

**Chapter 13**

NAME \_\_\_\_\_

**SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.**

1. What are defined by National Electrical Manufacturers Association (NEMA) regarding electrical outlets?

---

---

---

---

---

2. What does it mean if a “fishy smell” is noticed while charging?

---

---

---

---

---

3. When using a vehicle charging cord, why is necessary to uncoil the wiring before connecting the plug to the vehicle?

---

---

---

---

---

4. What does wireless power transfer (WPT) use to transfer energy between the transmitting pad on the ground and a receiving pad attached for the underside of the vehicle

---

---

---

---

---

5. When installing electric vehicle supply equipment (EVSE), what certifications should be checked?

---

---

---

---

---

## Answer Key

Testname: EV1SHORT13

1. The standards established by the National Electrical Manufacturers Association (NEMA) define a product, process, or procedure with terminology, construction, dimensions and performance ratings. The NEMA 14 devices are four-wire grounding devices (2 hot terminals, a neutral and a ground) from 15 to 60 amperes with a voltage rating of 250 volts. Both the NEMA 14-30 and 14-50 are in common residential use and either may also be used for home charging of electric vehicles.

Page Ref: 179

2. A fishy smell indicates an overheated electrical component, such as a circuit breaker, outlet, or wiring. Electrical hazards that can cause overheating include the following:
  - Incorrectly sized breakers / fuses
  - Overloaded circuits
  - Loose wires
  - Frayed cords
  - Wire insulation breakdowns

Page Ref: 181

3. When using the 220/240-volt plug of the charging cord, uncoil the wiring before connecting the plug to the vehicle. The normal cable ratings assume that the wire can adequately disperse heat generated in the cable due to the current flowing. If the cable is wrapped into a coil, it stands a good chance of melting the plastic insulation and causing a short and a fire.

Page Ref: 182

4. Wireless power transfer (WPT) uses electromagnetic induction (magnetic resonance) between a transmitting pad on the ground and a receiving pad attached to the underside of the vehicle. Wireless charging allows the vehicle to be simply driven over the transmission pad and after a communication "handshake," electrical energy is transmitted from the transmission pad to the receiving pad and converted from AC to DC to charge the high-voltage battery.

Page Ref: 184

5. All electric vehicle charging equipment should be certified by Nationally Recognized Testing Laboratory (NRTL), such as Intertek (ETL mark) or Underwriter's Laboratory (UL mark) for testing of their device for safety.

Page Ref: 180