers up to 1000 kVA rating, shall be made from Tinned Bimetallic Busbars (CCAA or Al Alloy etc) (CCAA) material.
6.14.13 Page 55	The neutral bar and earth bar on Distribution Transformers shall have a minimum of eight predrilled 12,5 mm connection holes as detailed in Drawing DR 2399/C Sheet 1 Rev 14.	The neutral bar and earth bar on Distribution Transformers shall have a minimum of eight predrilled 12,5 mm connection holes.
6.14.15 Page 55	The phase busbars shall be supported by two slotted insulating barrier boards as depicted in Drawings DR 2399/C Sheet 1 Rev 14 and DR 2399/C Sheet 3 Rev 2. Alternative mounting on colour coded nylon stand-off insulators shall be to the Engineer's approval.	All busbars shall be arranged vertically like in the Type B miniature substation and shall be mounted on colour coded nylon stand-off insulators.
6.14.15 Page 55	The phase busbars shall be supported by two slotted insulating barrier boards as depicted in Drawings DR 2399/C Sheet 1 Rev 14 and DR 2399/C Sheet 3 Rev 2. Alternative mounting on colour coded nylon stand-off insulators shall be to the Engineer's approval	All busbars shall be arranged vertically like in the Type B miniature substation and shall be mounted on colour coded nylon stand-off insulators.
6.14.18 Page 55	The neutral bar shall be connected to the earth bar with a removable solid tinned Bimetallic Busbars (CCAA or Al Alloy etc) earth strap as detailed on Drawings DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2.	The neutral bar shall be connected to the earth bar with a removable solid tinned Bimetallic Busbars (CCAA or Al Alloy etc) earth strap.
6.15.5 Page 55	The connection between the transformer LV bushings and the phase and neutral busbars shall be as detailed on Drawings DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2 for the respective transformer types and sizes. The phase busbar connections shall be solid tinned Bimetallic Busbars (CCAA or Al Alloy etc) conductors or flexible LV alternative Jumpers Conductor (CCAA or Al Alloy etc) conductors to approval and so designed that the circuit breakers may be independently removed for replacement. The neutral busbar connection shall be PVC insulated LV alternative Conductor (CCAA or Al Alloy etc).	All connections (LV bushings to Main MCCB, main MCCB to busbars and LV bushings to busbars) shall be solid tinned Bimetallic Busbars (CCAA or Al Alloy etc) conductors or flexible LV alternative Jumpers Conductor (CCAA or Al Alloy etc) conductors and designed such that the circuit breakers may be independently removed for replacement. The neutral busbar connection shall be PVC insulated LV alternative Conductor (CCAA or Al Alloy etc).
6.15.6 Page 55	The connections between the transformer LV bushings and the busbars and the connections of the bushing flags onto the spindles shall be fitted with locknuts at each connection point.	New clause number 6.15.6. New clause content: The connections between the transformer LV bushings and the busbars or main MCCB shall be fitted with locknuts at each connection point.
6.16.1 Page 55	Ground-mount Distribution Transformers shall be fitted with the main electronic adjustable MCCB.	Ground-mount Distribution Transformers shall be fitted with the main electronic adjustable MCCB, and shall be positioned to the left (on opposite side of the neutral bushing). The width of the LV compartment door shall be suitably sized with a minimum door width of 1250 mm on all sizes.

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6.16.11 Page 56	The backing plates shall be positioned generally as detailed in Drawings DR 2399/C Sheet 1 Rev 14 and Sheet 3 Rev 2. The backing plate (and accordingly the MCCBs) shall be positioned relative to the busbars such that the required separations from earthed and live busbars and conductive parts and minimum arc venting spaces specified by the MCCB manufacturers are maintained. MCCB's currently utilized are the CBI Hy-Mag L40B, J25S, F15D and M35B types.	The backing plate (and accordingly the MCCBs) shall be positioned relative to the busbars such that the required separations from earthed and live busbars and conductive parts and minimum arc venting spaces specified by the MCCB manufacturers are maintained. MCCB's currently utilized are the CBI Hy-Mag L40B, J25S, F15D and M35B types.
6.16.12 Page 56	A barrier board, to approval, shall be provided to shield the busbars, the connectors to the MCCB's and the MCCB incoming terminals to prevent inadvertent contact	A hinged metal cover, to approval, shall be provided to shield the busbars, the connectors to the MCCB's and the MCCB incoming terminals to prevent inadvertent contact.
6.16.13 Page 56	A further, separate barrier board, to approval, shall be provided to shield the MCCB outgoing terminals and cable droppers and lugs to prevent inadvertent contact.	A further, separate hinged metal cover, to approval, shall be provided to shield the MCCB outgoing terminals and cable droppers and lugs to prevent inadvertent contact.
6.16.14 Page 56	Barrier boards shall be so positioned that the access to the operating toggles of the moulded case circuit breakers is not inhibited in any way, and that these toggles can be operated safely.	The hinged metal cover shall be so positioned that the access to the operating toggles of the moulded case circuit breakers is not inhibited in any way, and that these toggles can be operated safely.
6.17.4 Page 56	6.12.4 The Dyn7 Distribution Transformers (Items B1 to B5) shall be fitted as standard with Split Gland Plates complete with Blanking Cover plates, as depicted in Drawings SK 5242 Sheets 1 & 2.	The Distribution Transformers Items B1 to B5 and Water and sanitation transformers Items E1 to 25 shall be fitted as standard with Split Gland Plates complete with Blanking Cover plates, as depicted in Drawings SK 5242 Sheets 1 & 2.
6.17.5 Page 56	The Dyn11 Distribution Transformers of ratings 200 kVA to 500 kVA shall be fitted with a non-ferrous gland plate having 50 mm diameter gland holes suitable to make off 4 x 500 mm ² single core armoured cables using No 5 adjustable glands.	The Distribution Transformers Items B6 to B8 of ratings 200 kVA to 500 kVA shall be fitted with a non-ferrous gland plate having 50 mm diameter gland holes suitable to make off 4 x 500 mm ² single core armoured cables using No 5 adjustable glands.
6.17.6 Page 56	The Dyn11 Distribution Transformers of ratings 800 kVA and 1000 kVA shall be fitted with a nonferrous gland plate having 50 mm diameter gland holes suitable to make off 8 x 500 mm ² single core armoured cables (2x per phase) using No 5 adjustable glands	The Distribution Transformers Items B9 to B10 of ratings 800 kVA and 1000 kVA shall be fitted with a non-ferrous gland plate having 50 mm diameter gland holes suitable to make off 8 x 500 mm ² single core armoured cables (2x per phase) using No 5 adjustable glands.
7.1.2. Page 58	The miniature substations shall be manufactured from materials as detailed below with the following minimum thicknesses:	Added content Door Lock Box: 3 mm 3CR12 stainless steel
7.14.3.5 Page 65	The connections of the transformer LV bushing flags onto the spindles and the connections of the LV flexible conductors onto the flags shall be fitted with locknuts at each connection point.	New clause number 7.14.2.7. New clause content: All connections to the transformer LV bushings and the busbars and the connections of the bushing flags shall be fitted with locknuts at each connection point.
7.14.1.7 Page 65	Hardboard barriers shall be provided and installed to close the bottom of the LV compartment to reduce the occurrence of condensation in the compartment during storage and prior to commissioning of the miniature substations	New clause number 7.14.1.6. New clause content: The hinged metal cover shall be provided and installed to close the bottom of the LV compartment to reduce the occurrence of condensation in the compartment during storage and prior to commissioning of the miniature substations.
7.14.3.13 Page 65	All external earth connections on the units shall be of Copper-Clad Steel or Aluminium Alloy. Aluminium conductors are not an acceptable alternative.	New clause number 7.14.2.15 All external earth connections on the units shall be of Copper-Clad Steel or Aluminium Alloy. Aluminium conductors are not an acceptable alternative.
		New clause added following the above clause: 7.14.2.16

Clause & Page numbers	Current clause	New Clause / Comment
		All busbars shall be arranged vertically like in the Type B miniature substation and shall be mounted on colour coded nylon stand-off insulators.
7.14.11 Page 66	Type C Miniature substations – MCCB and LV Busbar Barrier Boards	New clause number 7.14.5. New clause content: Type C Miniature substations – MCCB and LV Busbar Hinged metal covers
7.14.11 Page 66	Type C Miniature substations – MCCB and LV Busbar Barrier Boards	New clause number 7.14.5. New clause content: Type C Miniature substations – MCCB and LV Busbar Hinged metal covers
7.14.11.1 Page 66	A barrier board, to approval, shall be provided to shield the busbars, the connectors to the MCCB's and the MCCB incoming terminals to prevent inadvertent contact.	New clause number 7.14.5.1 New clause content: A barrier board, to approval, shall be provided to shield the busbars, the connectors to the MCCB's and the MCCB incoming terminals to prevent inadvertent contact.
7.14.11.2 Page 66	A further, separate barrier board, to approval, shall be provided to shield the MCCB outgoing terminals to prevent inadvertent contact.	New clause number 7.14.5.2. New clause content: A further, separate hinged metal cover, to approval, shall be provided to shield the MCCB outgoing terminals to prevent inadvertent contact.
7.14.11.3 Page 66	Barrier boards shall be so positioned that the access to the operating toggles of the moulded case circuit breakers is not inhibited in any way, and such that these toggles can be operated safely.	New clause number 7.14.5.3. New clause content: Hinged metal cover shall be so positioned that the access to the operating toggles of the moulded case circuit breakers is not inhibited in any way, and such that these toggles can be operated safely.
7.14.4 Page 66	Type C Miniature substations – LV Main MCCB	New clause number 7.14.3; no change to clause and sub clauses.
7.14.10 Page 66	Type C Miniature substations – MCCB's and MCCB Backing Plate	New clause number 7.14.4; no change to clause
7.14.11 Page 66	Type C Miniature substations – MCCB and LV Busbar Barrier Boards	New clause number 7.14.5; no change to clause
7.14.12 Page 66	Type C Miniature substations – LV Cable Clamping	New clause number 7.14.6; no change to clause
7.14.13 Page 66	Type C Miniature substations – LV Metering	New clause number 7.14.7; no change to clause
7.14.14 Page 66	Smart Requirements - General	New clause number 7.14.8; no change to clause
7.14.15.1. Page 67	A Smart Compartment, as specified, shall be provided on the RMU and shall be suitably sized to accommodate the communications related devices and facilities specified hereunder, including the Power Supply Unit, Remote Terminal Unit, Radio Communications Unit, Ethernet Switch, AC Mains and trunking.	New clause number 7.14.9.1. New clause content: A Smart Compartment, as specified, shall be provided between the LV and the RMU compartments and shall be suitably sized to accommodate the communications related devices and facilities specified hereunder, including the Power Supply Unit, Remote Terminal Unit, Radio Communications Unit, Ethernet Switch, AC Mains and trunking

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7.14.15 Page 67	Smart Requirements - Housing	New clause number 7.14.9; no change to clause
7.14.16 Page 67	Smart Requirements – Wiring	New clause number 7.14.10; no change to clause
7.14.17 Page 67	Smart Requirements – Controls, Indications and Alarms	New clause number 7.14.11; no change to clause
7.14.18 Page 68	Low SF6 gas density	New clause number 7.14.12; no change to clause
7.14.19 Page 68	Door Status Monitoring Device	New clause number 7.14.13; no change to clause
7.14.5 Page 68	The LV compartment shall be fitted with the main electronic adjustable MCCB.	New clause number 7.14.3.1. New clause content: The LV compartment shall be fitted with the main electronic adjustable MCCB, and shall be positioned to the left (on opposite side of the neutral bushing)
7.15.1.1. Page 68	The LV compartment of the Type B miniature substations shall be generally in accordance with Figure C.5 of Annexure C of SANS 1029, and shall be divided into an LV end compartment and an LV front compartment which between them shall house the transformer LV bushings, busbars, thermometer pocket, thermostat, over-temperature trip indication, main switch-disconnector, ammeters and voltmeter and associated fittings, moulded case circuit breakers, glands and other fittings as detailed.	The LV compartment of the Type B miniature substations shall be generally in accordance with Figure C.5 of Annexure C of SANS 1029, and shall be divided into an LV end compartment and an LV front compartment which between them shall house the transformer LV bushings, busbars, thermometer pocket, digital temperature monitor with over-temperature trip indication, the main electronic adjustable MCCB, 3 phase digital maximum power demand meter and associated fittings, moulded case circuit breakers, glands and other fittings as detailed.
7.15.1.3 Page 69	Each miniature substation shall be provided with three combined instantaneous indicating and 15-minute maximum demand flush mounted 96 mm (square) ammeters (one per phase), complete with single ratio current transformers	Each miniature substation shall be provided with a 3-phase digital maximum power demand meter, complete with single ratio current transformers.
7.15.1.4	The miniature substations shall also be fitted with a flush mounted 96 mm ² voltmeter and appropriate seven-way selector switch	Removed, covered in clause 7.15.1.3
7.15.3.5 Page 69	The connections of the transformer LV bushing flags onto the spindles and the connections of the LV flexible conductors onto the flags shall be fitted with locknuts at each connection point.	New clause number 7.15.2.7. New clause content: All connections to the transformer LV bushings and the busbars and the connections of the bushing flags shall be fitted with locknuts at each connection point.