Hot Work Training for Manufacturing

Service Objectives

Focused hot work competence tailored to live manufacturing environments, aligned to UAE Civil Defence and NFPA 51B expectations.

- Translate NFPA 51B and UAE Fire and Life Safety Code into practical Permit-to-Work (PTW) controls.
- Identify and mitigate dust, vapour, and combustible load hazards across lines, utilities, and adjacent areas.
- Plan isolations, purge/vent, and Lockout-Tagout (LOTO) to prevent re-energisation of fans, conveyors, and dust collectors.
- Define clear roles and documentation for issuer, performer, and fire watch, including post-work monitoring.
- Design safe work zones, barriers, and spark containment in constrained production spaces.
- Strengthen change management during the job (re-testing triggers, repositioning screens, pausing safely).

> Outcome: improved permit quality, reduced fires/smoulders, clearer contractor control, and audit-ready PTW records aligned with UAE Civil Defence and NFPA 51B.

Who This Service Is For

For UAE manufacturing operations where hot work occurs near changing combustible loads and complex ventilation patterns.

- Facilities: metal fabrication, automotive components, FMCG packaging, glassworks, cement grinding units, electronics assembly.
- Roles: maintenance technicians, welders, fitters, fabricators, supervisors, facility engineers, HSE coordinators, PTW issuers/approvers, contractors, fire watch.
- Contexts: work near packaging films, pallets, paint booths, solvents, dust extraction ducts, cable trays, and ceiling voids/mezzanines.
- Regulatory environment: UAE Civil Defence, OSHAD (Abu Dhabi), Dubai Municipality; interfaces with ISO 45001, NFPA 70E, IEC 60079 as applicable.
- Operational realities: shift work, tight maintenance windows, SIMOPS, multi-lingual crews, seasonal heat/humidity impacts on ventilation.

Duration & Process Overview

- One-day foundation: essential theory plus demonstrations for issuers, performers, supervisors, and fire watch.

- Two-day practitioner: adds scenario-based permit planning, hands-on barriers, gas testing drills, role-plays under time pressure.
- Half-day refresher: updates, recent site learnings, targeted practice on observed gaps.
- Delivery: on-site or hybrid (virtual theory + focused site visit). Recommended 10–16 delegates per session; language support available.

Methodology

Phased approach connecting standards to real manufacturing constraints, with practice-rich modules and assessed competence.

Phase	Objective	Duration / Deliverable
Pre-training Scoping	Align content to your PTW forms, approval matrix, layouts, and emergency arrangements.	Customised agenda and case studies mapped to your facility.
Hazard Recognition	Identify combustible dust, solvents/coatings, packaging films, cable trays; check ventilation patterns.	~1.5 hours module.
PTW Essentials	Define roles (issuer/approver/performer/fire watch), scope limits, and change control with production interfaces.	~2 hours module.
Isolation, Purge & Gas Testing	Plan LOTO; purge/vent; use gas meters; define re-test triggers for ducts, tanks, lines, conveyors, collectors.	~2 hours module; documented permit entries.
Workface Controls & Fire Watch	Set barriers/screens/blankets; spark containment; equipment checks; housekeeping in tight spaces.	~1.5 hours module; defined monitoring timeframes.
Emergency Readiness	Confirm extinguishers/hose reels/alarms; smoulder detection; escalation pathways.	~1 hour module.
Manufacturing Case Studies	Analyse duct fires, ceiling void smoulders, solvent vapour ignitions; derive corrective/preventive actions and KPIs.	~1 hour module; lessons-learned actions.
Assessment & Certification	Written quiz; scenario-based permit; practical spark containment/equipment checks; role-play.	NPM certificate of completion.

Integration with Operations

- Coordinate with production to avoid re-energising nearby systems mid-job.
- Manage shift handovers with explicit re-validation criteria.

Documentation Discipline

- Record isolations, gas tests, residual risks, and closeout on the permit for audit defensibility.
- Standardise communication across maintenance, production, HSE, and contractors.