



Welding, Cutting, and Brazing



Checklist

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Checklist Welding, Cutting, and Brazing

Introduction

This checklist helps employers and employees in general industry and construction comply with the Occupational Safety and Health Administration (OSHA)'s standards for welding, cutting, and brazing.

It is based on 29 Code of Federal Regulations (CFR) Part 1910, Subpart Q, and 29 CFR Part 1926, Subpart J, OSHA Standards for the General and Construction Industry. These standards can be found on OSHA's web site at www.osha.gov.

Employers in the construction industry should review the section dealing with general industry, because some of the questions apply to all worksites.

Compliance with this checklist does not necessarily assure full compliance with all OSHA standards.

Frequently Cited Welding Standards in General Industry

- 1910.253(b)(4)(i) Oxygen cylinders shall not be stored near highly combustible material (especially oil and grease); near reserve stocks of carbide, acetylene, or other fuel gas cylinders; near any other substance likely to cause or accelerate fire; or in an acetylene generator compartment.
- 1910.253(b)(4)(iii) Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease) a minimum of 20 feet or by a noncombustible barrier at least five (5) feet high having a fire-resistance rating of at least one-half hour.
- 1910.253(b)(2)(ii) Inside buildings, cylinders shall be stored in a well-protected, well-ventilated, dry location at least 20 feet from highly combustible materials such as oil or excelsior. Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways. Assigned storage spaces shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. Cylinders shall not be kept in unventilated enclosures such as lockers or cupboards.

- 1910.253(b)(2)(iii) Empty cylinders shall have their valves closed.
- 1910.253(b)(2)(iv) Valve protection caps, where cylinders are designed to accept a cap, shall always be in place, hand-tight, except where cylinders are in use or connected for use.
- 1910.254(d)(9)(iii) Cables with damaged insulation or exposed bare conductors shall be replaced. Joining lengths of work and electrode cables shall be done by the use of connecting means specifically intended for the purpose. The connecting means shall have insulation adequate for the service conditions.

Welding, Cutting, and Brazing Checklist for General Industry

(A negative answer to any question indicates an area of safety or health concern.)

Company name: _____

Physical address of worksite: _____

Supervisor: _____

Date/Time: _____

Inspector: _____

General Industry – CFR 1910

Installation and Operation of Oxygen-Fuel Gas Systems for Welding and Cutting – 1910.253

- | Yes | No | Date corrected | |
|--------------------------|--------------------------|----------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 1. Is acetylene generated, piped, or utilized at a pressure of 30 p.s.i. absolute pressure or less? .253(a)(2)? |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 2. Have personnel in charge of the oxygen or fuel gas supply equipment been instructed and judged competent before being left in charge? .253(a)(4)? |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 3. Is the gas content of compressed gas cylinders marked with either the chemical or the trade name of the gas? .253(b)(1)(ii) (Also see ANSI Z48.1-1954.) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 4. Are cylinders stored away from radiators and other sources of heat? .253(b)(2)(i)? |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 5. Are cylinders that are stored inside kept in a well-ventilated, dry location at least 20 feet from highly combustible material? .253(b)(2)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 6. Are cylinders stored in assigned places away from elevators, stairs, or gangways and where they will not be knocked over or damaged? .253(b)(2)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 7. Are the valves of empty cylinders kept closed? .253(b)(2)(iii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 8. Are valve protection caps in place and hand-tight except when in use or connected for use? .253(b)(2)(iv) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 9. Are fuel gas cylinders, except those in use or attached for use and are stored inside a building, limited to a total gas capacity of 2,000 cubic feet or 300 pounds of liquefied petroleum gas? .253(b)(3)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 10. Are acetylene cylinders stored valve end up? .253(b)(3)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 11. If oxygen cylinders are stored in outside generator houses, are they separated from the generator or carbide storage rooms by a gastight, noncombustible partition having a fire-resistance rating of at least one hour? .253(b)(4)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 12. Are stored oxygen cylinders separated from fuel gas cylinders or combustible material by a minimum of 20 feet, or by a noncombustible barrier at least 5 feet high with a fire-resistance rating of at least one-half hour? .253(b)(4)(iii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 13. Are cylinders, cylinder valves, couplings, regulators, hose, and apparatus kept free from oily or greasy substances? .253(b)(5)(i) |

General Industry – CFR 1910

Installation and Operation of Oxygen-Fuel Gas Systems for Welding and Cutting – 1910.253 (cont.)

- | Yes | No | Date corrected | |
|--------------------------|--------------------------|----------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 14. Do you ensure that cylinders are not dropped, struck, or permitted to strike each other violently? .253(b)(5)(ii)(B) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 15. Do you ensure that valve-protection caps are not used for lifting cylinders from one vertical position to another? .253(b)(5)(ii)(C) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 16. Do you ensure that cylinders without fixed hand wheels have keys, handles, or nonadjustable wrenches on the valve stems while the cylinders are in service? .253(b)(5)(ii)(E) (NOTE: In multiple cylinder installations, only one key or handle is required for each manifold.) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 17. Are cylinder valves closed before moving cylinder and when work is finished? .253(b)(5)(ii)(F) and (G) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 18. Are cylinders kept away from sparks, hot slag, or flame produced by welding or cutting operations, or are fire-resistance shields provided? .253(b)(5)(ii)(I) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 19. Are cylinders placed where they will not become part of an electric circuit? .253(b)(5)(ii)(J) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 20. Do you ensure that cylinders are not used as rollers or supports, and that only proper tools are used to open cylinder valves? .253(b)(5)(ii)(K) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 21. Are only proper tools used to open cylinder valves? 253(b)(5)(ii)(Q)? |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 22. Are fuel-gas cylinders placed valve end up while in use? .253(b)(5)(iii)(A) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 23. Are cylinders with leaky valves or fittings taken outdoors and slowly emptied? .253(b)(5)(iii)(F) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 24. Are warning signs posted that prohibit open flame or other sources of ignition near cylinders with leaking fuse plugs or other leaking safety devices, and are the cylinders tagged? .253(b)(5)(iii)(G) |

Manifold Systems – 1910.253

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 25. Do you ensure that oxygen manifolds are not located in an acetylene generator room? .253(c)(2)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 26. Do you ensure that portable outlet headers are used indoors only for temporary service where conditions preclude a direct supply from outlets located on the service piping system? .253(c)(4)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 27. Is each outlet on the service piping which supplies a portable outlet header equipped with a readily accessible shutoff valve? .253(c)(4)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 28. Are master shutoff valves for both oxygen and fuel-gas provided at the entry end of the portable outlet header? .253(c)(4)(iv) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 29. Are portable outlet headers provided with frames to support the equipment securely in the correct operating position? .253(c)(4)(viii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 30. When acetylene cylinders are coupled in a manifold, are flash arresters installed between each cylinder and the coupler block? .253(c)(5)(iii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 31. In service piping systems, are distribution lines installed and maintained in a safe operating condition? .253(d)(3)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 32. Are emergency gas cocks or valves provided for all buildings? .253(d)(3)(v) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 33. Is underground pipe and tubing and outdoor ferrous pipe and tubing protected against corrosion? .253(d)(4)(i) |

General Industry – CFR 1910

General Requirements – 1910.253

- | Yes | No | Date corrected | |
|--------------------------|--------------------------|----------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 34. Is flashback protection provided by an approved device that will prevent flame from passing into the fuel-gas systems? .253(e)(3)(ii)(C)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 35. Are hoses showing defects repaired or replaced? .253(e)(5)(v) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 36. Are pressure-reducing regulators used only for the gas and pressures for which they are intended? .253(e)(6)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 37. Is the repair of regulators performed by properly instructed, skilled mechanics? .253(e)(6)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 38. Are gauges on oxygen regulators marked "USE NO OIL"? .253(e)(6)(iii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 39. Are union nuts and connections on regulators inspected before use to detect faulty seats? |

Acetylene Generators – 1910.253

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 40. Is ample space provided around the generator for operation and maintenance? .253(f)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 41. Are generators placed where water will not freeze, and is the use of sodium chloride to prevent freezing prohibited? .253(f)(4)(i)(B) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 42. Are portable generators located at a safe distance from the welding position? .253(f)(5)(ii)(E) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 43. Are the walls, floors, and roofs of outside generator houses constructed of noncombustible materials? .253(f)(6)(i)(B) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 44. Are exit doors readily accessible in case of emergency? .253(f)(6)(i)(D) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 45. Are generators installed inside buildings enclosed in a separate room? .253(f)(6)(i)(G) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 46. Are the walls, partitions, floors, and ceilings of inside generator rooms of noncombustible construction with a fire-resistance rating of at least one hour? .253(f)(6)(i)(H) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 47. Are generator rooms or buildings well ventilated with vents located at floor and ceiling levels? .253(f)(6)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 48. Do generator rooms or buildings have natural light during daylight hours or artificial light restricted to electric lamps installed in a fixed position? .253(f)(6)(iv)(A) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 49. Are operating instructions posted in a conspicuous place near the generator or available for ready reference? .253(f)(7)(i)(A) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 50. Is the generator room electrically wired in accordance with 1910.307 (hazardous locations)? |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 51. Do you ensure that the water-carbide residue mixture drained from the generator is not discharged into sewer pipes or stored in areas near open flames? .253(f)(7)(i)(D) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 52. Do you ensure that calcium carbide is kept in metal packages that are strong enough to prevent rupture? .253(g)(1)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 53. Are the packages marked "Calcium Carbide–Dangerous If Not Kept Dry"? .253(g)(1)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 54. Do you ensure that the calcium carbide stored indoors does not exceed 600 pounds and that the storage area is dry, waterproof, and well-ventilated? .253(g)(2)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 55. Are carbide containers that are stored outside periodically examined for conditions that could affect water or air tightness? .253(g)(3)(ii) |

General Industry – CFR 1910

Application, Installation, and Operation of Arc Welding and Cutting Equipment – 1910.254

- | Yes | No | Date corrected | |
|--------------------------|--------------------------|----------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 56. Have employees who are designated to operate arc welding equipment been properly instructed and qualified? .254(a)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 57. Are open-circuit (no-load) voltages of arc welding and cutting machines as low as possible, consistent with satisfactory welding? .254(b)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 58. When open-circuit voltages must be higher, are means provided to prevent the operator from making accidental contact with the higher voltages? .254(b)(3)(iii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 59. Is control apparatus enclosed on all types of arc welding machines? .254(b)(4)(ii) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 60. Are terminals for welding leads protected from accidental electrical contact by personnel or metal objects? .254(b)(4)(iv) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 61. Do you ensure that no connections for portable control devices, such as push buttons carried by the operator, are connected to an A.C. circuit of higher than 120 volts? .254(b)(4)(v) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 62. Is the frame or case of the welding machine effectively grounded, and was the grounding checked? .254(c)(2)(i) and (d)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 63. Is a separate disconnecting switch or controller provided at or near each welding machine? .254(c)(3)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 64. Are electrode holders placed so they cannot make electrical contact with people, conducting objects, fuel, or compressed gas tanks? .254(d)(7) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 65. Has the operator been instructed to report any equipment defect or safety hazard to a supervisor, and is use of the equipment discontinued until repaired by qualified personnel? .254(d)(9)(i) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 66. Are work and electrode lead cables frequently inspected for wear and damage, and are cables with damaged insulation or exposed bare conductors replaced? .254(d)(9)(iii) |

Installation and Operation of Resistance Welding Equipment – 1910.255

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 67. Have personnel who are designated to operate resistance welding equipment been properly instructed and judged competent to operate such equipment? .255(a)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 68. Are all doors and access panels of all resistance welding machines and control panels kept locked and interlocked? .255(b)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 69. Has a shield guard of safety glass or suitable fire-resistant plastic been installed at the point of operation? .255(b)(5) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 70. Are foot switches guarded to prevent accidental operation of the machine? .255(b)(6) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 71. Are two or more safety emergency stop buttons provided on all special, multi-spot welding machines, including 2-post and 4-post weld presses? .255(b)(7) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 72. Are flash welding machines equipped with hoods to control flying flash? .255(d)(1) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 73. Are periodic inspections of the machines made by qualified maintenance personnel, and are records of the inspections maintained? .255(e) |

General Industry – CFR 1910

Fire Prevention and Protection – 1910.252

Yes No Date corrected

- _____ 74. Is suitable fire-extinguishing equipment maintained in a state of readiness for instant use? .252(a)(2)(ii)
- _____ 75. Are fire watches on duty whenever welding or cutting is performed in locations where a major fire might develop? (See conditions listed) .252(a)(2)(iii)(A)
- _____ 76. Before cutting or welding is permitted, is the area inspected by the individual responsible for authorized cutting and welding operations? .252(a)(2)(iv)
- _____ 77. Where practicable, are all combustibles relocated at least 35 feet from the work site? .252(a)(2)(vii)
- _____ 78. Does management recognize its responsibility for the safe usage of cutting and welding equipment on its property? .252(a)(2)(xiii)
- _____ 79. Do supervisors recognize their responsibilities in the safe management of welding and cutting operations as defined in .252(a)(2)(xiv)(A)?

Protection of Personnel – 1910.252

- _____ 80. Are welders or helpers who are working on platforms, scaffolds, or runways protected against falling by railings, safety belts, or lifelines? .252(b)(1)(i)
- _____ 81. Is welding cable and other equipment kept clear of passageways, ladders, and stairways? .252(b)(1)(ii)
- _____ 82. Are helmets, hand shields, goggles, or other suitable eye protection worn during all arc welding or cutting operations? .252(b)(2)(i)(A)
- _____ 83. Has a hazard assessment been performed to determine if hazards are present or likely to be present? .132(d)(1)
- _____ 84. Are employees who are exposed to the hazards created by welding, cutting, or brazing operations protected by personal protective equipment (PPE), as required by 1910.132 and 1910.252(b)(3)?
- _____ 85. When welding or cutting is being performed in any confined space, are gas cylinders and welding machines left outside? .252(b)(4)(iii)
- _____ 86. Before operations are started, is heavy, portable, wheel-mounted equipment securely blocked to prevent accidental movement? .252(b)(4)(iii)
- _____ 87. Where a welder must enter a confined space through a manhole or other small opening, have means been provided for his or her quick removal in case of emergency? .252(b)(4)(iv)

Health Protection and Ventilation – 1910.252

- _____ 88. Are welders or helpers who are working on platforms, scaffolds, or runways protected against falling by railings, safety belts, or lifelines? .252(b)(1)(i)
- _____ 89. Is welding cable and other equipment kept clear of passageways, ladders, and stairways? .252(b)(1)(ii)

Table 1 – Ventilation Requirements for Welding and Cutting – 29 CFR 1910

Metal Compound	Confined Space Requirements	Indoor Requirements	Outdoor Requirements
Fluorine Compound	Air replacement or airline respirator or self-contained breathing apparatus needed	Air sample tests to determine if exhaust hood, booth, and airline respirator are required	Same as indoors
Lead, Zinc (Galvanized Metals)	Air replacement or airline respirator or self-contained breathing apparatus	Exhaust hood or booth	Combination particulate and vapor-and-gas-removing type respirator if tests indicate need
Beryllium	Exhaust hood or booth and airline respirator if air sample tests indicate need	Exhaust hood or booth and airline respirator if air sample tests indicate need	Exhaust hood or booth and airline respirator if air sample tests indicate need
Cadmium, Mercury	Exhaust hood or booth and airline respirator if air sample tests indicate need	Exhaust hood or booth and airline respirator if air sample tests indicate need	Combination particulate and vapor-and-gas-removing type respirator if tests indicate need

1. Airline or self-contained breathing apparatus are required in confined areas that are immediately hazardous to life.
2. Mechanical ventilation at 2,000 cubic feet of air per minute per welder is required when welding or cutting on metals other than above described, or there is less than 10,000 cubic feet of space per welder or where the ceiling height is less than 16 feet or in confined spaces or where structural barriers (such as partitions or balconies) significantly obstruct cross ventilation. 1910.252(c)(2)(i)(A) through (C).
3. Local exhaust hoods or booths must provide airflow of 100 linear feet per minute.

NOTE: Mechanical ventilation is necessary when an exhaust hood or fixed booth provide for a rate of airflow sufficient to maintain a velocity away from the welder or not less than 100 linear feet per minute.

Frequently Cited Welding Standards in the Construction Industry

- 1926.350(a)(9) Compressed gas cylinders shall be secured in an upright position at all times except, if necessary, for short periods of time while cylinders are hoisted or carried.
- 1926.350(a)(1) Valve protection caps shall be in place and secured.
- 1926.350(h) Oxygen and fuel gas pressure regulators, including their related gauges, shall be in proper working order while in use.
- 1926.351(b)(4) Cables in need of repair shall not be used. When a cable, other than the cable lead referred to in subparagraph (2) of this paragraph, becomes worn to the extent of exposing bare conductors, the portion thus exposed shall be protected by means of rubber and friction tape or other equivalent insulation. [Note: Subparagraph (2) states that cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.

Welding and Brazing Checklist for Construction

(A negative answer to any question indicates an area of safety or health concern.)

Company name: _____

Physical address of worksite: _____

Supervisor: _____

Date/Time: _____

Inspector: _____

Construction – CFR 1926

Transporting, Moving, and Storing Compressed Gas Cylinders – 1926.350

Yes No Date corrected

- | | | | |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 1. Are valve protection caps in place and secured? 1926.350(a)(1) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 2. When transported by powered vehicles, are cylinders secured in a vertical position? .350(a)(4) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 3. Are employees instructed not to use valve protection caps to lift cylinders from one vertical position to another? .350(a)(5) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 4. Unless cylinders are firmly secured on a special carrier, have regulators been removed and are valve protection caps in place before moving? .350(a)(6) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 5. Is a cylinder truck, chain, or other steadying device used to keep cylinders from being knocked over while in use? .350(a)(7) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 6. Are cylinder valves closed when work is finished, when cylinders are empty, or when cylinders are being moved? .350(a)(8) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 7. Are cylinders secured in an upright position at all times except when hoisted or carried? .350(a)(9) |

Placing Cylinders – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 8. Are cylinders kept at a safe distance from welding operations, or are fire resistant shields provided? .350(b)(1) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 9. Are cylinders placed where they cannot become part of an electrical circuit? .350(b)(2) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 10. Do you ensure that cylinders containing oxygen, acetylene, or other fuel gas are not taken into confined spaces? .350(b)(4) |

Treatment of Cylinders – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 11. Do you ensure that cylinders, whether full or empty, are not used as rollers or supports? .350(c)(1) |
|--------------------------|--------------------------|-------|--|

Use of Fuel Gas – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 12. Have employees been instructed in the safe use of fuel gas as outlined in .350(d)(1) through (6)? |
|--------------------------|--------------------------|-------|---|

Fuel Gas and Oxygen Manifolds – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 13. Do fuel gas and oxygen manifolds bear the name of the substance they contain in letters at least 1 inch high, either painted on the manifolds or on a sign permanently attached to them? .350(e)(1) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 14. Are the manifolds placed in safe, well-ventilated, and accessible locations and not within enclosed spaces? .350(e)(2) |

Construction – CFR 1926

Hoses – 1926.350

- | Yes | No | Date corrected | |
|--------------------------|--------------------------|----------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 15. Do you ensure that oxygen and fuel gas hoses are not interchangeable and that a single hose having more than one gas passage is not be used? .350(f)(1) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 16. Are all hoses in use inspected at the beginning of each work shift, and is a defective hose removed from service? .350(f)(3) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 17. Are hose couplings of the type that cannot be unlocked or disconnected without a rotary motion? .350(f)(5) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 18. Are boxes that are used for the storage of gas hose ventilated? .350(f)(6) |

Torches – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 19. Are torches in use inspected at the beginning of each shift for leaking shutoff valves, hose couplings, and tip connections? .350(g)(2) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 20. Do you ensure that torches are lighted by friction lighters or other approved devices, and not by matches or from hot work? .350(g)(3) |

Regulators and Gauges – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 21. Are oxygen and fuel gas regulators and their gauges in proper working order? .350(h) |
|--------------------------|--------------------------|-------|--|

Oil and Grease Hazards – 1926.350

- | | | | |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 22. Do you ensure that cylinders, cylinder caps, valves, couplings, regulators, hose and apparatus are kept free from oil or greasy substances, and are not handled with oily hands or gloves? .350(i) |
|--------------------------|--------------------------|-------|--|

Welding Cables and Connectors – 1926.351

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 23. Do you use only cable that is free from repair or splices for a minimum of 10 feet from the cable end to which the electrode holder is connected? .350(b)(2) <i>(NOTE: Cables with standard insulated connectors or with splices whose insulating quality is equal to that of the cable are permitted.)</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 24. Do you ensure that cables in need of repair are not used? .351(b)(4) |

Operating Instructions – 1926.351

- | | | | |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 25. Have employees been instructed in the safe means of arc welding and cutting as prescribed in .351(d)(1) through (4)? |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 26. Are arc welding and cutting operations shielded by noncombustible or flameproof screens? .351(e) |

Fire Prevention – 1926.352

- | | | | |
|--------------------------|--------------------------|-------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 27. Have employees been instructed that objects to be welded, cut, or heated must be moved to a designated location, or that movable fire hazards be taken to a safe place or otherwise protected? .352(a) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 28. Is suitable fire-extinguishing equipment that is ready for instant use available in the work area? .352(d) |

Ventilation and Protection – 1926.353

- | | | | |
|--------------------------|--------------------------|-------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 29. Are employees protected by airline respirators in confined spaces when sufficient ventilation cannot be obtained without blocking the means of access? .353(b)(2) |
| <input type="checkbox"/> | <input type="checkbox"/> | _____ | 30. Do welding, cutting, and heating operations using toxic substances meet the requirements of .353(a) and (c)? |

Construction – CFR 1926

Ventilation and Protection – 1926.353 (cont.)

Yes No Date corrected

- _____ 31. Are welders and other employees who are exposed to radiation suitably protected? .353(d)(1)(iii)
- _____ 32. Are employees who are performing any type of welding, cutting, or heating protected by suitable eye protective equipment? .353(e)(2)

Preservative Coatings – 1926.354

- _____ 33. If the flammability of a preservative coating is unknown, is a test made by a competent person to determine its flammability? .354(a)
- _____ 34. Are employees protected against toxic preservative coatings as prescribed in .354(c)(1) and (2)?

Table 2: Ventilation Requirements for Welding and Cutting – 29 CFR 1926

Metal Compound	Confined-Space Requirements	Enclosed-Space Requirements	Open-Air Requirements
All Metals	Mechanical ventilation or exhaust hood	Mechanical ventilation or exhaust hood	N/A
Zinc-bearing base or filler metals; lead base metals; cadmium-bearing filler materials; chromium-bearing metals	Mechanical ventilation or exhaust hood	Mechanical ventilation or exhaust hood	Combination particulate and vapor-and-gas-removing type respirator if tests indicate the need
Metals containing lead or coated with lead-bearing materials; cadmium-bearing or cadmium-coated base metals; mercury-bearing metals	Mechanical ventilation or exhaust hood	*Exhaust hood or airline respirator	Combination particulate and vapor-and-gas-removing type respirator if tests indicate the need
Beryllium-containing base or filler metals	Mechanical ventilation or exhaust hood	*Exhaust hood or airline respirator	Airline respirator if tests indicate the need

*Freely movable hood placed by the welder as near as practicable to the work being welded, with a rate of airflow sufficient to maintain a velocity in the direction of the hood of 100 linear feet per minute in the zone of welding when the hood is at its most remote distance from the point of welding.

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