

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) INSPECTION CHECKLIST

Key Concerns for Electric Vehicle Supply Equipment Inspections

1. Is the appropriate permit secured and is there a plan and calculation as required by the AHJ?
2. What type of electric vehicle supply equipment (EVSE) is being installed (i.e. Level 1, Level 2, other)?
3. Where is the EVSE located in relation to the charging location and the service or supply source?
4. Is the EVSE listed by an NRTL and are the installation instructions available for reference?
5. Is the EVSE going to be cord-and-plug connected (and so listed) or direct wired to an individual branch circuit?
6. What amount of voltage and current is required for the type of EVSE (nameplate information)?
7. Is the EVSE securely mounted to the structure and individual branch circuit wiring installed per NEC?
8. Is the properly sized equipment grounding conductor connected and proper overcurrent protection provided?
9. Does the service or source have adequate capacity for the load served?
10. Are separate utility meter(s) and/or service disconnecting means installed for special utility rates?

INSPECTION CHECKLIST (non-inclusive)

| EVSE Inspection Activity Details | | | | |
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| Item | Inspection Activity | Code Reference | Comments | |
| 1. | Verify permit is posted and all plans, calculations and installation instructions are available as required. May require use of examples in NEC Chapter 9. A calculation may be required to determine adequate capacity. | Local Regulations and NEC 90.8, 220.12, 220.14, 220.16, 220.82 | | |
| 2. | Verify that the EVSE is listed by an NRTL and installation instructions are provided. | NEC 90.7, 625.5, 110.3(B) | | |
| 3. | Verify the EVSE location and that it is securely fastened to the structure and guarded from physical damage as required. | NEC 110.13, 110.27(B), 625.29, 625.30 | | |
| 4. | Determine if EVSE is directly wired to the branch circuit or is cord-and-plug connected. Must be listed for cord-and-plug connection. Individual receptacle reqd. | NEC 110.3(B), 625.13, 625.18, 625.19, 625.29 | | |
| 5. | Verify an individual branch circuit is installed for the EVSE. Applies to Level 1, Level 2, and fast chargers. Branch circuit and feeders (if applicable) must be sized 125% of nameplate current. | NEC Article 100 continuous load, 210.19(A)(1), 215.2(A), 625.21 | | |
| 6. | Verify installed branch circuit wiring method is listed and securely fastened to the structure. Listed wiring and fittings must be installed. Check fished and surface wiring. | NEC 300.11 and the applicable .30 section of article | | |
| 7. | Verify the size of the branch circuit overcurrent protection is per nameplate and protects the conductors. | NEC 110.3(B), 240.4 | | |
| 8. | Verify circuit conductors are sized not less than 125% of EVSE nameplate current. Be sure that the conductor ampacity complies with the rating of the overcurrent protection. | NEC 210.19(A)(1), 215.2(A), 110.3(B), Table 310.15(B)(16), 310.15(B). | | |
| 9. | Verify properly sized equipment grounding conductor is installed with the branch circuit and connected at the EVSE and to panelboard or service. Verify the equipment grounding conductor is identified. | NEC 250.110, 250.112, 250.114, 250.120, 300.3(B), 250.119, 250.122. | | |

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| 10. | Check the electrical connections of the circuit conductors and equipment grounding conductor connections. | NEC 110.14, 250.148(A) Annex I | |
| 11. | Verify disconnecting means is provided and properly located for EVSE rated greater than 60 amperes and 150 volts. | NEC 625.23 | |
| 12. | Verify installation of EVSE is in a neat and workmanlike manner. | NEC 110.12, NECA 1, NECA 413 | |
| 13. | Verify existing service conductors are of adequate size. For Level 2 EVSE installations, identify any existing service conductor sizes that might have been installed using NEC 310.15(B)(7) and Table 310.15(B)(7) | NEC 230.31, 230.42, 310.15(B)(7) and Table 310.15(B)(7) | |
| 14. | Verify circuit breaker compatibility with existing panelboard or service equipment. Must be manufactured by the panelboard or service equipment manufacturer. | NEC 110.3(B), Article 240 Part VII, Article 408 part I | |
| 15. | Branch circuit device and any disconnects must be identified as to the use. | NEC 408.4(A), 110.22(A) | |
| 16. | Where separate utility metering and enclosures are installed, verify NEC compliance for service equipment and conformance to applicable utility regulations. | Utility company regulations and NEC Article 230 | |
| 17. | Verify equipment is suitable for connection to the line side of the service disconnecting means. | NEC 230.82 | |
| 18. | Verify sufficient working space is provided at EVSE, Panelboards, service equipment, and disconnects. | NEC 110.26 | |
| 19. | Verify additional service disconnects (if installed) are grouped. | NEC 230.72 | |
| 20. | Verify the maximum number of service disconnects has not been exceeded | NEC 230.71 | |
| 21. | Verify that any additional service disconnect is properly rated. | NEC 230.79 | |
| 22. | Verify the wiring method used for the additional service conductors installed. | NEC 230.43 | |
| 23. | Verify that additional service disconnects are properly identified. | NEC 230.70(B) | |
| 24. | Verify service disconnect is listed as suitable for use as service equipment. | NEC 230.70(C) | |
| 25. | Verify the overcurrent protection for any newly installed service equipment and conductors. | NEC 230.90, 230.91 | |
| 26. | Verify grounded conductor (neutral) is brought to the service disconnect and bonded to the enclosure. | NEC 250.24(C) | |
| 27. | Verify metal service equipment enclosures and raceways are bonded together effectively. | NEC 250.92, 250.92(B) | |
| 28. | Supply-side bonding jumpers are sized properly | NEC 250.102(C), 250.66 | |
| 29. | Verify existing service grounding and bonding. | NEC 250.50, 250.104(A) and (B) | |
| 30. | Verify EVSE that is intended to be used as interactive systems, bi-directional, or optional standby systems be listed for that purpose. | NECA Articles 702 and 705 | |

** Note: These items included in the checklist are non-inclusive and are to serve as a guide or basis for inspection. They do not include any local Code requirements or regulations.*