Welding Equipment Inspection Checklist: Arc and Oxy-Fuel

Frequency	Completed by	Approved by	The checklist
Every shift	Welder	Supervisor	37 checks · 6 sections

INSPECTION DETAILS

Site / area: ..... Welding set (make, model): .....

Equipment ID or serial number: ..... Process: .....

Job to be done: ..... Date and time: .....

Arc welding machine and supply (switched off)

1.	Casing and covers are in place and undamaged; no terminals or live parts are exposed CRITICAL Ref.: [3] [1]	◯ Pass ◯ Fail ◯ N/A
2.	The machine is dry CRITICAL A machine that has become wet is thoroughly dried and tested before it is used again. Ref.: [3]	◯ Pass ◯ Fail ◯ N/A
3.	The supply cable and plug are free of cuts, crushing and other damage CRITICAL Ref.: [7] [3] [1]	◯ Pass ◯ Fail ◯ N/A
4.	The frame or case of the machine is earthed (grounded) and the earth connection is intact CRITICAL OSHA exempts engine-driven machines from frame grounding. Pay special attention to portable machines. Ref.: [3] [4]	◯ Pass ◯ Fail ◯ N/A
5.	A switch for shutting down the machine is on or near it and can be reached Ref.: [3] [4]	◯ Pass ◯ Fail ◯ N/A
6.	There are no leaks of cooling water, shielding gas or engine fuel CRITICAL Ref.: [3]	◯ Pass ◯ Fail ◯ N/A

Welding leads, holder and return clamp

7.	The insulation of the welding lead and the return lead is undamaged along the whole length; no bare conductor shows **CRITICAL** Ref.: [3] [4] [7] [1]	◯ Pass ◯ Fail ◯ N/A
8.	There is no splice or repair in the welding lead within 3 m (10 ft) of the electrode holder **CRITICAL** This is the US rule (OSHA 1910.254(d)(8), 1926.351(b)(2)). Ref.: [3] [4]	◯ Pass ◯ Fail ◯ N/A
9.	Cable connectors are clean, undamaged, insulated, rated for the welding current and fully tightened **CRITICAL** Lengths of cable are joined only with connectors made for the purpose. Ref.: [7] [4] [3]	◯ Pass ◯ Fail ◯ N/A
10.	The insulation of the electrode holder or welding torch is complete and undamaged **CRITICAL** On an electrode holder, check the handle and the outer surfaces of the jaws. Ref.: [7] [4]	◯ Pass ◯ Fail ◯ N/A
11.	The return clamp is undamaged and firmly attached to the workpiece, on clean metal close to the weld **CRITICAL** A clamp on rust instead of clean metal has a high resistance and makes stray currents more likely. Clean spatter off magnetic clamps. Ref.: [3] [4] [7]	◯ Pass ◯ Fail ◯ N/A
12.	The welding current does not return through chains, wire ropes, cranes or hoists, gas or flammable-liquid pipes, electrical conduit or handrails **CRITICAL** Ref.: [3] [4] [7]	◯ Pass ◯ Fail ◯ N/A
13.	Coiled welding cable has been spread out before use A coiled cable can overheat and damage its insulation. Ref.: [3]	◯ Pass ◯ Fail ◯ N/A
14.	There is a place to rest the holder or torch where it cannot touch people, conducting objects or gas cylinders Ref.: [3] [4]	◯ Pass ◯ Fail ◯ N/A

Cylinders, regulators and flashback arresters (oxy-fuel set)

15.	Cylinders stand upright and are secured to a trolley, wall or other firm support by a chain or strap **CRITICAL** Ref.: [6] [5] [8] [9]	◯ Pass ◯ Fail ◯ N/A
16.	Cylinders are out of reach of sparks, hot slag and flame, or shielded from them, and cannot become part of an electric circuit **CRITICAL** Ref.: [5] [6]	◯ Pass ◯ Fail ◯ N/A

17.	Cylinder valves, regulators, hoses and fittings are free of oil and grease **CRITICAL** Oxygen reacts explosively with oil and grease. Do not handle oxygen equipment with oily hands or gloves. Ref.: [5] [6] [8] [9] [2]	◯ Pass ◯ Fail ◯ N/A
18.	Each regulator is made for the gas and the cylinder pressure it is fitted to **CRITICAL** A regulator for one gas is not interchangeable with another. Check the gas name and pressure rating marked on it. Ref.: [5] [8] [9] [2]	◯ Pass ◯ Fail ◯ N/A
19.	Regulators, their gauges and their cylinder connections are undamaged and in working order **CRITICAL** Look at the union nut and seat before fitting the regulator: a faulty seat can leak. A gauge that does not read correctly is a defect. Ref.: [6] [5] [9]	◯ Pass ◯ Fail ◯ N/A
20.	A flashback arrester is fitted at the regulator outlet on both the oxygen and the fuel gas line, and neither is damaged **CRITICAL** Recommended by HSE and by the Turkish Ministry of Labour's brochure. Replace an arrester that has been dropped or damaged. Ref.: [8] [9] [2]	◯ Pass ◯ Fail ◯ N/A
21.	Cylinder valves are within reach, and a valve without a handwheel has its key or wrench left on the stem The gas must be able to be shut off quickly in an emergency. Ref.: [5] [6] [2]	◯ Pass ◯ Fail ◯ N/A

Hoses, torch and leak test (oxy-fuel set)

22.	Hoses are free of cuts, cracks, burns and worn places along their whole length **CRITICAL** Ref.: [6] [5] [9] [2]	◯ Pass ◯ Fail ◯ N/A
23.	The oxygen hose and the fuel gas hose are easy to tell apart, and each is connected to its own gas **CRITICAL** In the UK, HSG139 gives blue for oxygen, red for acetylene and other fuel gases, and orange for LPG. Ref.: [6] [9]	◯ Pass ◯ Fail ◯ N/A
24.	Hose ends are held by fittings made for the purpose, and no connection is loose **CRITICAL** HSE does not recommend screw-tightened worm-drive (jubilee) clips: they can leak when over- or under-tightened. Ref.: [8] [9] [5] [6]	◯ Pass ◯ Fail ◯ N/A

25.	Hoses have no taped or improvised repairs CRITICAL Where two hoses are taped side by side, OSHA allows tape on no more than 4 inches in every 12 (about 10 cm in 30). Ref.: [8] [2] [5]	◯ Pass ◯ Fail ◯ N/A
26.	The torch has a non-return valve on both the oxygen and the fuel gas inlet Non-return valves reduce the risk of a flashback but do not stop one; they do not replace flashback arresters. Ref.: [8] [9]	◯ Pass ◯ Fail ◯ N/A
27.	The torch is undamaged, and its valves, hose couplings and tip connection do not leak CRITICAL Ref.: [6] [2] [8]	◯ Pass ◯ Fail ◯ N/A
28.	The nozzle is the right size for the job, undamaged, and its openings are clear A partly blocked nozzle can cause a backfire. Clean it only with tools made for the purpose. Ref.: [6] [8] [2]	◯ Pass ◯ Fail ◯ N/A
29.	After assembly, every connection has been leak-tested with a leak detecting solution and no leak was found CRITICAL Never test with a flame. HSE says not to use soapy water, or solutions containing grease or oils, on oxygen systems. Ref.: [8] [9] [2]	◯ Pass ◯ Fail ◯ N/A
30.	A spark lighter is at hand for lighting the torch Torches are not lit with matches or from hot work. Ref.: [6] [8]	◯ Pass ◯ Fail ◯ N/A

Around the set

31.	Cables and hoses are clear of passageways, ladders and stairs, and away from sharp edges, vehicle routes and falling sparks or hot metal Ref.: [6] [8] [2]	◯ Pass ◯ Fail ◯ N/A
32.	In damp or wet conditions, or on a metal structure, the welder has an insulating mat or dry platform and dry gloves Ref.: [7]	◯ Pass ◯ Fail ◯ N/A
33.	Where practicable, the arc is screened from other people by non-combustible or flameproof screens Ref.: [4]	◯ Pass ◯ Fail ◯ N/A
34.	A fire extinguisher is close to the work The other fire precautions belong to the hot work permit. Ref.: [8]	◯ Pass ◯ Fail ◯ N/A

Result

35.	Every defect found has been reported to the supervisor Ref.: [4] [3] [7] [1]	◯ Yes ◯ No ◯ N/A
36.	If a critical check failed, the equipment is tagged "Do not use" and is not used until repaired by a qualified person CRITICAL Ref.: [3] [6] [1] [2] [8]	◯ Yes ◯ No ◯ N/A
37.	Notes and defects found	Note: _____

Critical check: if it fails, stop and correct it before work continues.

SIGN-OFF

Welder		Supervisor	
Name:	.....	Name:	.....
Signature:	.....	Signature:	.....
Date:	.....	Date:	.....

Legal basis and references

[1] Türkiye: İş Ekipmanlarının Kullanımında Sağlık ve Güvenlik Şartları Yönetmeliği (Resmî Gazete, 25.04.2013) — Annex I 2.19 (protection against contact with electricity); Annex III 1.3 to 1.3.2: operator checks before each start of work, visual check and function test, defective equipment taken out of use; Annex III 1.4 (periodic control intervals).

[2] Türkiye: T.C. Çalışma ve Sosyal Güvenlik Bakanlığı, İş Teftiş Kurulu Başkanlığı, Basınçlı Gaz Tüplerinin Güvenli Kullanımı (broşür, İTKB-İSG-B2011003) — Sections on torches, hoses, regulators and flame arresters, and what to do after a leak or flashback (guidance).

[3] United States: OSHA 29 CFR 1910.254, Arc welding and cutting — (b)(4) enclosed controls and terminals; (c)(2) grounding and return circuits; (c)(3)(i) disconnecting switch; (d)(2) to (d)(9): checks before starting operations, leaks, electrode holders, cable splices, defects and damaged cables.

[4] United States: OSHA 29 CFR 1926.351, Arc welding and cutting (construction) — (a) electrode holders; (b) welding cables and connectors; (c) ground returns and machine grounding; (d) unattended holders, power switch, reporting defective equipment; (e) screens.

[5] United States: OSHA 29 CFR 1910.253, Oxygen-fuel gas welding and cutting — (b)(5) use of cylinders: oil and grease, valve keys, distance from sparks, electric circuits, valve end up; (e)(5) hose and hose connections; (e)(6) pressure-reducing regulators.

[6] United States: OSHA 29 CFR 1926.350, Gas welding and cutting (construction) — (a)(7) and (a)(9) cylinders steadied and upright; (b)(1) distance from sparks; (f) hose, inspected at the beginning of each working shift; (g) torches, inspected each shift; (h) regulators and gauges; (i) oil and grease.

[7] United Kingdom: HSE, Safety risks from welding (Electrical hazards) — Guidance on leads, connectors, holders, the current return clamp, damp conditions, and daily equipment checks by the welder.

[8] United Kingdom: HSE, Safety in gas welding, cutting and similar processes, INDG297(rev1) (2012) — Checking for leaks, hose repairs and clips, non-return valves, flashback arresters, what to do after a backfire or flashback, securing cylinders (good practice, not compulsory).

[9] United Kingdom: HSE, The safe use of compressed gases in welding, flame cutting and allied processes, HSG139 (1997) — Paragraph 35 (hose colours); 41 (hose assemblies); 46 and 48 (non-return valves, flame arresters); 63 and 64 (cylinders in use); 75 and 76 (pre-use check, leak test); 97 and 98 (regular examination).

Fill in this checklist on your phone. Scan to download FindRisk: run the checklist, add photos, score risks and share a PDF report in minutes.

Version 1 · Updated November 20, 2026 · findrisk.net/checklists/welding-equipment-inspection-checklist/