

Site Safety Checklist

Pre-work planning prompts for mobile laser cleaning projects

PLANNING USE ONLY: This checklist is not legal, engineering, industrial-hygiene, fire-code, or regulatory advice. Requirements vary by equipment, wavelength, substrate, coating or contaminant, location, occupancy, contract, facility rules, and work environment. Confirm project-specific requirements with the employer, facility, owner, manufacturer, laser safety professional, environmental professional, insurer, and appropriate authorities before work begins.

Project / facility 	Project address
Facility contact 	Planned work date
Laser system / wavelength 	Material and coating / contaminant

1. Scope and hazard review

- ☐ Define the substrate, coating or contaminant, required finish, and acceptance criteria.
- ☐ Review available SDS, coating history, prior testing, and facility hazard information.
- ☐ Document laser class, wavelength, beam-delivery configuration, and manufacturer instructions.
- ☐ Complete the employer's documented workplace hazard assessment and identify responsible personnel.
- ☐ Identify combustible materials, ignition sources, electrical hazards, elevated work, confined spaces, traffic, and adjacent operations.

2. Controlled work area

- ☐ Define the controlled area and anticipated beam path, including reflection and line-of-sight concerns.
- ☐ Install barriers, screens, covers, signage, and access controls appropriate to the assessment.
- ☐ Assign an access-control method and confirm who may enter the area.
- ☐ Protect windows, openings, cameras, sensitive equipment, and neighboring work areas as required.
- ☐ Confirm emergency stop access and a clear shutdown procedure.

3. PPE and worker readiness

- ☐ Select laser eyewear for the specific wavelength and optical density identified by the responsible safety professional / manufacturer.
- ☐ Select skin, hand, face, hearing, respiratory, and protective clothing based on the full hazard assessment.
- ☐ Verify PPE condition, compatibility, fit, availability, and worker training before use.
- ☐ If respirators are required, confirm the employer's respiratory-protection program, medical evaluation, fit testing, cartridge selection, and change schedule.

4. Emissions, ventilation, and residue

- ☐ Evaluate potential fumes, particulates, vapors, and residues from the coating or contaminant.
- ☐ Select local exhaust, filtration, ventilation, and containment around the assessed emissions and site conditions.
- ☐ Position extraction so it does not interfere with beam control or spread contamination.
- ☐ Identify residue collection, container labeling, temporary storage, and housekeeping methods.
- ☐ Determine who is responsible for waste characterization and disposal before work begins.

5. Fire, electrical, and equipment controls

- ☐ Remove or protect combustible materials and review the laser manufacturer's fire precautions.
- ☐ Confirm extinguishing equipment, fire-watch expectations, alarm / hot-work coordination, and emergency contacts.
- ☐ Inspect laser system, optics, fiber, interlocks, cables, connectors, grounding, extraction, and emergency stop.
- ☐ Confirm power source, circuit rating, generator / shore-power arrangement, cable routing, and trip protection.
- ☐ Secure equipment against movement, impact, weather, traffic, and unauthorized access.

6. Site coordination and closeout

- ☐ Conduct a pre-work briefing covering scope, roles, controls, communications, stop-work authority, and emergency actions.
- ☐ Coordinate shutdowns, lockout / tagout, lifts, access equipment, permits, escorts, and adjacent trades as applicable.
- ☐ Complete a test area and confirm cleaning response, settings, residue, finish, and substrate condition.
- ☐ Monitor conditions and stop work if the scope, material, emissions, controls, or site conditions change.
- ☐ Inspect the area after work, collect residue, remove controls only after authorization, and document completion.

Approval and notes

Prepared by 	Reviewed by
Date / time 	Authorization / permit reference

Notes:

Reference notes

OSHA states that laser exposure can injure the eye and skin. OSHA's general PPE rule requires employers to assess workplace hazards and select appropriate PPE. When respiratory protection is necessary, 29 CFR 1910.134 requires an appropriate employer program. EPA's RRP requirements may apply to paid work that disturbs paint in covered pre-1978 housing or child-occupied facilities. Waste characterization and generator requirements depend on the material and jurisdiction.

Official reference links

OSHA - Laser Hazards Overview

<https://www.osha.gov/laser-hazards>

OSHA - Laser Hazards Standards

<https://www.osha.gov/laser-hazards/standards>

OSHA - PPE Assessment

<https://www.osha.gov/training/library/personal-protective-equipment/assessment>

OSHA - Respiratory Protection, 29 CFR 1910.134

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.134>

EPA - Lead Renovation, Repair and Painting Program

<https://www.epa.gov/lead/lead-renovation-repair-and-painting-program>

EPA - Hazardous Waste Generator Regulatory Summary

<https://www.epa.gov/hwgenerators/hazardous-waste-generator-regulatory-summary>

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