



Electric Vehicles

Appendix 18

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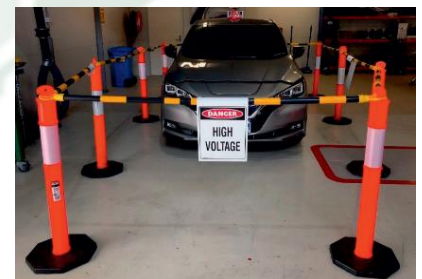
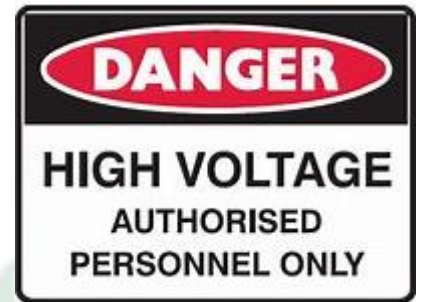


Electric Vehicle (EV) systems are high voltage systems that use approximately 400 Volts DC. Experts agree that Electric Vehicles catch fire much less than petrol powered combustion engines, but the intensity and the duration of fires in EV's, due to the introduction on Lithium batteries, is much more intense and harder to extinguish than a petroleum fire.

High Voltage Safety!

1. High Voltage cables are normally coloured orange.
2. The EV battery and any other high voltage components should have High Voltage Caution! labels.
3. These high voltage components and wires should never be carelessly touched.
4. Touching these wires or components can cause severe burns or electric shock, resulting in serious injury or death.
5. Any driver using an EV at a track day, driver training, car launch, competition, or on a race circuit or tarmac rally, must sign a waiver, supplied by the Organiser and or Governing Body, stating that they know the risks of using an EV in the above disciplines, and citing that they know the risks of fire with EV's, and that their vehicle is highly likely to be destroyed in the case of a fire.
6. A yellow sticker the size of the firebomb sticker should be placed on the vehicle near the driver's door. It should be a round yellow sticker with black outline and black EV lettering on the yellow, background and an electrical high voltage sticker which is yellow with a black lightning strike.
7. It should be noted that it takes approximately 1000 litres to extinguish a vehicle fire & 127 000 litres of water to extinguish an EV fire.
8. An EV fire will approximately burn for 7 hours, during a controlled burn.
9. All Venues/Events would need a Control Area which is a gravel pad area 10m x 10m, in which to place the vehicle for the controlled burn. The Control Area should be bunted of to the public and Danger High Voltage signs place around the Control Area.
10. All Venues/Events would need a fire truck of a minimum capacity of 2000 litres to control the initial fire break out, and surrounding area fire.

The State Fire Authority should be called via 000 to help deal with the controlled burn. It should be noted that there may be a cost for authorised State Authority attending to extinguish such a fire.





This may need to be to the Competitor/Participant.

11. The Venue and the Event Fire Service would need a minimum of 6 x Class D extinguishers which may cost up between \$450 - \$1500.00 ea, to replenish or if mischarged.
12. Venue and the Event Fire Service would need the correct Fire helmet with correct visor with arc flash shield, approved rubber insulated boots, and Class O gloves - 1000V Linesman gloves, cotton lining gloves, leather outer protector gloves, to the deal with the batteries and touching vehicles. These have a shelf life of 12 months.
13. EV's have a 12V battery that also runs accessories which still requires a kill switch. In an emergency, disconnect the negative terminal cable, tape the battery post and the cable terminal end.
14. EV may still have radiators and coolant on board.
15. If an EV is in a crash involved and the Air bags are set off, then the High Voltage systems in roads cars is Shut Down.
16. If the Electric Spine Orange Cable of the vehicle is visible under the tunnel of the vehicle, then a guard would need to be fitted, for the use in competition, to protect the orange cable from being damaged. This is particularly relevant for Events such as Gravel or Tarmac Rallies.
17. Remove the key from the vehicle and isolate.
18. If an approved person knows how to remove the Service plug with the right PPE. Then it should be removed as per the manufacturer's specification. Once it is removed then the vehicle should be left to dissipate voltage for 10mins, this may take longer on varying models of vehicles.
19. Do not tow an EV with the front wheels on the ground. Do not flat tow the EV. The EV should be put on a tilt tray to remove from the track. If car is on fire, then it can be dragged to the gravel safety area.



9L F-500 LITHIUM ION BATTERY FIRE EXTINGUISHER



FlameStop Portable Fire Extinguisher 9.0kg D Class

Part Number: G9METAL

Designed to combat the Class D fires at handling and storage locations of the following:

- Magnesium (Mg)
- Sodium (Na)
- Potassium (K)
- Zirconium (Zr)
- Titanium (Ti)
- Barium (Ba)
- Aluminium (Al)
- Calcium (Ca)
- Zinc (Zn)

Can be used on Lithium (Li) fires.

