



# FREMANTLE SAILING CLUB

## SHORE POWER CONNECTION



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## GENERAL REQUIREMENTS OF AS/NZS 3004.2 FOR CONNECTION OF VESSELS TO SHORE-BASED POWER SUPPLY

An isolating transformer fitted on-board to isolate the low-voltage electrical system of your boat from the marina low-voltage electrical supply system may reduce corrosion activity caused by the coupling of your boat's earth to the marina electrical protective earthing system and/or other boats.

Additional sacrificial anodes or galvanic isolators complying with AS/NZS 3004.2, Clause 4.6.4 may be used to reduce these effects. (Refer to the AS/NZS 2382 series of Standards for suitable cathodic protection practices.)

### YOUR BOAT'S LOW-VOLTAGE ELECTRICAL SYSTEM MUST COMPLY WITH AS/NZS 3004.2.



#### Marina socket-outlet connection:

Heavy duty supply lead with minimum IP56 screw type 3 pin plug.

#### Vessel connection:

Heavy duty supply lead with minimum IP56 screw type 3 pin plug.

#### Joint in supply leads:

Heavy duty supply lead with minimum IP56 screw type 3 pin plug and socket.

## ON ARRIVAL

- a) The electrical supply at this marina is 240 volts at 50Hz single phase (or 415 volts 3 phase in specific locations) supplied by socket outlets which will accommodate standard Australian plugs. Connection to the 240-volt single phase supply shall be via a 3-pin plug with an IP rating of IP56 (dust proof and weatherproof to heavy seas force). Plug tops with an IP56 rating can be identified by the screwed locking ring – see the illustration above. The locking ring must be screwed to the socket outlet to provide the required protection. 3-pin plugs with an IP rating of less than IP56 are not permitted.
- b) Supply leads shall be heavy duty flexible cords (complying with AS/NZS 3191 or AS/NZS 5000.1). The maximum length shall not exceed 25 metres.
- c) Precautions should be taken to prevent each supply lead from sagging or falling into the water and, particularly, to prevent either end of the supply lead falling into the water if it should become disengaged.
- d) Only one boat supply lead should be connected to any one socket-outlet. The use of double adaptors or power boards is prohibited.
- e) The supply lead should be in one length and should not be used while coiled. However, if two leads are joined together, they shall be connected using approved extension cord plugs & sockets with a minimum IP rating of IP56. Leads should not be used coiled as coiled leads generate heat and can damage the supply lead.
- f) The entry of moisture and salt into a boat's appliance-inlet may cause a hazard. Examine carefully and clean before connecting to the marina electrical supply.
- g) It is dangerous for unskilled persons to attempt repairs or alterations. If any difficulty arises, consult the marina management.

## BEFORE LEAVING

- (i) Ensure that the marina electrical supply is switched off and the flexible cord is disconnected.
- (ii) The supply lead should be disconnected first from the marina socket-outlet and then from the boat appliance inlet. Any cover that may be provided to protect the appliance inlet from the weather should be securely replaced.
- (iii) The supply lead should be coiled up and stored in a dry location where it will not be damaged. Male and female fittings should be connected to prevent moisture ingress.

## ELECTRICITY SUPPLY LEAD

Supply leads used for connecting the vessel to the shore-based electricity supply shall comply with the requirements of AS3004. In addition, the supply lead shall be inspected and tested by a licensed electrical contractor, or other suitably qualified competent person as agreed to by the Department, at intervals not exceeding 12 months. An inspection tag shall be fitted to the supply lead within 1 metre of the supply lead plug. The details on the tag are to be in indelible ink. Inspection tags with unreadable details will be regarded as being out of date.



## FAQ'S

- 1. Is there a socket-outlet for each berth?**
  - a. Not always, please contact the Harbour and Facilities Office to confirm availability of a socket-outlet prior to leasing or occupying a berth.
- 2. What is the maximum permitted length of a power lead?**
  - a. 25m.
- 3. Can I use a non-screw type power lead for temporary use?**
  - a. No, an appropriate power lead must be always used.
- 4. Can I reset the RCD/RCBO that supplies the socket-outlet for my boat?**
  - a. Yes, however if the fault reoccurs, STOP, and inform the Harbour and Facilities Office.
- 5. The socket-outlet is faulty or damaged, what should I do?**
  - a. If faulty or damaged, turn OFF the socket-outlet and inform the Harbour and Facilities Office.

## FAQ'S CONT.

**6. My screw type power lead does not fit in the socket-outlet?**

a. Some socket-outlets do not accept screw type fittings with large locking rings. Fittings with slim locking rings fittings are compatible with all socket-outlets. It is the boat owner's responsibility to ensure the appropriate fitting is used.

**7. What preventative maintenance can I do?**

a. It is recommended that power leads are disconnected monthly, and a thorough visual inspection is undertaken to assess the following:

- i. 'Test and tag' in date and tag affixed within 1m of fitting.
- ii. Fittings and cable are in good condition with no signs of damage, moisture ingress, corrosion, or discolouration.

**8. Can I connect to a socket-outlet on the opposite side of the jetty to my vessel?**

a. No, this is not permitted. However, the Harbour and Facilities Office may approve exceptions if no alternative is available and provided the power lead is routed safely.

**9. Can a 10A socket-outlet be upgraded to 15A?**

a. Not always, the ability to upgrade a 10A socket-outlet to a 15A socket-outlet is dependent on the rating of the existing power distribution infrastructure supplying the individual socket-outlet. Any new installations/upgrades must meet the current requirements of AS/NZS 3004.1. Unfortunately, the rating of the power distribution infrastructure is not sufficient to support upgrades in some areas on A, B, C and D jetties.

**10. How do I connect 15A boat with a 10A socket-outlet?**

a. 10A sockets can only accept 10A power leads. A 10A to 15A power adapter can be used provided it complies with minimum IP rating of IP56.

**11. Can I modify a 15A power lead to fit in a 10A socket-outlet?**

a. No, a 15A power lead has a larger earth pin that is not compatible with 10A socket-outlets. Modifying the fittings is prohibited and dangerous.

**12. Is shore power supply guaranteed?**

a. No, whilst the club makes every effort to provide an uninterrupted shore power supply, we do not guarantee it and do not accept any responsibility for any issues caused by unexpected power outages.