

JOHANNESBURG WATER (SOC) Ltd.
BULK WASTEWATER

PARTICULAR SPECIFICATION
VOLUME 25 : LABELLING



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DOCUMENT CONTROL SHEET

Document Title: Particular Specification – VOLUME 25 : Labelling

JW Reference: BWW523C

Document Ref. No: VOLUME 25

DOCUMENT APPROVAL

ACTION	FUNCTION	NAME	DATE	SIGNATURE
Prepared	HOD	C. Du Toit	2019-08-26	
Reviewed	Engineer	L. Gobinca	2019-08-26	
Approved	Manager	T. Thabeng	09/09/2019	

RECORD OF REVISIONS

Date	Revision	Author	Comments
2019-08-26	3	C. Du Toit	Cover page updated
2019-07-04	2	C. Du Toit	JW requirements from electrical workshop for wire numbering included.
2019-06-15	1	C. Du Toit	JW requirements included (Arial font on labels and no more than 4 threads showing on bolt ends).
2018-11-30	A	C. Du Toit	Initial revision issued for comment/approval

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25 LABELLING

25.1 Scope

25.1.1 The purpose of this document is to cover the requirements for the supply and installation of labels on all C&I equipment, cables, wires, and panels.

25.1.2 If there is a discrepancy between the requirements of this specification and the requirements in the tender Scope of Work, the Scope of Work will take precedence.

25.2 Abbreviations

25.2.1 In this specification the following abbreviations will apply :-

Contractor : The persons/s named as a contractor in the letter of tender accepted by the employer.

Employer : The person/entity named as Employer in the tender, and the legal successors in title to this person.

Engineer : The person appointed by the Employer to act as Engineer for the purposes of this contract.

BS : British Standards

ICP : Instrument Control Panel

IJB : Instrument Junction Box

PLC : Programmable Logic Controller

SPDT : Single Pole Double Throw (refers to relay or switch contact arrangements).

LCD : Liquid Crystal Display

LED : Light Emitting Diode

PTFE : Mixed Liquor Suspended Solids

O&M : Operating And Maintenance

UV : Ultraviolet

25.3 Standards

25.3.1 All design standards shall be subject to the latest amendments and editions of the following standard specifications:

- SANS 10142-1 : National Standards for the wiring of premises.
SANS 1186 : Information and Safety Signs.
SANS 1040 : National Building Regulations

25.4 Performance And Installation Requirements

- 25.4.1 The attachment of labels must not at any time compromise the IP protection rating of any panel or enclosure.
- 25.4.2 Glue-on labels will only be permitted if industrial type glue or industrial type double-sided adhesive tape is used. Normal commercial or household glue or double-sided adhesive tape will not be accepted. This glue or tape must also not be used where environmental conditions such as wind, rain, UV, etc. can lead to the deterioration of the adhesive tape.
- 25.4.3 Any deviations from this specification need to be approved in writing by the engineer.
- 25.4.4 Where glue or adhesive tape is not used, signs and labels shall be affixed using corrosion resistant, mechanical fixings.
- 25.4.5 Not more than one item will be labelled with one label, **i.e. there will not be a continuous strip of labels for multiple items.** Each item shall have a separate, unique label assigned to it.
- 25.4.6 Allowed label materials are as follows:
- 25.4.6.1 Traffolyte or equal, or hard plastic sandwich board. (black lettering on white background) (not applicable to cables).
 - 25.4.6.2 Reverse engraved acrylic material, with filled letters and reverse sprayed. (not applicable to cables).
 - 25.4.6.3 Engraved or embossed stainless steel (for cable labels).
- 25.4.7 Labels that will be outside and frequently exposed to wind, rain and UV radiation must be either Traffolyte or equal, stainless steel, brass or aluminium, with engraved letters filled with black, or embossed lettering.
- 25.4.8 At the engineer's request the contractor shall provide proof that materials used for labels are corrosion proof or UV resistant. The cost of this needs to be allowed for in the tender.
- 25.4.9 The font used for all printed and engraved labels shall be Arial.
- 25.4.10 Specific requirements for labels listed in the tender specification supersede any general requirements listed in this specification.
- 25.4.11 Bolts with nuts shall not be used to attach labels to any mounting plate at any point. On mounting plates only bolts in tapped holes will be acceptable (if glue or double sided tape as mentioned in item 25.4.2 above is not used). Bolts with nuts will be allowed on enclosure doors however, where the bolts and nuts are easily accessible.
- 25.4.12 The use of pop rivets to attach labels will not be allowed.
- 25.4.13 The preferred method of attaching labels is to use corrosion resistant screws in tapped

holes.

25.4.14 Where bolts are used on the door or any outside panels of the enclosure, a sealing method (e.g. rubber washers) must be used to ensure that the IP protection rating of the enclosure is not compromised.

25.4.15 Wherever bolts are used, the bolts must be as short as practically possible so that there are no long protrusions that can injure people or snag clothing, wiring, other equipment, etc. If bolts are cut to the correct length, the ends of the bolts must be neatly de-burred and smoothed so that there are no sharp edges that can cause injuries and so that the nuts can be easily screwed on and off. No more than four threads of the bolt end must be visible beyond the nut. It is however preferred that the correct length of bolts are used so that shortening is not required.

25.5 Safety

25.5.1 Where hazardous or dangerous equipment, conditions or materials are present, safety signs and labels shall be attached in such a way that it is clear what the hazard or danger is.

25.5.2 Any hazard, for which there is not a standard symbol defined in the standards mentioned in item 25.3.1 of this document, will be identified by simple wording and symbols approved or specified by the engineer.

25.5.3 Self-adhesive safety signs on vinyl will be permitted on enclosures if the safety signs are standard or approved by the engineer.

25.5.4 Where approved by the engineer, internally mounted, project specific safety labels and charts may be printed on plastic or laminated thin card, protected behind Perspex.

25.5.5 The contractor will supply safety signs for all hazardous components, including, but not limited to:

25.5.5.1 Busbar covers.

25.5.5.2 Fibre Optic patch panels and switches where laser light could be harmful to one's sight.

25.5.5.3 Power inside a panel that does not originate inside the panel itself i.e. it may not be powered down when the panel is isolated.

25.5.6 The text size for Information/warning labels inside enclosures shall be 6mm high (16pt).

25.5.7 The text size for Information/warning labels outside enclosures shall be 10mm high (26pt).

25.6 Enclosures

25.6.1 Labels with the name of the enclosure shall be attached to the outside of the enclosure, on the front at eye height, or as close to eye height as is practical.

25.6.2 The label will be attached with corrosive resistant bolts or screws either into a tapped hole, or via a corrosion resistant washer and nut at the back. Nuts and bolts can only be used on enclosures where such nuts and bolts are readily accessible (e.g. on the enclosure door).

25.6.3 Every PLC panel, ICP, or IJB, shall have an engraved stainless steel label attached with the following information clearly visible inside the panel, ICP, or IJB:

25.6.3.1 Contractor name.

25.6.3.2 Contractor contact information.

25.6.3.3 Enclosure serial/identification number and manufacture date.

25.6.4 The text size for Enclosure name labels shall be 10mm high (26pt).

25.7 Cables

25.7.1 Identical labels shall be attached at both ends of each cable.

25.7.2 Labels for cables in a PLC panel/MCC panel/IJB/ICP shall be located at the entry to the panel, on the inside and outside of the panel, where the cable numbers inside and outside the panel are not visible from one location (e.g. cables at the PLC panel entry, where cable numbers are either visible inside the PLC panel or inside the cable trench).

25.7.3 Labels for cables of instrument sensors and other field mounted components shall be located within 100mm of the termination point.

25.7.4 Labels for cables must be attached via either stainless steel straps or cable ties that are certified as UV stabilized.

25.7.5 The text size for cable identification labels shall be at least 6mm (16pt).

25.8 Wires

25.8.1 No separate wire numbers slid onto wires will be accepted. A wire number holder must be attached to the wire and the wire numbers must then be inserted into the wire holder (see the examples below).



These wire number holders must surround the wire completely. I.e. they must slide onto the wire. Clip-on holders will not be accepted.

25.8.2 Wires shall be labelled at both ends with the numbers indicated on construction drawings.

25.9 Components

25.9.1 Each component inside IJBs, ICPs, and PLC panels shall be clearly identified with a

unique label as indicated on the construction drawings.

- 25.9.2 Labels will not be attached to trunking or any other item that can be removed for maintenance, including the component itself. Removal of trunking or replacement of components must not affect the component labelling.
- 25.9.3 Pushbuttons and other controls must be labelled with their function on a separate label (E.g. Stop, Start, Open, Close, etc.).
- 25.9.4 Labels for components are allowed to be inserted in a rail on the mounting plate, if this rail is specifically made for the relevant labels. The rail shall not obscure any part of any lettering.
- 25.9.5 Labels shall be located directly below, above or adjacent to the relevant equipment, as long as the label is clearly visible and it is clear and unambiguous as to which item of equipment the label refers to.
- 25.9.6 All terminal strips, and terminals must be labelled with labels that attach to the relevant terminal strip marker or terminal respectively.
- 25.9.7 The text size for component identification labels shall be 4mm high (10pt).