



# SUBMERSIBLE PUMP SYSTEMS

COMPLIANCE GUIDE

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# Conduit Requirements

All Electrical Cables installed between the Pit and the panel must be installed with suitable mechanical protection, this is outlined in AS/NZS3000:2018 Clause 3.11 – Underground Wiring Systems. As a rule of thumb Orange Heavy Duty Electrical Conduit is suitable in most applications.



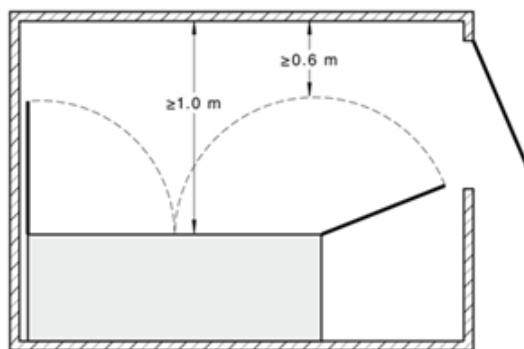
**PLUMBING PIPES CANNOT BE USED AS AN ELECTRICAL CONDUIT.**

# Separation

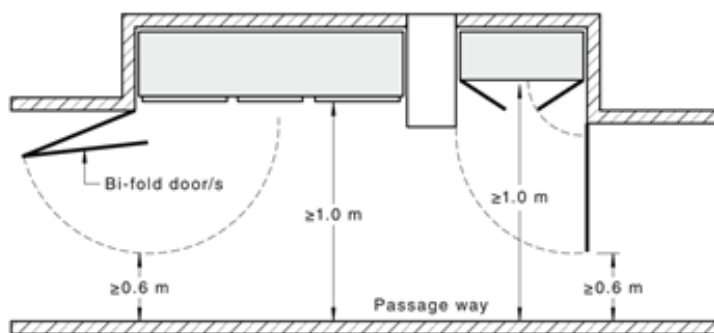
Minimum separation to Gas, Water & other services in most applications is 25mm – AS/NZS:3000-3.9.8.4 Refers to the specific application of the service and the minimum requirements.

# Panel Mounting Compliance

1. Minimum 1m in most applications between the front panel face and any other surface/object.
2. Provision for reasonable access and egress – this included trip hazards.
3. See Diagram below for panel clearances around the open door. Other control panels/switchboards that are installed close by cannot interfere into these clearance zones.



**FIGURE 2.20 ACCESS TO SWITCHBOARDS—SWITCHBOARD IN CORNER POSITION**



**FIGURE 2.22 ACCESS TO SWITCHBOARDS—SWITCHBOARD DOORS THAT OPEN INTO ACCESS WAYS OR NARROW PASSAGE WAYS**

# Mechanical Protection: Vehicles and Plant

Wiring systems and electrical panels require mechanical protection from vehicles and mechanical plant, for example bollards installed either side of a panel so as not to interfere with access and egress.

Light Vehicles / Light Commercial Vehicles must be protected as defined in AS/NZS3000:2018 of a WSX3 as per appendix H, Clause 5.4

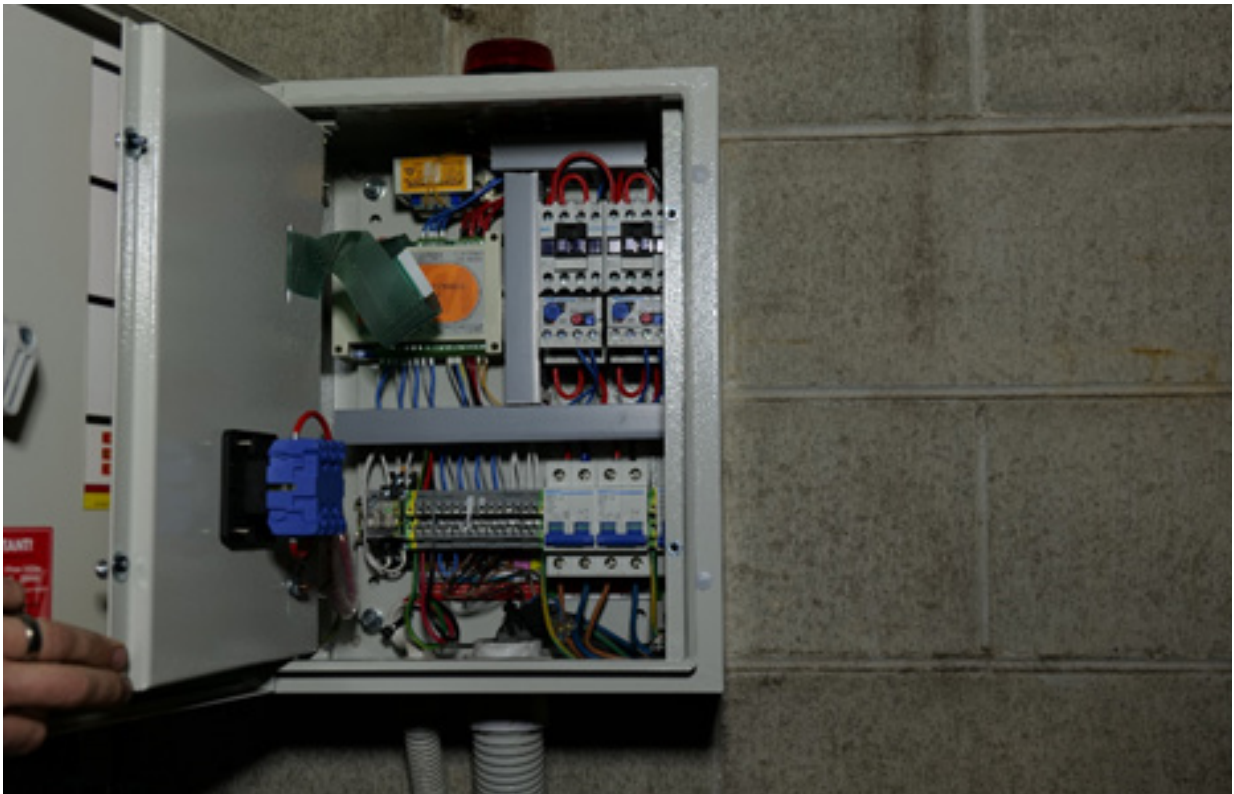
## 2.10.2.2. ACCESSIBILITY AND EMERGENCY EXIT FACILITIES

### Switchboards shall be:

1. Located so that the switchboard and access to it is not obstructed by the structure or contents of the building or by fittings and fixtures within the building;
2. Provided with adequately space around the switchboard on all sides where persons are able to pass to enable all electrical equipment to be safely and effectively operated and adjusted, and
3. Provided with sufficient exit facilities to enable a person to leave the vicinity of a switchboard under emergency conditions

### Sufficient access and exit facilities shall be achieved by the provision of the following:

1. **1.0m minimum distance to all faces of a closed switchboard** that needs to be accessible. In a domestic electrical installation this distance may be reduced to 0.6m from the face of the equipment.
2. **Unimpeded space of at least 0.6m around switchboards with switchgear doors in any position** and with switchgear in a fully racked out position.





Example photo demonstrating the compliant conduit configuration in a non-UV radiation exposed area.

#### H5.4 WSX3 MECHANICAL PROTECTION SYSTEMS

Provide medium-duty protection against damage from vehicle, such as cars and light vehicles, as follows:

1. Wiring systems meeting requirements of appropriate tests of AS/NZS 3013.
2. Any wiring system with additional 2.0mm sheet steel coverage with a maximum unsupported width of 100mm.
3. Any WSX2 systems with an additional 1.6mm sheet steel coverage and unsupported width not exceeding 100mm.
4. Galvanized conduits complying with AS/NZS 2053 or AS/NZS 61386.

**NOTE**

Fixings of a type where a threaded metal screw or bolt engages a metal fastener solidly anchored to the building may need to satisfy WSX3 classification.

NOTES

Area with horizontal dashed lines for writing notes.



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